UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION

Offer Caps in Markets Operated by Regional Transmission Organizations and Independent System Operators	)))	**Docket No. RM16-5-000**

COMMENTS OF THE CALIFORNIA INDEPENDENT SYSTEM OPERATOR CORPORATION

I. Introduction

The California Independent System Operator Corporation (CAISO) submits these comments in response to the Commission's notice of proposed rulemaking to revise its regulations to standardize the cap on incremental energy offers to regional transmission organization (RTO) and independent system operator (ISO) markets at the higher of $1,000/MWh or a resource's verified cost-based incremental energy offer.[1] Under the proposed rule, an ISO/RTO or its market monitor would need to verify a cost-based offer before it is used in the market optimization. If ISO/RTO or its market monitor cannot verify the bid prior to the market run, then the generator will be eligible for a make-whole payment if the costs are later verified, but its bid in excess of $1,000 will not be used to set the market-clearing price. Although the Commission acknowledges in the NOPR that the impetus for the proposal is its concern regarding gas procurement challenges similar to those experienced during the 2013-2014 "polar vortex," the ability to cost-justify offers above $1,000 would apply to all resources regardless of their technology and not just gas fired resources. As proposed, the soft cap essentially

[1] Notice of Proposed Rulemaking, *Offer Caps in Markets Operated by Regional Transmission Organizations and Independent System Operators*, Docket No. RM16-5 (Jan. 21, 2016) (NOPR).

would be a hard cap with respect to virtual bids based on the rationale that there are no meaningful costs associated with submitting such bids (*e.g.*, there are no fuel or fuel equivalent procurement costs).

The CAISO does not believe that a soft cap on incremental energy bids is necessary in the CAISO markets at this time. As stated previously, there is no evidence indicating that incremental costs in the CAISO markets have approached the current $1000/MWh cap. The final rule should allow ISOs or RTOs that do not share a seam with another organized market, such as the CAISO, to demonstrate that it is not necessary to implement the soft-cap requirement in their market at this time. This would allow the CAISO to avoid incurring unnecessary costs to adopt new procedures and enhance its technology when they are not likely to be necessary in the near future.

The CAISO does not currently have a mechanism for verifying cost-based bids prior to clearing the market. Moreover, beyond accounting for increases in fuel costs reflected in available price indices used to calculate default energy bids and other cost-based generated bid values, the CAISO does not believe it has the ability to verify cost based bids prior to running the markets. With respect to *ex-post* verification of the bids, the CAISO is concerned that under the normal course of business it will be difficult for the CAISO to discern whether or not the generators incurred the costs prudently, or whether it is instead using electricity market to manage all of its gas market risk exposure inappropriately.

Moreover, as discussed in greater detail below the NOPR does not acknowledge that various market parameters are established relative to the bid cap on incremental energy offers in the CAISO markets so that they function appropriately relative to the

highest (and lowest) bids that can be in the market. For example, the CAISO currently bases prices on the $1000/MWh bid cap when there is an insufficiency of bids to meet the power balance constraint. The proposed rule could result in significant disruptions to the CAISO market were the Commission to impose the rule change without carefully considering how the requirement impacts 1) the ability to modify the parameters consistent with the soft-bid cap, and 2) the merits of changes in scarcity pricing signals that would be created as a result of the proposed rule changes.

In light of the issues the NOPR raises, in addition to the comments the CAISO offers below, the CAISO respectfully requests that, prior to issuing a final rule, the Commission conduct a technical conference to better understand the challenges described herein. The CAISO understands the Commission previously held technical conferences to explore more generally the need for changes to the bid cap. However, the Commission's intended course of action reflected in the NOPR poses more specific questions, issues, and proposals that warrant further vetting before the Commission issues a final rule. Specifically, the CAISO believes it is important for the Commission to explore further the type of documentation, evidence, and representations it would deem acceptable to verify cost based bids. The CAISO has explored similar issues in its stakeholder processes and concluded that other than utilizing index-based indications of fuel costs, it would be difficult to determine what costs suppliers have actually incurred, and importantly, whether those costs were prudently incurred. In addition, the technical conference could help address some of the implementation and market issues such as the parameter setting concerns the CAISO raises in its comments and the Commission has not addressed in the record.

II. Comments

A. The final rule should allow for ISO and RTOs that do not share a seam with a neighboring centralized market the opportunity to demonstrate that it is not necessary to adopt the soft cap in their market.

The CAISO markets have a $1,000/MWh *hard cap* on incremental energy offers.[2] The CAISO has previously stated, and continues to believe, that the current hard cap is sufficient for the CAISO markets because $1,000/MWh is far in excess of what the highest reasonable cost-justified offer could be from a resource in the CAISO generation fleet.[3] In its March 6, 2015, comments on the technical conference the CAISO indicated that it had not identified the need to increase the maximum energy bid price in its markets because it had not observed or experienced situations in which the maximum energy bid price of $1,000/MWh was insufficient for a resource to recover its costs. Even since that time natural gas prices at trading hubs serving natural gas–fired resources in the CAISO's balancing authority area remain generally stable, and the CAISO market has not experienced gas price spikes that have resulted in increased fuel costs such that the $1,000/MWh maximum energy bid price would not cover resources' costs.

The CAISO appreciates that gas market fundamentals may change over time or that unforeseen events may occur that might raise the costs of incremental energy for a generator above $1,000/MWh, but the record of this proceeding contains no evidence that those conditions have occurred or have almost occurred in the CAISO's market. Even if the fundamentals were to change, the CAISO believes such events would be

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[2] CAISO tariff section 39.6.1.1.

[3] Comments of the California Independent System Operator Corporation on Technical Workshops, FERC Docket No. AD14-14-000 (filed March 6, 2015).

infrequent and short-lived and do not justify the changes the CAISO would have to make to allow market participants to bid in above the soft bid-cap based on cost-verified bids. Moreover, if the need to recover costs above the $1000/MWh bid cap were to materialize, the CAISO believes it is more appropriate to consider procedures that provide after-the-fact recovery based on a cost-based showing to the Commission and not the CAISO.

While the CAISO has not observed its bid cap to be an impediment to recovery of incremental energy costs in its markets, the CAISO did identify limitations to recovery of fuel-related costs under its commitment cost recovery structure. In determining which generating resources to commit in its markets the CAISO considers, among other things, start-up costs and minimum load costs. If a resource is use-limited, CAISO's tariff provides scheduling coordinators with the choice to calculate start-up and minimum load costs using either a proxy cost option or a registered cost option. Non-use-limited resources must use the proxy cost option. The proxy cost option allows resources to recover start-up and minimum load costs based on cost components specified in the tariff that are intended to reflect the resources' actual unit-specific performance parameters. Scheduling coordinators can then submit daily start-up and minimum load costs bids that are between zero and a cap of 125 percent of the calculated proxy costs. The registered cost option allows scheduling coordinators to register, for a 30-day period, fixed start-up and minimum load cost values of their choosing for each resource they represent, subject to a cost cap set at 150 percent of the projected proxy cost. The gas priced utilized in the market runs is based on gas prices published the day-before. Although gas prices have been generally stable, a

significant gas price spike between the published prices and prevailing prices at the time of the market runs can cause market distortions and gas price risk on scheduling coordinator.

Accordingly, after two incidents, one in late 2013 and one in February 2014, the CAISO filed for and the Commission approved the CAISO's request for a special procedure to ensure the calculation of natural gas prices permit the CAISO to execute and settle the market 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. The CAISO considers its market to experience a "significant price spike" whenever the daily gas price reported by ICE on the morning of the day-ahead market run exceeded the natural gas price index calculated the previous evening by 125 percent. The CAISO has not had the need to execute this procedure since the Commission approved it, but it continues to be in place. This procedure allows resources to reflect the higher fuel costs in their start-up and minimum load bids, which would otherwise be limited by the 125 percent of calculated costs commitment cost bid cap. With the daily bidding flexibility up to 125% of calculated proxy costs plus the special gas price spike procedure, the CAISO has a process in place that will address significant gas price variability.

Since then, the CAISO also conducted additional stakeholder processes to evaluate whether there is a need for additional flexibility to ensure resources are able to reflect and recover their start-up and minimum load costs through the CAISO market.[4]

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[4] *See Bidding Rules Stakeholder Process* http://www.caiso.com/informed/Pages/StakeholderProcesses/BiddingRulesEnhancements.aspx.

Some stakeholders requested additional commitment cost bidding flexibility to reflect intra-day gas costs, which will help to manage gas use and avoid balancing penalties from natural gas pipeline companies. To address these concerns the CAISO developed two new rule changes, which the CAISO's board of governors recently approved and for which the CAISO will be submitting a tariff amendment seeking the Commission's approval. First, the CAISO will to address concerns from stakeholders that, although very infrequent, during extreme gas price spike events actual natural gas costs still could exceed the CAISO's calculated commitment cost bid cap. To address this, the CAISO will propose to add tariff provisions that will allow market participants to seek after-the-fact Commission approval of actually incurred commitment costs that exceed the bid cap in a Federal Power Act section 205 proceeding. The ISO would then reimburse the Commission-approved costs through its bid cost recovery mechanism. As a result, the CAISO would only reimburse the market participant for these costs to the extent the resource had a net revenue shortfall over the day, considering its total market revenue and the Commission found such costs to be just and reasonable. The purpose of after-the fact revise is to address circumstances that are beyond the market participant's control and would be based on all the facts and circumstances.

The CAISO believes the Commission is best placed to conduct this review because having the CAISO perform this function is not practical, as it would require establishing specific, objective criteria for such reimbursement, for which it is not reasonable to enumerate all potential situations before-the-fact and would necessarily would be limited to objective criteria. As noted above, the purpose of the option to file for after-the-fact recovery is for all the relevant facts and circumstances to be

considered. In addition, determining incurred costs would require visibility to a market participant's full portfolio of natural gas transactions and hedging mechanisms that the Commission has a greater ability to obtain.

Second, the CAISO agreed to modify its tariff rules so that market participants can reflect the most recent natural gas prices for commitment costs in the real-time market if they bid the resource into the day-ahead market if the resource had not received a day-ahead schedule. Instead, they will be allowed to update their commitment cost bids for use in the real-time market to better reflect current costs. The real-time market uses the gas price index calculated the evening prior to trading day whereas the day-head market utilizes the gas price index published two evenings prior to the trading day.

The CAISO concluded in its stakeholder process that the CAISO's manual price spike procedures, the day-ahead index price combined with the 125 percent proxy cost bid cap would cover the vast majority of actual prices for gas purchased from the day-ahead, same day or intraday gas markets. For those rare instances where costs are to exceed the cap, stakeholders and the CAISO supported an after-the-fact recovery process but could not find an effective way to develop objective criteria to determine if a resource qualified for recovery. The CAISO found this to be impractical as it would be difficult to detail before-the-fact all of the situations in which a market participant conducted prudent procurement practices but incurred natural gas procurement costs it could not recover because of the CAISO's commitment cost bid caps. In addition, determining a resource's actual gas costs could entail a high degree of judgement and visibility to the market participant's entire portfolio of gas purchases and sales. For

example, a market participant could "cherry-pick" one high-price purchase out of many purchases in a portfolio including other purchases below the cap as well as high-priced sales. In addition, the CAISO understands that gas purchases are often made for a pool of resources for which it could be difficult to associate a specific purchase with a specific dispatch for a specific unit.

While the CAISO understands that the Commission's current effort in this proceeding is focused on the incremental energy bid cap and not the commitment costs addressed by the CAISO in these past efforts, the lessons learnt in the CAISO's stakeholder processes are applicable to the Commission's proposal in this proceeding. Fundamentally, the CAISO is concerned that, outside of reliance industry accepted indexes of fuel prices, the CAISO is unable to verify that fuel related incremental costs are prudently incurred. While the CAISO believes it is appropriate for costs prudently incurred in the procurement of gas or other forms of fuel should be recovered through the electricity markets, the CAISO does not have expertise in how to evaluate whether a market participant is appropriately representing its fuel costs and whether it is justified in passing specific costs through electricity markets. Such an evaluation would require careful consideration of numerous factors on a case-by-case basis to verify whether a generator's procurement costs are justified and therefore be recoverable either before or after the fact.

For this reason, the CAISO concludes that it is best for the Commission to review such factors and adjudicate their reasonableness. This approach provides an opportunity for interested parties to intervene and participate in any such review as well as an opportunity to assess whether a market participant's actions with respect to

managing fuel price risk were just and reasonable and support extraordinary relief. The Commission, and not the ISOs/RTOs, is ultimately the rate setting regulatory agency that is in the best position to review cost-based showings of the sort contemplated in the NOPR.

B. Secondary hard caps on the soft-cap proposed by the Commission would be appropriate and necessary.

If the Commission were to approve or mandate soft-caps as proposed in the NOPR, the CAISO believes it is necessary to adopt a secondary hard cap. Even if the CAISO were able to evaluate the veracity of the showings by suppliers, the secondary bid cap remains appropriate mitigation and may in fact help serve to mitigate price spikes in fuel commodity markets. The CAISO does not foresee additional concern with implementing the secondary hard cap.

C. The CAISO does not believe it is possible to evaluate that a resource has quantified exactly and accurately their short-run marginal cost components (like opportunity costs) in their cost-based incremental energy offer.

The CAISO views before-the-fact cost verification (before either the day-ahead or real-time market) as feasible only in the limited case where verification is conducted solely with respect to published price indices and applies across the market. As discussed above, the CAISO currently has a mechanism to deal with intra-day gas price spikes and it demonstrates the limits of the CAISO's before-the-fact cost verification capabilities. Section 39.7.1.1.1.3(b) of the CAISO Tariff provides that if a daily gas price reported by Intercontinental Exchange, Inc. (ICE) on the morning of the CAISO's day-ahead market run exceeds 125 percent of any natural gas price index calculated for the day-ahead market between 7:00 p.m. and 10:00 p.m. Pacific time on the preceding day, the CAISO will use the natural gas price reported by ICE in all CAISO cost formulas and

market processes for that day's day-ahead market that would otherwise use the natural gas price index. Beyond a mechanism such as this to cover other potential causes of an offer to exceed the proposed soft cap, the CAISO does not see how before-the-fact cost verification would be feasible.

The NOPR contemplates what happens in the event that an offer cannot be verified prior to the market run.[5] Were the NOPR adopted, the CAISO anticipates that realities of the situation would dictate that the exception would prove to be the rule. That is, in the CAISO's case incremental energy offers above the soft cap would likely never be eligible to set the clearing price and instead would receive a make-whole payment, assuming its costs are verified after-the-fact.[6]

The CAISO believes it or its Department of Market Monitoring (DMM) would need additional information to implement the policy proposal outlined in the NOPR, although it is not clear at this time what specific information would be required to verify cost-justified offers. The simplest route to verify such offers would involve reviewing a broker quote or procurement invoice as evidence of a generator's costs. For several reasons, the CAISO questions, however, whether this basic information would be sufficient. Just because a broker has quoted a particular price or just because a generator has paid that price does not necessarily mean that the price was reasonable or reflective of prevailing market conditions for gas (or whatever other commodity may be at issue).

The CAISO does not support a rule under which ISOs/RTOs approve offers as justified based on imprudent fuel procurement costs. In the case of gas, staff at

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[5] NOPR at P 56.

[6] NOPR at P 56.

ISOs/RTOs have some familiarity with procurement practices and have some basis for making educated evaluations of procurement decisions. But the proposal would be to all resources not just fuel fired resources so procurement issues relevant to other generation technologies might also be cited to justify above-cap offers, not to mention that a gas-fired unit may cite a factor other than the cost of gas (such as emission credits) to justify an above-cap offer. For large market participants operating multiple generation units, an ISO/RTO would also face the challenge of linking a specific procurement decision to a market offer from a specific generating unit. As an example, for entities holding a portfolio of gas purchases, that themselves might be hedged, it would be difficult for an ISO/RTO to determine how the costs of a single gas purchase should be allocated to a market offer for the purposes of determining whether an above-offer cap is justified.

If the Commission believes its proposed rule is necessary, it should clearly state what it deems to be evidence that the market participant has prudently managed its fuel price risk and participation in the electricity market. In addition, the Commission must specifically identify the kind of evidence it believes the ISO or RTO should accept as evidence that such costs were prudently incurred both up-front and after-the fact. The Commission should discuss these questions more specifically in the context of a technical conference. To develop a sufficient record on these issues, the Commission should invite fuel procurement experts from each region to a technical conference to discuss limitations in fuel markets and the appropriate parameters for determining prudently incurred costs.

D. Consistent treatment between intertie and internal bids is key for efficient market outcomes and lower bid caps for imports than for internal generators can create anomalies.

The CAISO has not conducted analysis at this point of whether there would be operational or economic efficiency impacts from having an offer cap for internal resources that is different from intertie resources. However, the ISO's believes consistent treatment is key to an efficient market and to avoid unintended side effects. The ISO's sense is that a bid cap for imports that is lower than the bid cap for internal generation could produce anomalies. For example, it could lead to import supply drying up if natural gas prices rose throughout the West to a level that would justify energy prices greater than $1,000/MWh. Alternatively, it could lead to the ISO fully scheduling and relying on imports (that may not be able to be reliable as internal generation) while leaving available internal generation dispatched.

E. Differences in bid caps between virtual and physical bids could also create anomalous outcomes.

The NOPR proposes that virtual bids essentially would face a hard cap of $1,000/MWh. One potential argument against this proposal is that if physical generators can offer above $1,000/MWh, then virtual bidders should also be able to bid above $1,000/MWh to arbitrage those physical offers. At the same time, the CAISO certainly understands the logic expressed in the NOPR that virtual bidders do not face short-run marginal production costs, and thus would be unable to justify costs above $1,000/MWh. Beyond these basic theoretical arguments, the CAISO has not analyzed the benefits or drawbacks of limiting virtual bids to a $1,000 offer cap, while allowing physical bidders to cost-justify in excess of that cap.

F. What impact would this proposal have on seams issues?

The CAISO does not share a seam with a centralized energy market. However, the CAISO believes the Western Electric Coordinating Council (WECC), outside of the CAISO market, continues to be under $1000/MWh bid cap, which became effective April 1, 2011.[7] The NOPR only applies to ISO and RTO markets. The Commission must address how it believes the soft-cap in the CAISO market would work in the context of the overall $1000/MWh bid cap in the WECC. In instituting the west-wide bid cap, the stated is belief that "California is an integral part of a trade and reliability region in the West. Because of this interdependency of market and infrastructure, conditions in and changes to the California market affect the entire region."[8] The Commission then found that that given this interdependency, it is unjust and unreasonable to have inconsistent bid caps in the CAISO and the rest of the WECC.[9]

G. The Commission must carefully consider the relationship between offer cap and other market parameters.

Implementation of the NOPR proposal would pose additional impacts for the CAISO beyond those described in response to the seven questions posed in the NOPR. Various CAISO market parameters, including those related to scarcity pricing, are tied to the cap on incremental energy offers. Under the NOPR proposal, the CAISO would face a "floating" cap that moves in relationship to whether an offer above the soft cap is justified. It is not clear to the CAISO that it would be appropriate for scarcity pricing and these other market parameters to float dynamically along with the cap. Assuming the

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7 *Western Electric Coordinating Council*, 133 FERC ¶ 61,026 (2010).

8 WECC Order at P 14.

9 *Id.*

Commission determined that it would be appropriate, implementing such a scheme also would pose significant implementation challenges for the CAISO.

These parameters relax market constraints when the market cannot come to a feasible solution using economic bids. These parameters use administrative or "penalty" prices are all established relative to the CAISO $1000/MWh bid cap (and the CAISO's -$150/MWh bid floor). Examples of the constraints the market uses these pricing parameters for include the power balance constraint, that uses the $1,000/MWh bid cap to set prices if supply is insufficient to clear load, and transmission constraints.

Were the CAISO forced to implement the soft cap, the CAISO would need to modify its systems to update these penalty prices in the event that a bid was submitted in excess of the $1,000/MWh bid cap. Otherwise, these penalty prices and the constraints they are used for would not function appropriately. For example, without modifying the penalty price used for the power balance constraint, the market optimization may just relax the power balance constraint rather than clear a supply bid over $1,000/MWh. It would not be a simple matter of on on-the-fly adjustment to the power balance constraint penalty price. The market uses numerous constraints that use penalty prices, all of which are established based on a proportion of the range between the $1,000/MWh bid cap and the -$150/MWh bid floor.

At this time, the CAISO believes it would face significant challenges in dealing with a "floating" offer cap. Any direction to modify the CAISO's offer cap must account for these factors and provide for sufficient time to design and implement changes to the CAISO's market rules. Because, the ISO has not yet even confirmed whether a feasible way to do this even exists, FERC should balance these implementation concerns

against how often it expects to see costs above $1,000/MWh in the CAISO market. Setting the cap at a higher level, *e.g.*, $2,000/MWh, may also have related adverse effects.

As described above, the CAISO establishes the various penalty prices to function appropriately given the expected range of bids. Although setting the cap at $2,000/MWh, rather than having a $1,000/MWh soft cap, would avoid having to update the penalty prices if the ISO accepted a bid above $1,000/MWh, it would result in the penalty prices not functioning appropriately because they would be set contemplating bids up to $2,000/MWh when bids would be much less than $1,000/MWh the vast majority of the time.

Section 27.4.3 of the CAISO tariff specifies that the following constraints are set to the priced or relaxed based on the bid caps and bid floors specified in the tariff: the pricing parameters for transmission constraint relaxation; the pricing parameter for insufficiency supply to meet self-scheduled demand in the integrated forward market, and the pricing parameter for insufficient supply to meet CAISO forecast of CAISO demand in the real-time market. In addition, Section 27.1.2.3 and its subparts specify that the parameters for regulation down pricing for insufficient supply, pricing parameter for non-spinning reserve pricing insufficient supply, and regulation up pricing – insufficient supply, respectively. The BPM for market operations further specifies the numerous parameters that are established relative to the parameters peg to the bid caps and bid floors.[10]

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[10] *See* Section 6.6.5 of the Business Practice Manual for Market Operations, available at: https://bpmcm.caiso.com/Pages/BPMDetails.aspx?BPM=Market%20Operations.

The CAISO is not certain how the Commission expects each ISO/RTO to implement the proposed rule and affect these parameter settings. These issues should be further discussed and understood. The Commission should include this topic in the technical conference requested by the CAISO.

III. Conclusion

The CAISO offers the above comments and, as discussed above, respectfully requests the Commission conduct a technical conference prior to issuing a final rule in this NOPR.

Respectfully submitted,

By: */s/ Anna A. McKenna*
Roger E. Collanton
General Counsel
Anna A. McKenna
Assistant General Counsel
Andrew Ulmer
Director of Regulatory Affairs
David S. Zlotlow
Senior Counsel
California Independent System
Operator Corporation
250 Outcropping Way
Folsom, CA 95630
Tel: (916) 351-4400
Fax: (916) 608-7222
amckenna@caiso.com

Counsel for the California Independent
System Operator Corporation

Date: April 4, 2016

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 4th day of April 2016.

/s/ Anna Pascuzzo

Anna Pascuzzo