

Docket No. ER16-1649-000

most of its proposed tariff provisions, which coincides with the SoCalGas' implementation of the provisions of its recent settlement regarding Aliso Canyon.

While NRG appreciates the actions CAISO is proposing here, there are three critical changes to the proposed tariff which should be adopted on an emergency basis:

1. Reflect the corrected Operational Flow Order ("OFO") charges imposed under the applicable SoCalGas tariff in generator commitment costs caps;
2. Reflect actual OFO charges and natural gas procurement costs in CAISO's calculation of Default Energy Bids; and
3. Reflect real-time gas conditions in setting Default Energy Bid and commitment cost caps without delay, as well as to specify what happens if natural gas procurement costs increase more than expected.

Additionally, NRG requests that the Commission direct CAISO to develop and publish documentation that provides market participants with critical needed detail on the CAISO's emergency measures as soon as possible. NRG respectfully requests that the Commission approve the CAISO's filing, as proposed, and direct these changes to be filed prior to the end of May with the same effective June 2, 2016 effective date requested by the CAISO.

Finally, NRG remains concerned that CAISO still has not put forward a plan to permanently address the current CAISO market rules that do not allow generators to reflect fully their fuel costs in offers to the CAISO. NRG thus respectfully requests that, in addition to approving the CAISO proposals for near-term operation without Aliso Canyon, the Commission direct the CAISO to modify its market systems by December 1, 2016 to allow generators to reflect their actual gas procurement costs in their commitment cost bids as well as in the CAISO-determined Default Energy Bids. Addressing the fundamental problems with the CAISO's bidding rules by a December 1, 2016 effective date will allow the CAISO to get through its

current crisis, provide sufficient time for a stakeholder process, and still have rules in place before the next gas-critical winter period.

II. BACKGROUND

The Aliso Canyon Amendment is the result of an expedited stakeholder process the CAISO conducted to modify its market rules to address operational and cost recovery issues anticipated due to the unavailability of the Aliso Canyon gas storage facility (hereafter, “Aliso Canyon”) for summer 2016. Aliso Canyon is the largest of a small handful of gas storage fields serving the Southern California area. The Aliso Canyon storage facility is the single most critical piece to managing reliable gas delivery in the Southern California area, as it allows the Southern California Gas Company (“SoCalGas”) and San Diego Gas & Electric Company (“SDG&E”) to match remote flowing supply with local gas demand and to protect against the loss of remote supply due to well freeze-offs. More detail on the Aliso Canyon system is detailed in the CAISO’s filing.³

On March 1, 2016, SoCalGas and SDG&E filed a joint motion before the CPUC proposing to implement daily balancing, in their systems by May 1, 2016 to address the unavailability of Aliso Canyon. On April 28, an all-party settlement agreement was filed,⁴ in which the parties agreed to manage the operational impacts of the Aliso Canyon’s unavailability through their existing OFO and Emergency Flow Order (“EFO”) procedures, modified to lower the balancing tolerance for high inventory OFO conditions and to afford greater discretion for

³ See *Aliso Canyon Risk Assessment Technical Report* Prepared by the Staff of the California Public Utilities Commission, California Energy Commission, the California Independent System Operator, the Los Angeles Department of Water and Power, and Southern California Gas Company, April 5, 2016 (“Risk Assessment Report”), available at http://www.energy.ca.gov/2016_energypolicy/documents/2016-04-08_joint_agency_workshop/Aliso_Canyon_Risk_Assessment_Technical_Report.pdf, at pages 7-8.

⁴ NRG is a party to this settlement.

declaring low inventory OFOs. The provisions of this settlement are set to take effect on June 1, 2016 and expire on November 30, 2016.

On April 5, 2016, the CAISO, CPUC, CEC, Los Angeles Department of Water and Power and SoCalGas released a report assessing the risk that the unavailability of Aliso Canyon posed to electric system reliability. That report projected that, for Southern California in summer 2016, there could be up to 14 days of electric service curtailments caused by gas curtailments resulting from the unavailability of Aliso Canyon.⁵ The CAISO's proposal includes a nine-point plan, detailing the steps that the CAISO intends to take during the pendency of the crisis.⁶

The CAISO requests waiver of the 60-day notice requirement and seeks an effective date for these provisions of June 2, 2016, with the exception of the provision related to adjusting gas costs used in commitment costs, Default Energy Bids and generated bids (items 3 and 4 above), for which the CAISO seeks an effective date of July 6, 2016.⁷ The CAISO requests that these special provisions expire on November 30, 2016.⁸

III. PROTEST

The CAISO's proposed interim changes to its commitment cost and Default Energy Bidding rules are designed to "alleviate pressures on the gas and electric system by ensuring that generators' costs in the CAISO real-time market appropriately reflect real-time gas constraints when conditions on the gas system change."⁹ The filing acknowledges that the CAISO's current rules are not sufficient to guarantee generator cost recovery during periods of shortage on the SoCalGas system,¹⁰ whether caused by gas unavailability driven by low temperatures in the

⁵ Risk Assessment Report at 5-7.

⁶ Transmittal Letter at 3-5.

⁷ Transmittal Letter at 40-41.

⁸ Transmittal Letter at 41-42. The provisions of the SoCalGas settlement are also set to expire on November 30, 2016.

Rocky Mountain West or the lack of the Aliso Canyon storage field. Given the need for an immediate turn around on this proposal, NRG highlights critical items that need to be corrected prior to this summer.

A. The Commission Should Require the CAISO to Correct a Critical Input into its Proposed Formula for Calculating Commitment Costs on an Emergency Basis.

In its transmittal letter, the CAISO explains that it proposes to allow generators to recover OFO costs in its commitment cost bidding rules, stating that “[t]he CAISO believes the price a generator would pay to violate an OFO represents the maximum price the real-time market would have to consider to respect gas system constraints and avoid violating gas balancing requirements.”¹¹ However, the commitment cost cap formula proposed by the CAISO includes only a \$2.50/MMBtu charge associated with taking gas under a Stage 5 OFO, instead of the SoCal Gas approved tariff value of \$25/MMBtu charge, as laid out by the SoCalGas tariff:¹²

Stage	Daily Imbalance Tolerance	Noncompliance Charge (\$/therm)	Noncompliance Charge (\$/MMBtu)
1	Up to -25%	0.025	0.25
2	Up to -20%	0.10	1.00
3	Up to -15%	0.50	5.00
4	Up to -5%	2.50	25.00
5	Up to -5%	2.50 + Rate Schedule G-IMB daily balancing standby rate	25.00 + G-IMB
EFO	Zero	5.00 + Rate Schedule G-IMB daily balancing standby rate	50.00 + G-IMB

⁹ Transmittal Letter at p. 4.

¹⁰ Transmittal Letter at p. 15.

¹¹ CAISO Transmittal Letter at fn. 42.

¹² These charges are set forth in SoCalGas Rule 30, available at <https://www.socalgas.com/regulatory/tariffs/tm2/pdf/30.pdf>. NRG notified the CAISO of this discrepancy, and understands that the CAISO agrees that the formula should incorporate the correct \$25/MMBtu number.

NRG identified the issue to the CAISO, and was informed that the CAISO supports including the correct Stage 5 OFO penalty in the formula for the maximum commitment cost cap. For this reason, NRG requests that the Commission direct the CAISO to utilize the correct value of \$25/MMBtu in the formula used to set the maximum cap on commitment costs. NRG strongly supports and appreciates the CAISO's commitment to include the OFO charges in the commitment cost cap and seeks only to have the right OFO charge used.

Notably, the only party to oppose inclusion of the full OFO charge in the commitment cost cap calculation during the stakeholder process was the Department of Market Monitoring ("DMM"). However, DMM's analysis was also based on using the wrong OFO charge. The basis for DMM's opposition to including the OFO charge appears to be the "moral hazard" problem that allowing for cost recovery would remove the incentive for generators to avoid penalties.¹³ However, the Commission should recognize that generator dispatch is being carefully coordinated between the CAISO and the relevant pipeline authorities, and thus, any penalty gas taken by the generator should be considered "authorized" gas, consistent with the Commission's recent orders in New York on a similar issue.¹⁴

B. The Commission Should Direct the CAISO to Include OFO Charges and Gas Procurement Costs in its Default Energy Bid Calculations.

The CAISO Proposal includes an increase in the Default Energy Bids calculated for generating units determined by the CAISO to have market power. Previously, the Default Energy Bid rules paid generators based on a formula of 110% of the day-ahead natural gas index price. During the pendency of the Aliso Canyon issue, the CAISO proposes to adopt a formula

¹³ DMM Comments at p.4.

¹⁴ See *New York Indep. Sys. Operator*, 154 FERC ¶ 61,111 (2016) at P 42 ("NYISO will not consider natural gas usage to be unauthorized, even during a period when an Operational Flow Order is in effect, if the generator obtains the appropriate authorization from the relevant interstate natural gas pipeline or LDC.")

that pays generators based on a sliding scale of between 125% to 200% of the day-ahead natural gas index price, with the exact amount set depending on the CAISO's observations of where the natural gas markets are trading.

The revised mitigated bid price, however, includes no adder to account for OFO penalty costs, and does not contemplate the impact of natural gas prices when the market perceives the risk that an OFO is great and commodity prices rise as a result. The decision to omit OFO costs from the Default Energy Bid calculation is particularly problematic once the maximum OFO penalty of \$25/MMbtu, as discussed in Section III.A above, is taken into consideration. The Commission should require that, at a minimum, the CAISO eliminate the 200% hard cap on Default Energy Bids, and instead mandate that the CAISO utilize applicable OFO charges and relevant gas procurement costs in its calculation of Default Energy Bids.

Additionally, as discussed below, real-time natural gas prices by themselves – even ignoring the OFO penalty charges – have historically exceeded the 200% cap proposed by CAISO. While NRG understands that generators affected by Default Energy Bid under-recovery of either natural gas costs or pipeline penalty costs may petition the Commission for recovery of such costs directly, the extremely low Default Energy Bid cap ensures that the case-by-case cost recovery may become the norm, instead of an extraordinary backstop mechanism, as envisioned by the CAISO.

C. The Commission Should Require Increases in Gas Procurement Costs to be Reflected in Default Energy Bids and Commitment Cost Caps.

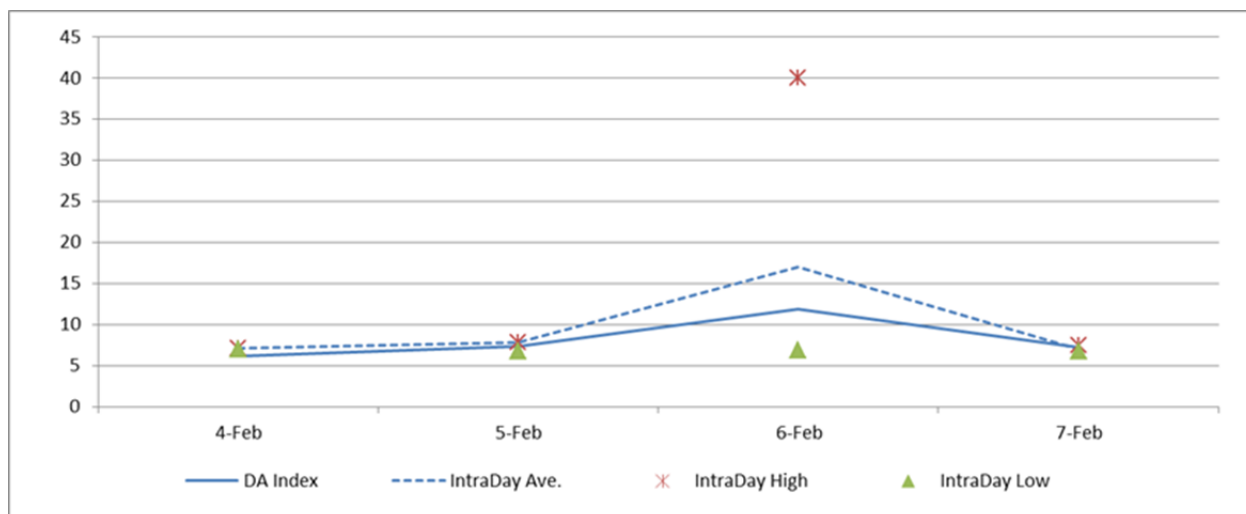
The instant Proposal provides the CAISO discretion to increase the commitment cost caps or the calculated Default Energy Bids, subject to a cap, based on its observations of the natural gas market. Given that extraordinary losses can occur over a very short period of time, NRG requests that the Commission direct CAISO to (i) minimize any delay between spikes in

real-time gas costs and a generator's ability to reflect those costs; and (ii) reset the price caps if actual gas procurement costs exceed the levels anticipated by the CAISO on an emergency basis.

First, NRG is concerned that the tariff language directs the CAISO to increase the commitment cost bid cap and Default Energy Bid calculation when the CAISO detects "systematic differences between day-ahead and same-day natural gas prices." NRG requests that the Commission direct the CAISO to strike the word "systematic" from "systematic differences" and clarify that the CAISO must change the commitment cost cap/Default Energy Bid calculation without waiting an undefined period of time to see if the price differences are "systematic." Under the ISO's proposal, especially with respect to its proposed cap on commitment costs and Default Energy Bids, generators are almost guaranteed to be subjected to significant financial losses on the first day of a gas supply disruption event.

Second, NRG's data show tremendous volatility in same-day trading costs, which simply swamps the gas commodity price components proposed by the CAISO, both for calculation of commitment costs and Default Energy Bids. As this actual data from February 2014 demonstrates, capping the commodity portion of a 200% of a generator's commitment cost

or 125% of its Default Energy Bid calculation, can result in severe under-recovery.¹⁵



Ideally, the CAISO would modify its commitment cost bid cap and Default Energy Bid calculation to reflect actual intra-day gas prices at the SoCal City Gate. However, *at a minimum*, the CAISO should be required to increase its commitment cost bid cap and Default Energy Bid when the market price for gas increases *in anticipation* of an OFO or when a declaration of an OFO actually occurs.

Third, DMM opposes even the modest price flexibility allowed under the CAISO's revised proposal. In arguing against this, the DMM cites analysis suggesting that “prices for gas in the same day market in the SoCal Gas area have not, on average, historically exceeded prices in the market for next day delivery[.]” While this is undoubtedly true on average, however, the

¹⁵ For example, as NRG's data indicate, a natural gas-fired generator purchasing same-day gas for dispatch on February 6, 2014 paid between \$15 and \$40/MMBtu. Under the CAISO's proposal, the Default Energy Bid payment would be set at 125% of the day-ahead index until the CAISO elects to increase the recovery to 175% of the day-ahead index. So the initial payment to a generator paying between \$15 and \$40/MMBtu in the intraday market for gas would be based on \$11.93/MMBtu (day-ahead index) x 1.25, or \$14.96/MMBtu. Even after the CAISO increased the calculation to the maximum 175% of the day-ahead index, a generator on February 6, 2014, would be potentially paying \$40/MMBtu, but recovering only \$20.88 (\$11.93/MMBtu day-ahead index x 1.75).

Further, this example does not account for the \$25/MMBtu penalty price potentially imposed during a Stage 5 OFO, which could lead to additional losses.

correct focus should not be on the historic average, but on historic and potential *outliers*. The DMM acknowledges that “same day prices have significantly exceeded next day prices on a very small portion of days.”¹⁶ It is precisely in those outlier days, where gas costs are highly volatile, that generators are exposed to being unable to recover their costs because they cannot reflect their fuel costs in their capped bids, and the CAISO does not reflect OFO charges or actual gas costs in its calculated Default Energy Bids.

Further, the DMM’s analysis ignores the fundamental economics in the same-gas market during the pendency of the Aliso Canyon situation. The expectation of most commercial parties in California is that the gas market will be highly volatile this summer and will remain so until Aliso Canyon returns to service. NRG’s experience in gas markets nationwide is when the market either expects or is experiencing an OFO, the market price for gas moves to a level that includes the OFO price. Thus, a perceived or declared OFO becomes directly expressed in the marginal price of gas. Failing to include the OFO price in the commitment cost offer caps or Default Energy Bids or generated bids will simply expose more generators to having to file with the Commission to recover their costs. This is especially true given that under the CAISO’s reconstituted market construct in their filing, the market price of gas will likely not be reflected in the resultant offer curves provided by participating generators.

D. After-the-Fact Recovery of Gas Procurement and Disposal Costs at FERC is a Critical Safeguard, but Should be Used Rarely.

NRG appreciates the CAISO’s recognition that, even with the changes proposed in the instant filing, there still remain circumstances where generators may be unable to recover the costs of their participation in the wholesale market, either because OFO costs exceed the formula included in the CAISO tariff, same-day gas trades at more than 175% of the day-ahead gas index

¹⁶ DMM Comments at p. 2.

price, or some other reason. However, NRG requests that the Commission clarify several aspects of the after-the-fact recovery process.

First, NRG requests that the Commission clarify that all OFO and real-time gas procurement costs incurred to follow CAISO dispatch instructions are included in the costs for which a generator may seek recovery at FERC. Generators must be able to seek recovery of all gas procurement costs that they cannot reflect in their offers to the CAISO.

Second, NRG requests that the Commission clarify that gas disposal costs are a legitimate ground on which to seek cost recovery at the Commission. NRG's experience in 2013 and 2014 was that it often procured gas to meet a CAISO dispatch, only to have the dispatch rescinded or changed in real-time. Under normal circumstances, market participants such as NRG simply park the gas on the pipeline and then liquidate its natural gas length in the market through the remainder of the applicable balancing period. While such liquidation of long positions is challenging, most days companies make or lose a nominal amount of money disposing of the excess gas. However, when OFOs are declared, and daily balancing is imposed while the OFO is in place – which most if not all market participants expect will happen much more frequently under the SoCalGas settlement provisions – the pipeline automatically “cashes out” long positions at the end of every trading day. Conversely, short positions, incurred during OFOs are simply assessed the penalties. The overall imbalance on the pipeline is not affected. If a generator purchases same-day gas to meet a CAISO dispatch, and the dispatch is then rescinded, or the gas company curtails service to the generator because of local pressure concerns, the generator can find itself in the position of having to liquidate gas or sell it back to the pipeline at a steep discount. These are entirely legitimate costs, outside of the generator's control, but are not expressly addressed in the CAISO's tariff language.

Third, the Commission should require the CAISO to clarify the timing of the process by which generators are permitted to seek cost recovery with the Commission. The current timeline proposed by CAISO includes the following:

- 30 days for the Scheduling Coordinator (“SC”) to notify the CAISO of a forthcoming filing;
- 60 days from that time for the CAISO to provide written feedback to the SC.

While NRG appreciates the CAISO’s revised timeline,¹⁷ it is not clear that an SC will be able to file in 90 days, given that the information back from the CAISO may be received on the 90th day after the trading day.

E. NRG Requests That The CAISO Timely Prepare a Detailed Aliso Canyon Business Practices Manual.

NRG appreciates the fact that the CAISO initiated its Aliso Canyon stakeholder process and brought this proposal to the Commission on an expedited basis. The magnitude of the Aliso Canyon crisis raises an unprecedented number of electric-gas coordination issues, rivaled only by 2014’s “Polar Vortex” on the East Coast. While NRG is respectful that the CAISO is attempting to work through these complicated issues on an extremely compressed timeline, and cannot yet set forth in detail how the proposed provisions will be implemented,¹⁸ NRG respectfully recommends that the Commission direct the CAISO to develop a document detailing how the CAISO will implement its emergency authority. This important detail could, for example, be addressed in a subsequent dedicated Business Practice Manual (“BPM”). This BPM

¹⁷ The CAISO’s initial proposed tariff language required the Scheduling Coordinator to notify the CAISO within ten (10) business days of the event that it intended to file for cost recovery. The CAISO has since lengthened this period to thirty (30) business days.

¹⁸ Transmittal Letter at p. 39.

should be available to market participants by June 2, when most of the tariff provisions are set to take effect.¹⁹

NRG also requests that the CAISO clarify how it will coordinate with pipeline operations. In past periods of stress on the gas system, CAISO and pipeline operations have coordinated directly, without involving the generator. In NRG's experience, this has at times resulted in inefficient (and even inaccurate) dispatch instructions which actually resulted in greater gas burns. A three-way conversation between the CAISO, the affected generator, and the gas utility will minimize the danger of generators receiving conflicting information, as has happened to NRG in the past. NRG offers that, when gas curtailments to electric generators are necessary, the gas company first notify the CAISO of the needed gas curtailments, then have the CAISO determine the most effective way to allocate those curtailments to generators, and then notify the affected generators and the gas company of the resulting electric curtailments.

F. The CAISO Should Publish any Market Projections or other Data to All Parties Simultaneously.

NRG is a strong advocate for transparency in organized electric markets and is supportive of the CAISO direction to provide additional information to scheduling coordinators which will aid them in making informed gas procurement decisions. However, in order to provide full market transparency, NRG recommends that the CAISO publish any two-day data to all parties, on a non-discriminatory basis.

While these "advisory" two day-ahead schedules may aide generators in making gas procurement decisions, they inherently contain dispatch projections that have the ability to move

¹⁹ NRG requested this and provided a detailed list of issues that should be included in such a BPM in page 2 of its comments on the CAISO's Draft Final Proposal (available at http://www.caiso.com/Documents/NRGComments_AlisoCanyonGas_ElectricCoordinationDraftFinalProposal.pdf). To that list, NRG would add the need for criteria describing when, and under what conditions, the CAISO will suspend convergence bidding.

the market. Specifically, NRG agrees with the CAISO that the two day-ahead advisory schedules should be kept confidential (as day-ahead binding schedules are today), but the remainder of the forward projections should be released. Nevertheless, market participants other than generators also should be provided with information on the same time frame that allows them, like generators, to anticipate and plan for expected conditions.

G. The CAISO Should Provide Affected Generators with their Relevant LMPs.

The CAISO has proposed that the gas availability constraint be implemented in a way that only affects the affected generator connectivity nodes (“Cnodes”) but does not affect the Point-of-Receipt nodes (“Pnodes”).²⁰ The CAISO does not publish LMPs for Cnodes, however, through its Open Access Same-time Information System (“OASIS”). This means generators will be unable to validate whether the Cnode LMPs against which they will be settled are consistent with the MW generation schedules they receive from the CAISO. It is unclear to NRG whether the CAISO could publish those Cnode LMPs, but doing so enables generators to validate their CAISO settlements.

H. The Commission Should Mandate that the CAISO Develop a Permanent Fix to these Issues Prior to Winter 2016/2017.

The CAISO’s recognition that its existing gas price methodology is flawed is a welcome relief to generators participating in California’s energy markets. In fact, the DMM now acknowledges that:

Currently, start up and minimum load bids in the real-time market for most gas-fired capacity in the ISO system are capped at 125 percent of estimated costs. These cost-based caps are based on an index of gas prices for gas purchases in the market for next day delivery. Thus, these prices may not reflect actual prices for any gas that is purchases in the same day market as a result of resources being committed in the real-time energy market.²¹

²⁰ Transmittal Letter at 27-30.

²¹ DMM Comments, at p. 1.

NRG is gratified to see all parties recognize that the existing system, which uses a lagging published gas index price, leaves generators exposed to unrecoverable gas costs during periods of stress and volatility on the natural gas system. The unavailability of Aliso Canyon will only increase the amount of time that the Southern California gas delivery is under stress and thus makes the CAISO's emergency fixes to gas recovery issues of paramount importance.

The CAISO proposes to sunset these new rules on November 30, 2016, coincident with the end of SoCalGas' settlement provisions. While the SoCalGas settlement calls for those parties to meet and confer to develop winter rules to replace these temporary rules for summer operation, there yet is no defined process for the CAISO and its market participants either to develop rules for winter operations to replace the proposed interim provisions that will expire on November 30, 2016, or to permanently address the market rules that currently do not allow market participants to reflect their gas costs in offers to the CAISO. If Aliso Canyon is not returned to service by December 1, 2016, the challenges that the Southern California gas system will face without Aliso Canyon are likely to increase, not decrease, in the winter.²² For these reasons, NRG strongly encourages the Commission, in addition to approving the proposed interim measures (as amended consistent with NRG's comments), to direct the CAISO to put into place, by December 1, 2016, permanent fixes to its market rules that will avoid future issues, including those that regularly arise during normal winter operations in California. This will

²² The Joint Agency presentation entitled "Aliso Canyon's Impact on Electric Reliability Technical Analysis and Action Plan", presented at the April 8, 2016 joint agency meeting in Woodland Hills, California, shows, on Slide 7, that the average number of days gas was withdrawn from Aliso Canyon in the years 2012-2015 was highest in November through February. This presentation is available at http://docketpublic.energy.ca.gov/PublicDocuments/16-IEPR-02/TN210982_20160408T090909_Presentation_Aliso_Canyon's_Impact_on_Electric_Reliability_Tech.ppt.

obviate the need to adopt yet another set of interim provisions that partially mitigate risk but do not fully address the underlying problems.²³

III. CONCLUSION

For the aforementioned reasons, the NRG Companies respectfully request that the Commission accept the CAISO's proposal, subject to an emergency compliance filing to fix as proposed by NRG.

May 16, 2016

Respectfully submitted,

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²³ The CAISO has not yet fulfilled the Commission's December 2014 expectation to consider longer-term market design changes to its commitment cost rules. See *California Independent System Operator*, 149 FERC ¶ 61,284 (2014) at P 32 and P 33 ("While we agree with CAISO that the current proposal represents an immediate improvement that can be implemented in time to provide generators a better opportunity to recover their costs during periods of natural gas price volatility that may occur during the 2014-2015 winter season, we expect CAISO to abide by its commitment to consider longer-term market design changes for commitment cost bids in conjunction with the bidding rules enhancements stakeholder initiative commenced earlier this month.")

Additionally, the Commission "strongly encourage[d the] CAISO to file any tariff revisions resulting from this stakeholder process sufficiently in advance of the 2015-2016 winter season to permit Commission review and implementation prior to the onset of cold weather." *Id.* at P 33. (Footnotes omitted.)

Certificate Of Service

I hereby certify that I have served a copy of the foregoing document upon each person designated on the official service list compiled by the Secretary in this proceeding.

Dated at Princeton, New Jersey this 16th day of May, 2016.

/s/_____