



California Independent
System Operator Corporation

March 2, 2009

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

**Re: California Independent System Operator Corporation
Compliance Filing**

Docket Nos. ER09-241-____

Dear Secretary Bose:

The California Independent System Operator (CAISO or ISO)¹ hereby submits an original and five copies of the instant filing in compliance with the Commission's January 30, 2009 Order, 126 FERC ¶ 61,082, (Price Cap Order). Two additional copies of this filing are enclosed to be date-stamped and returned to our messenger.

I. Background

On February 9, 2006, the ISO filed a proposed Market Redesign and Technology Upgrade (MRTU) Tariff that included modifications to the then-current ISO Tariff reflecting the numerous changes to the ISO's market structure included in the MRTU proposal. On September 21, 2006, the Commission issued an order conditionally accepting the MRTU Tariff for filing, subject to modifications. A series of compliance filings, additional tariff amendments and additional orders have since ensued, which the ISO does not summarize here but are all captured in FERC Docket No. ER06-615.

On November 10, 2008, the ISO proposed to adopt a price cap of \$2,500/MWh and a price floor of negative \$2,500/MWh on the locational marginal prices (LMPs), Residual Unit Commitment (RUC) Prices, and Ancillary Services

¹ Capitalized terms not otherwise defined herein have the meanings set forth in the Master Definitions Supplement, Appendix A to the CAISO Tariff (also known as the Market Redesign and Technology Upgrade or MRTU Tariff). Except where otherwise noted herein, references to sections are references to sections of the MRTU Tariff.

Marginal Prices in all of the MRTU CAISO Markets. The ISO proposed these amendments to prevent severe settlement impacts of extreme prices that could result from unanticipated and unusual circumstances as the ISO transitions into the MRTU market.

On January 30, 2009, the Commission approved the ISO proposed tariff amendments subject to certain compliance requirements to be filed within 30 days of the issuance of the Price Cap Order. The ISO submits the instant filing to comply with the directives in the Price Cap Order.

II. Discussion

A. Delay in Posting of Potentially Erroneous Prices.

In compliance with the Price Cap Order, the ISO proposes additional tariff language that will enable the ISO to implement a delay in posting certain prices resulting from the clearing of any of the MRTU markets, including prices that meet or exceed the price cap and floor.

The changes proposed herein were initially conceived and proposed by the ISO in response to the issues raised by Southern California Edison (SCE) and Pacific Gas and Electric (PG&E) regarding the complications and inefficiencies that would arise with the publication of prices that exceed the price cap and floor given that such prices will not actually be used in settlements.² In response to these concerns, the ISO proposed to delay publication of such prices until further verification and possible correction.³ When it contemplated implementation of this feature, the ISO recognized and conveyed to the Commission that the prices exceeding the price cap or floor are not the only prices produced by the market clearing software that may need correction for settlement purposes. Therefore, the ISO proposed to adopt additional measures consistent with the existing provisions of Section 35 in order to permit the ISO to delay the posting of certain prices when there is an indication that they may not be correct, including but not limited to those that exceed the price cap and floor. Temporarily withholding these prices will allow the ISO, prior to publication, to subject the prices to the price validation process, and, if necessary, correct prices according to existing tariff rules. The Commission accepted the ISO's commitment to conduct a short stakeholder process to determine the criteria that will apply to identify the prices that need to be temporarily withheld from publication pending further scrutiny. The Commission directed the ISO to file on compliance any resulting changes to the price validation and correction procedures in section 35.⁴

² Price Cap Order at PP 41-43.

³ Price Cap Order at PP 47-48.

⁴ Price Cap Order at P 54.

After the issuance of the Price Cap Order, the ISO quickly determined the type of measures that could be implemented within the short time before MRTU *go live* and conducted a brief stakeholder process before making this filing.⁵ Given the fact that the ISO has set the MRTU *go live* date for March 31, 2009, any measures that would require the adoption of significant software changes or manual procedures would simply not be feasible at this time. The procedures the ISO discusses in this filing are feasible for *go live* and, therefore, ensure that the proposed tariff amendments can be fully implemented at the start of MRTU.

The specific tariff amendments proposed in compliance with the Price Cap Order are reflected in Sections 27.1.3, 35.1 and 35.2. The proposed changes in Section 27.1.3 condition the posting of the prices found to exceed the price cap and floor on the price correction measures in Section 35. The proposed changes in Section 35.1 specifically provide that in its review of prices during the market validation process the ISO would also be able to postpone the posting of certain additional prices identified through its monitoring process based on criteria that will identify prices that may not be correct. The ISO also proposes changes to Section 35.2 to require that the ISO publish any prices that were withheld per Section 35.1 within 48 hours of when they were initially withheld, and to clarify that even prices that are initially withheld for publication and then published within 48 hours continue to be subject to the same eight calendar day price correction process.

To determine which prices will be temporarily withheld from posting and subject to additional scrutiny before publication, the ISO has developed the following screens that will be executed before the publication of all Energy, RUC and AS prices in both the Day-Ahead and Real-Time Markets. These screens will be implemented as part of the market validation process performed on prices prior to publication as specified in Section 35.1.

Screen	Prices Withheld From Publication
System Marginal Energy Cost exceeds \$500/ MWh or is less than negative \$30/ MWh.	All LMPs for the applicable interval.
Default LAP LMP exceeds \$750/MWh or is less than negative \$45/MWh.	All LMPs for the applicable interval.
System Marginal Energy Cost component of RUC Prices exceeds \$250/MW or is less than \$0/MW.	All RUC Prices for the applicable Trading Hour.

⁵ On February 19, 2009, the ISO posted the presentation describing the process it intends to adopt to determine what prices will be withheld from publication. On February 23, the ISO discussed this process with market participants. On February 26, 2009, the ISO posted the proposed tariff language to enable it to implement the ability to block prices from publication.

Ancillary Service Marginal Price for a product exceeds \$500/MW or is less than \$0.	All Ancillary Services Marginal Prices for the affected Ancillary Service product and for the applicable interval.
Any nodal LMP that exceeds \$1000/MWh or is less than negative \$60/MWh.	Any nodal LMPs identified by the screen.
Any RUC Price that exceeds \$500/MW or is less than \$0/MWh.	Any RUC Prices identified by the screen.

The price screening will be conducted through an automated validation process that will apply across all intervals of all CAISO Markets for all days. An automated warning message will be dispatched to on-call support staff when these thresholds are triggered. ISO staff will conduct a preliminary root cause analysis to determine whether the prices may need further validation and correction and will aim to minimize the number of market intervals affected and the length of postponement of posting of prices.

The goal of this additional screening is to correct invalid prices so that to the extent practicable they conform to relevant ISO Tariff provisions before posting. The same price correction principles that were approved by the Commission, and reside in Section 35.5, will be followed in correcting any prices identified through this process. For example, the ISO will conduct isolated price corrections when the root cause is a calculation error that can be corrected outside the complete market run and can be discretely applied to affected price locations without significantly affecting the market solution as a whole. On the other hand, there may be circumstances that will require re-running the market, an option likely to be practical only for the Day-Ahead Market, and the ISO will do so to the extent practicable and feasible. In certain circumstances there will be a need to replicate prices from previously validated market solutions to substitute for the invalid market solution for a given market interval. In such instances, the source interval for replication shall be based on the best representation of the market conditions for the target interval.

Also, the ISO anticipates identifying prices through these screens that are invalid due to the reasons set forth in Section 35.4 such as data failures, hardware/software failures, or market occurrences that are inconsistent with any of the Tariff provisions. The screens described above are not intended to identify and address pricing issues that are scarcity driven, prices that come out of the Market Power Mitigation (MPM) market solutions, or prices that are advisory prices and not binding prices.

Once prices are actually released for publication, the posted prices will continue to be subject to the price correction process as described in Section 35.2 until the price correction time period has fully expired. All prices, even if published, are considered to be provisional until either (a) explicit notification of completion of Price Validations for that Trade Day is issued by the ISO, or (b) the end of the Price Corrections time horizon specified in Section 35.2. Corrected prices are published to OASIS within that time period. The ISO will not issue an additional notification of the republication of prices but the ISO does have features available on OASIS that allow Market Participants to determine when prices have been updated. This process is not in any way changed by the inclusion of the price screen to potentially withhold publication of certain prices as discussed above.

Finally, except for the changes discussed below in compliance with the Commission's directives in the Price Cap Order, the ISO does not propose any changes to the ISO's publication of a weekly price correction report as provided in Section 35.6. This report will remain as originally intended as a report on the correction of prices through section 35 and will contain a record of each instance where prices were corrected, including a description: 1) of the root cause of the corrections⁶; 2) which intervals are affected; 3) which markets and price Locations are affected; and 4) the method of price correction used.

The necessary proposed tariff changes associated with the above processes are minimal. The ISO believes that it is not necessary or appropriate to include details of the actual screens and thresholds in the tariff because these do not constitute rates, terms and conditions of services provided. While the screening procedures may result in the postponement of the posting of prices, they do not change the fundamental nature of the ISO's posting and price validation obligations, because all prices will ultimately be posted. Moreover, any prices that are corrected through this process will be corrected pursuant to the price validation and correction authority already reflected in Section 35 of the tariff and approved by the Commission.

The appropriateness of excluding such details from the tariff was reinforced in discussions with stakeholders during the Quality of Solution Review stakeholder meeting. Participants expressed general support for the thresholds identified above but also noted that it may be necessary to modify these thresholds from time to time depending on the performance of the CAISO Markets. Such modifications would not substantially affect the rates terms and

⁶ The ISO notes that there are already a number of reporting requirements it will have after MRTU *go live* which will complement the price correction report. By "root cause" in the price correction report the ISO means that it will identify the factors that gave rise to the need for a price correction. However, the ISO intends to reserve detailed analysis of the performance of its markets for its quarterly reports where it will provide an analysis of the market conditions causing prices to rise above the cap or fall below the floor.

conditions of service because they would affect only the timing of posting and would not alter the existing price correction process. The ISO will, however, post the applicable thresholds for each screen on OASIS so that at any given time participants can easily determine which prices may be withheld for publication. The ISO will also include in its Business Practice Manuals the process it will follow for changing the screens. Prior to modifying the current screens, the ISO will issue a market notice informing the market of the change and indicating the new price screens and when they will take effect. Moreover, this process will include an opportunity for stakeholders to provide their comments regarding the application of such thresholds and from time to time the ISO will evaluate these comments and will incorporate any changes necessary.

The Commission should accept the proposed tariff amendments as set forth in this compliance filing without further changes as they are fully compliant with the Price Cap Order and fully address the concerns raised by SCE and PG&E, who initially identified the need for such provisions.

B. Price Cap and Floor Sunset Provision

In approving the price cap and floor proposed by the ISO in its November 10 filing, the Commission found that the proposed price cap and floor should not become a permanent band-aid for inefficient market solutions resulting from software limitations. The Commission stated that the ISO should be required to make a demonstration before the Commission that ongoing price mitigation is warranted based on actual market data and that a twelve month period will provide the ISO with sufficient time to evaluate market outcomes under both peak and non-peak conditions. Accordingly, the Commission directed the ISO to make a compliance filing, within 30 days of the date of the Price Cap Order, implementing a price cap and floor sunset date twelve months after MRTU begins.⁷

Consistent with this directive, the ISO proposes to include in Section 27.1.3 a specific sunset provision that will render that section ineffective twelve months after the MRTU go live date.

C. Weekly Price Correction Reports.

In approving the price cap and floor, the Commission found that the release of information regarding what prices were subject to the cap and floor in an aggregated form will not accomplish transparency objectives. Therefore, the Commission specifically required that the ISO release, in a non-aggregated form,

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Price Cap Order at P 40.

all prices that exceed the cap and floor to market participants as part of their reporting requirements.⁸

The ISO notes that there was no specific requirement in the Price Cap Order to provide changes to the tariff in compliance with this requirement. However, the ISO believes it warrants specification in the tariff that the ISO will include the non-aggregated prices that exceed the cap and floor. In addition, in response to requests by stakeholders that participated in the tariff review stakeholder meeting the ISO is proposing to add additional language to Section 27.1.3 specifying that in addition to the price analysis provided in the ISO's quarterly reports, the ISO will include in the weekly price correction report all prices at a non-aggregated level that exceeded the minimum and maximum settlement prices. The ISO believes that these specifications are consistent with the Commission's directives in the Price Cap Order regarding the need for price transparency and should be accepted on compliance.

III. Materials Provided in the Instant Compliance Filing

The following documents, in addition to this transmittal letter, support the instant filing:

- Attachment A Clean MRTU Tariff sheets incorporating the red-lined changes contained in Attachment B

- Attachment B Red-lined changes to the MRTU Tariff to implement the revisions contained in this filing

IV. Effective Date.

The ISO requests that the Commission approve this compliance filing as submitted to be effective March 31, 2009.

⁸ Price Cap Order at P 53.

V. Conclusion

The ISO respectfully requests that the Commission accept the instant filing as complying with the directives of the Price Cap Order. Please contact the undersigned with any questions concerning this filing.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Christopher R. Jones", is written over a horizontal line. The signature is fluid and cursive, with a long horizontal stroke extending to the right.

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Attorneys for the California Independent
System Operator Corporation

Attachment A – Clean Sheets
Minimum and Maximum Price Limitations Compliance Filing
4th Replacement Tariff (MRTU)
ER08-241-____
March 2, 2009

27.1.2.3 Ancillary Services Pricing in the Event of a Supply Insufficiency.

In the event that there is not sufficient supply to meet an Ancillary Services procurement requirement in a particular Ancillary Services Region in the IFM or RTM as required by Section 8.3, the applicable market will relax the relevant Ancillary Service procurement requirement and will use the maximum Ancillary Service Bid price permitted under Section 39.6.1.3 as the pricing parameter for determining the price of the deficient Ancillary Service.

27.1.3 Maximum and Minimum CAISO Markets Prices

For Settlements purposes, all LMPs, ASMPs and RUC Availability Prices for the IFM, RUC, HASP and Real-Time Market, as applicable, shall not exceed \$2500 per MWh and shall not be less than negative \$2500 per MWh. All prices produced by the CAISO Markets will be posted in accordance with the posting of market results as further provided in Section 6.5, and subject to the price validation and correction procedures provided in Section 35. Prices exceeding \$2500 or less than negative \$2500 will be modified for Settlements purposes pursuant to price correction process in Section 35 and the CAISO will post the results. In addition to the analysis provided in the CAISO quarterly market performance reports on the maximum and minimum prices and price trends, the CAISO shall include in the weekly price correction report specified in Section 35.6 all prices at a non-aggregated level that exceed the minimum and maximum settlement prices specified in this Section 27.1.3. This Section 27.1.3 will no longer be in effect twelve months after the effective date of this section 27.1.3.

27.2 Load Aggregation Points (LAP).

The CAISO shall create Load Aggregation Points and shall maintain Default LAPs at which all Demand shall Bid and be settled, except as provided in Sections 27.2.1 and 30.5.3.2.

27.2.1 Metered Subsystems.

The CAISO shall define specific MSS LAPs for each MSS. The MSS LAP shall be made up of the PNodes within the MSS that have Load served off of those Nodes. The MSS LAPs have unique Load Distribution Factors that reflect the distribution of the MSS Demand to the network Nodes within the MSS. These MSS LAPs are separate from the Default LAPs, and the Load Distribution Factors of the Default LAP do not reflect any MSS Load. As further provided in Sections 11.2.3 and 11.5, MSS Demand is settled either at the price at the Default LAP for MSS Operators that have selected gross Settlement or at the price at the applicable MSS LAP for MSS Operators that have selected net Settlement.

27.2.2 Determination of LAP Prices.

35 Market Validation and Price Correction.

35.1 Market Validation.

The CAISO shall monitor the Market Clearing software solutions for the Day-Ahead Market, the RUC process, the Hour-Ahead Scheduling Process, and the Real-Time Market for all market intervals to determine whether prices are calculated accurately, consistent with the provisions of the CAISO Tariff. To the extent reasonably practicable, the CAISO shall correct erroneous prices identified through such monitoring, and may also withhold temporarily the posting of potentially erroneous prices as otherwise required by Section 6, and re-run the relevant CAISO Markets prior to publication of prices on its Open Access Same-Time Information System (OASIS) or provision of prices directly to Market Participants, if applicable.

35.2 Timing of the Price Correction Process.

The ISO will publish any price withheld for publication pursuant to Section 35.1 as soon as practicable, but no later than 48 hours after the price is initially withheld. All prices for each Trading Day, including prices initially withheld pursuant to Section 35.1, shall become subject to the CAISO's price correction process once the CAISO publishes them on its OASIS or provides them directly to Market Participants, if applicable. For all prices, the price correction process for each Trading Day shall end no later than 1700 hours of the eighth calendar day following that Trading Day. The CAISO may establish an earlier end-time for the price correction process in the applicable Business Practice Manual and may complete the price correction process for any Trading Day earlier than the end-time established in this Section 35 or in the Business Practice Manual. The CAISO shall provide notification on the CAISO Website when it has completed the price correction process for each Trading Day. If the CAISO does not provide such notification, the price correction process will be deemed complete at 1700 hours of the eighth calendar day following that Trading Day, unless an earlier time is established by the applicable Business Practice Manual.

35.3 Finality of Prices Subject to the Price Correction Process.

All prices shall be considered provisional until the CAISO has completed the price correction process regarding them. All prices for each Trading Day shall be considered final for purposes of this Section 35 once the price correction process for that Trading Day has ended, except that the CAISO may adjust, recalculate, or otherwise correct such prices after the conclusion of the price correction process to the extent authorized by the provisions of the CAISO Tariff other than this Section 35.

Attachment B – Blacklines
Minimum and Maximum Price Limitations Compliance Filing
4th Replacement Tariff (MRTU)
ER08-241-____
March 2, 2009

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27.1.3 Maximum and Minimum CAISO Markets Prices

For Settlements purposes, all LMPs, ASMPs and RUC Availability Prices for the IFM, RUC, HASP and Real-Time Market, as applicable, shall not exceed \$2500 per MWh and shall not be less than negative \$2500 per MWh. All prices produced by the CAISO Markets will be posted in accordance with the posting of market results as further provided in Section 6.5, [and subject to the price validation and correction procedures provided in Section 35](#). Prices exceeding \$2500 or less than negative \$2500 will be modified for Settlements purposes pursuant to price correction process in Section 35 and the CAISO will post the results. ~~The CAISO will conduct a stakeholder process during the first year of operation after the effective date of this provision to assess whether the maximum and minimum prices for Settlements should be modified or eliminated after the first twelve (12) months of operation.~~ [In addition to the analysis provided in the CAISO quarterly market performance reports on the maximum and minimum prices and price trends, the CAISO shall include in the weekly price correction report specified in Section 35.6 all prices at a non-aggregated level that exceed the minimum and maximum settlement prices specified in this Section 27.1.3. This Section 27.1.3 will no longer be in effect twelve months after the effective date of this section 27.1.3.](#)

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35.1 Market Validation.

The CAISO shall monitor the Market Clearing software solutions for the Day-Ahead Market, the RUC process, the Hour-Ahead Scheduling Process, and the Real-Time Market for all market intervals to determine whether prices are calculated accurately, consistent with the provisions of the CAISO Tariff. To the extent reasonably practicable, the CAISO shall correct erroneous prices identified through such monitoring, [and may also withhold temporarily the posting of potentially erroneous prices as otherwise required by Section 6](#), and re-run the relevant CAISO Markets prior to publication of prices on its Open Access Same-Time Information System (OASIS) or provision of prices directly to Market Participants, if applicable.

35.2 Timing of the Price Correction Process.

The ISO will publish any price withheld for publication pursuant to Section 35.1 as soon as practicable, but no later than 48 hours after the price is initially withheld. All Pprices for each Trading Day, including prices initially withheld pursuant to Section 35.1, shall become subject to the CAISO's price correction process once the CAISO publishes them on its OASIS or provides them directly to Market Participants, if applicable. For all prices, Tthe price correction process for each Trading Day shall end no later than 1700 hours of the eighth calendar day following that Trading Day. The CAISO may establish an earlier end-time for the price correction process in the applicable Business Practice Manual and may complete the price correction process for any Trading Day earlier than the end-time established in this Section 35 or in the Business Practice Manual. The CAISO shall provide notification on the CAISO Website when it has completed the price correction process for each Trading Day. If the CAISO does not provide such notification, the price correction process will be deemed complete at 1700 hours of the eighth calendar day following that Trading Day, unless an earlier time is established by the applicable Business Practice Manual.

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CERTIFICATE OF SERVICE

I hereby certify that I have served the foregoing documents upon all of the parties listed on the official service list for the above-referenced proceeding, 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 Washington, D.C. this 2nd day of March, 2009.



Christopher R. Jones