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March 23, 2009

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

**RE: *California Independent System Operator Corp.*  
Docket No. ER09-240-\_\_\_**

**Compliance Filing Addressing the ISO's  
MRTU Tariff Amendment Regarding Market Parameters**

Dear Secretary Bose:

The California Independent System Operator Corporation (the "ISO") submits this filing in compliance with the Commission's February 19, 2009 order conditionally accepting certain revisions to the ISO's Market Redesign and Technology Upgrade ("MRTU") tariff.<sup>1</sup> The ISO respectfully requests that the Commission find this submittal satisfies the conditions of the Parameters Order. In addition, the ISO also provides herein certain additional clarifications on issues related to the setting of the market optimization parameters.

## **I. BACKGROUND**

On November 4, 2008 in preparation for MRTU *go live*, the ISO made a section 205 filing to amend the MRTU tariff to include numerical values to be assigned to certain parameters of the MRTU optimization software (hereinafter the "Parameter Filing"). In the Parameter Filing, the ISO first proposed to modify an inflexible tariff provision that required the market clearing software to exhaust all economic bids before engaging in any adjustments to submitted self-schedules. The ISO also proposed to include in its MRTU Tariff the following rules to guide the setting of these parameters so that, in clearing the market, the optimization software will:

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<sup>1</sup> *California Indep. System Operator*, 126 FERC ¶ 61,147 (2009) (hereinafter the "Parameters Order").

- Relax an internal transmission constraint instead of pursuing a re-dispatch solution at system costs above \$5,000 per MWh of congestion relief in the Integrated Forward Market (“IFM”) or the Real-Time Market and \$1,250 in the RUC process;
- Use the Energy bid cap as the pricing parameter for calculating five-minute interval prices when there is a shortage of Energy bids in Real-Time;
- Use the Energy bid cap as the pricing parameter for calculating Energy prices in the Integrated Forward Market and the Real-Time Market after a transmission constraint has been relaxed and use the RUC Availability Bid Cap in the same manner for RUC; and,
- Use the Ancillary Services offer cap as the pricing parameter when the supply of an Ancillary Service is not sufficient to meet the procurement requirement.

In addition, in response to a significant stakeholder process, the ISO decided to set the value of the scheduling parameter associated with self-schedules submitted under existing rights (which include Existing Transmission Contracts (ETCs), Transmission Ownership Rights (TORs), and Converted Rights (CVRs)) to a level higher than the \$5,000 scheduling parameter associated with internal transmission constraints to ensure that ETC/TOR/CVR self-schedules are not adjusted in the Day-Ahead Market if that treatment is consistent with the underlying existing rights.

The ISO filed an answer to comments and protests in this proceeding on December 12, 2008. On February 19, 2009, the Commission issued the Parameters Order conditionally accepting the proposed parameter values and finding the Parameter Filing satisfied certain remaining compliance requirements of its June 25, 2007 MRTU order.<sup>2</sup> However, in response to comments made by Powerex regarding the threshold for determining when an economic bid is an “Effective Economic Bid” for the purpose of re-dispatching resources to relieve a transmission constraint, the Commission found that the effectiveness threshold is a provision that significantly affects rates, terms and conditions of service, and thus, must be filed with the Commission and made a part of the ISO’s MRTU tariff.<sup>3</sup> Accordingly, the Commission directed the instant compliance filing to include tariff revisions stating the effectiveness threshold.

## II. COMPLIANCE FILING

### A. Effectiveness Threshold

In the Parameter Filing, the ISO explained that the revised tariff provisions would require only that *Effective Economic Bids* be exhausted before resorting to adjustments of *non-priced quantities* such as relaxation of a transmission constraint. In his supporting testimony accompanying the Parameter Filing, Dr. Lorenzo Kristov explained that “[e]conomic bids are

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<sup>2</sup> California Indep. System Operator, 119 FERC ¶ 61,313 (2007).

<sup>3</sup> Parameters Order at P 58.

seen as *effective* or *ineffective* by the software by comparison of the cost of using them to the cost threshold specified by the scheduling parameters.” He further explained, “[a]nother way to think of this is that any given economic bid will be *effective* or *ineffective* with respect to a particular constraint in the optimization, based on the bid’s relative contribution to relieving that constraint when it is binding.”<sup>4</sup>

In its answer to comments and protests, the ISO explained that the MRTU software has a lower effectiveness limit setting which can be set by the ISO to govern when the software will consider a bid “effective” on the constraint at issue. For most of the market simulation process this lower limit was left at the factory software setting of 0.01 percent effectiveness (*i.e.*, 0.0001). At the time of its answer in this proceeding, the ISO had set that lower limit at 0.5 percent effectiveness (*i.e.*, 0.005), which means any resource whose effectiveness on the constraint is below 0.5 percent will not be called on by the software to help relieve that constraint. The ISO further explained that it was still in the process of determining the appropriate start-up value for this setting and pledged to include a description of it in the Business Practice Manual no later than 45 days prior to *go live*.

As discussed above, the Commission found that the effectiveness threshold is a provision that significantly affects rates, terms and conditions of service, and thus, must be filed with the Commission and made a part of the MRTU tariff. Accordingly, the attached revised tariff sheets include the effectiveness threshold for separating effective economic bids from ineffective economic bids in the market algorithm. Specifically, the ISO proposes to add new section 27.4.3.6 to identify this threshold value in the tariff. The ISO now proposes to set that value at two (2) percent and has tested that value in the final weeks of the MRTU market simulation. This means that economic bids from resources that have less than a two percent impact on the constraint will be considered ineffective and will not be considered in possible redispatch solutions. This value was arrived at by comparing congestion re-dispatch solutions accepted by the market software under alternative settings of the effectiveness threshold against solutions that ISO grid operators would consider prudent and reasonable operating practices. Through such comparisons, the ISO determined that setting the effectiveness threshold in the one-half to one percent range the market software would too often resolve congestion utilizing resources that were remote from and barely effective on the congested constraint.

The ISO notes that while it is confident, based on the information currently available from market simulation, that two percent is the appropriate level for this threshold parameter for MRTU launch, it is possible that actual experience in MRTU production may indicate a need to revise this value. In this regard it is important that the Commission and market participants recognize the trade-offs involved in trying to find an optimal level for the effectiveness threshold. Any positive value of the effectiveness threshold essentially reduces the set of re-dispatch solutions available to the software to relieve a constraint. With a very low value such as the 0.01 percent value used initially, there was very little restriction on the set of acceptable re-dispatch solutions, and this resulted in the market accepting solutions that included movement of remote and ineffective resources. As the level of the threshold is increased, more potential

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<sup>4</sup> Exh. ISO-1 at 19.

solutions are excluded from consideration, which is beneficial up to a point to ensure that the market avoids solutions that are not consistent with good operating practice. But increasing the value too high can lead to situations where the software cannot find an efficient re-dispatch solution to resolve the congestion because there are very few resources having effectiveness above the threshold. In such cases, the resulting prices may be either artificially high or artificially low depending on the specific constraint involved. In addition, higher threshold values will increase the likelihood of a certain type of geographic price inconsistency where two generator nodes relatively close together may have significantly different locational marginal prices (“LMPs”) because the effectiveness of one generator is slightly above the threshold while the other is slightly below. This result occurs because the price at a resource location reflects congestion only on constraints for which the resource is effective at or above the level of the effectiveness threshold; the resource price does not reflect congestion on constraints for which the resource’s effectiveness is below the threshold. The ISO has observed that with the use of the higher effectiveness threshold, the phenomenon just described can occur even when the resource in question consists of an aggregation of pricing nodes such as a Default Load Aggregation Point (“Default LAP”). In such cases the Default LAP price will fail to reflect congestion within the Default LAP if movement of Default LAP demand is less effective than the threshold level.

Given the potential for these unintended consequences of the effectiveness threshold, the ISO intends to monitor carefully for such outcomes and may, depending on what is observed in production, determine a need to revise the parameter value through a filing with the Commission.

### **III. ADDITIONAL PARAMETER-RELATED CLARIFICATIONS REQUIRED**

In preparation for *go live* and in the further evaluation of the setting of the software parameters, the ISO has identified three areas that warrant additional explanation of how the ISO is implementing the penalty prices, scheduling priorities, and enforcement of transmission constraints. For the sake of providing a complete and accurate record regarding the optimization parameters and their impacts on the market, the ISO is providing these additional clarifications here. The ISO believes that the clarifications discussed below are consistent with the Commission’s prior findings in this proceeding and if found to be acceptable by the Commission, additional tariff changes discussed herein can be included on further compliance to a subsequent Commission order. However, to the extent the Commission finds these revisions outside the scope of this proceeding, the ISO respectfully asks the Commission to treat the proposed revisions as a Section 205 filing and grant waiver of the 60-day notice period to permit these changes to be effective as of MRTU *go live*. Good cause exists to grant this waiver, for otherwise certain tariff language could be incompatible with the actual procedures followed regarding the treatment of existing transmission contracts, Regulatory Must-Take Generation, and the enforcement of constraints in the ISO markets.

#### **A. Treatment of Existing Transmission Contracts**

The ISO explained in the Parameter Filing that throughout the market simulation process and related parameter tuning stakeholder process, several parties who hold ETC, TOR, or CVR

rights raised concerns that the MRTU market optimization procedures could reduce what they perceived as the firmness of their scheduling rights in the Day-Ahead Market and expose them to financial costs that diminish the value of their existing contracts. The parties expressed a concern that if the market optimization software were to adjust an ETC, CVR or TOR self-schedules before exhausting all economic bids, those self-schedules could be subjected to unreasonable adjustments in the day-ahead market.

As a result of the extensive stakeholder process, the ISO proposed in the Parameter Filing a solution to protect TOR/ETC/CVR Self-Schedules generally from adjustment in the Day-Ahead Market. That is, the ISO proposed to increase the IFM parameter values used for protection of TOR/ETC/CVR self-schedules up to a value above the parameter value for relaxing internal transmission constraints. Dr. Kristov discussed this solution at length in his testimony. Such parameter settings will mean that when there is a binding transmission constraint near the location of a supply or load resource self-scheduled under an TOR, ETC or CVR right, the IFM software will relax the transmission constraint rather than curtail the TOR/ETC/CVR self-schedule. The Commission approved this solution in the Parameters Order.<sup>5</sup>

Recent communications with certain market participants reveal that some parties interpret the ISO's proposal as approved by the Commission as a strict requirement to treat all existing rights as having higher priority than transmission constraint enforcement, regardless of whether the underlying contractual rights as communicated to the ISO through the process specified in the tariff warrant such treatment. This is not the case. The relative priority of existing rights has been and will continue to be governed by the rights themselves (*i.e.* the underlying transmission contracts). The ISO's policy on the treatment of existing rights under MRTU has been carefully crafted with stakeholders and the Commission over recent years, has been the subject of several FERC orders,<sup>6</sup> and has been incorporated into the MRTU tariff. Several foundational principles of the existing rights policy warrant repeating here. First, the MRTU tariff states that the ISO plays no role in interpreting existing rights.<sup>7</sup> Second, the ISO implements the existing rights, the precise nature of which is communicated by the Participating Transmission Owner ("PTO") through Transmission Rights and Transmission Curtailment ("TRTC") instructions.<sup>8</sup> Existing rights may differ in their duration and their "firmness," and the TRTC instructions are used to convey the nature of these rights to the ISO so they may be properly respected in the market.

The Parameter Filing did not change ETC policy and did not purport to treat all existing rights equally. As Dr. Kristov explained clearly in his testimony:

The proposal will preserve the priority sequence of tariff section 31.4, so that TOR will have the highest priority among the existing rights, while

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<sup>5</sup> Parameters Order at P 21.

<sup>6</sup> *See California Indep. System Operator Corporation*, 110 FERC ¶ 61,113 (2005); *California Indep. System Operator*, 116 FERC ¶ 61,281 (2006).

<sup>7</sup> *See MRTU Tariff Section 16.4.8* ("The CAISO will have no role in interpreting Existing Contracts.").

<sup>8</sup> *See generally* MRTU Tariff, Sections 16 and 17.

ETC and CVR have a common priority level below that of TOR, with additional capability in the software to set different parameter values for different ETCs if their rights as communicated to the CAISO via the Transmission Reservation and Transmission Curtailment (TRTC) instructions warrant such differentiation.<sup>9</sup>

Moreover, section 16.1.4 of the MRTU Tariff requires that TRTC Instructions be developed in such a manner that “maintains the existing scheduling and curtailment priorities under the Existing Contract.” In addition, section 31.4, which establishes the scheduling priorities for the day-ahead market, provides that “different ETC priority levels will be observed based upon global ETC priorities provided to the CAISO by the Responsible PTOs.”

It is important to clarify the record in this proceeding that, by setting the transmission constraint relaxation scheduling parameter below the default parameter for existing rights, the ISO did not intend to change the basic policy that the nature and quality of the existing rights are determined exclusively by the underlying contract between the transmission customer and the Participating TO and are communicated to the ISO through the TRTC Instructions.

In finalizing the completion of the TRTC Instructions for *go live*, the ISO was informed by a Participating TO that in certain instances the underlying ETC requires that the load of an Existing Rights holder be afforded a scheduling priority inferior to the scheduling priority afforded to generic self-scheduled load within the Participating TO’s service territory. The ISO is not in a position to dispute the contractual requirement as reflected in the submitted TRTC Instructions by the Participating TO. However, in order to honor such a contractual requirement, the ISO is required to set the penalty price associated with that part of the contractual right to a value lower than the penalty price associated with generic self-scheduled load, which is in turn lower than the parameter for relaxation of an internal transmission constraint. To do otherwise would be a direct violation of the MRTU Tariff, which, as explained above, requires that the ISO honor the Existing Rights consistent with the TRTC Instructions.

The ISO submits that this treatment is consistent with Section 27.4.3.5 which stipulates that “[i]n accordance with the submitted and accepted TRTC Instructions, valid Day-Ahead TOR Self-Schedules, Day-Ahead ETC Self-Schedules and Day-Ahead CVR Self-Schedules shall not be adjusted in the IFM in response to an insufficiency of Effective Economic Bids.” While it is not repeated, this requirement still carries through the rest of that section, in which the ISO states that “[t]he scheduling parameters associated with the TOR, ETC, or CVR Self-Schedules will be set to values higher than the scheduling parameter associated with relaxation of an internal transmission Constraint as specified in Section 27.4.3.1, so that when there is a congested transmission Constraint that would otherwise subject a Supply or Demand resource submitted in a valid and balanced ETC, TOR or CVR Self-Schedule to adjustment in the IFM, the IFM

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<sup>9</sup> Exh. ISO-1 at 38. See also CAISO Conceptual Filing on Existing Transmission Contracts under MRTU, Docket No. ER02-1656 at p. 28 (Dec. 8, 2004) (“Under the ETC Proposal, ETC rights holders will continue to submit balanced schedules to the CAISO Markets and will be given a scheduling priority over other users of the CAISO Controlled Grid in the Day-Ahead and Hour-Ahead markets to the extent such schedules conform to the ETC rights holders’ contractual rights.”) (emphasis added).

software will relax the transmission Constraint rather than curtail the TOR, ETC, or CVR Self-Schedule.” The ISO believes this continued application is important because to do otherwise would run contrary to the long-standing ISO tariff requirements that the Existing Rights are honored consistent with instructions provided by the Participating TO. Consequently, in order to continue to uphold the longstanding fundamental principles regarding the implementation of Existing Rights under the ISO tariff, if the ISO is so instructed through the TRTC Instructions, the penalty price for certain ETC self-schedules may be set lower than the penalty price for relaxation of transmission constraints. Accordingly, the ISO believes the following clarification is appropriate, which the ISO would make on compliance if the ISO is ordered by the Commission to provide this clarification in its tariff:

#### **27.4.3.5 Protection of TOR, ETC and CVR Self-Schedules in the IFM.**

In accordance with the submitted and accepted TRTC Instructions, valid Day-Ahead TOR Self-Schedules, Day-Ahead ETC Self-Schedules and Day-Ahead CVR Self-Schedules shall not be adjusted in the IFM in response to an insufficiency of Effective Economic Bids. Further, in accordance with the submitted and accepted TRTC Instructions, the scheduling parameters associated with the TOR, ETC, or CVR Self-Schedules will be set to values higher than the scheduling parameter associated with relaxation of an internal transmission Constraint as specified in Section 27.4.3.1, so that when there is a congested transmission Constraint that would otherwise subject a Supply or Demand resource submitted in a valid and balanced ETC, TOR or CVR Self-Schedule to adjustment in the IFM, the IFM software will relax the transmission Constraint rather than curtail the TOR, ETC, or CVR Self-Schedule. This priority will be adhered to by the operation of the IFM Market Clearing software, and if necessary, by adjustment of Schedules after the IFM has been executed and the results have been reviewed by the CAISO operators.

#### **B. Regulatory Must-Take Generation Issue**

In the Parameters Filing, in order for the market algorithm and supporting software to properly implement the scheduling priorities contained in sections 31.4 and 34.10 of the MRTU tariff, the ISO assigned dollar value parameters to each category of supply and demand. As part of that process, the ISO has assigned parameter values to Regulatory Must-Run and Regulatory Must-Take Generation. Regulatory Must-Take Generation generally describes those resources that the ISO must schedule in the market at a higher priority due to policy reasons (*e.g.* qualifying facility output under a PURPA contract) or operational reasons (*e.g.* nuclear units that are non-dispatchable by the market) or grandfathered power purchase agreements (*i.e.* power purchase agreements in effect as of the ISO start-up) as specified in the definition of “Regulatory Must Take Generation.” This term has been used in the ISO tariff since the ISO began operations. In assigning the higher scheduling priority to certain Regulatory Must-Take resources in the MRTU parameter assignment process, the ISO has discovered an inadvertent

limitation of some legacy tariff language that was of no consequence with respect to the currently effective tariff but would adversely impact generation resources that should have Regulatory Must Take status under MRTU. Accordingly, the ISO is proposing here a minor modification to one tariff definition and providing the following explanation to ensure that the MRTU tariff definition is consistent with historical practice and covers all the appropriate “must take” resources.

Specifically, through the use of the term “Generation” in the definition of “Regulatory Must-Take Generation,” that definition becomes inadvertently limited to resources inside the ISO’s balancing authority area.<sup>10</sup> This limits the ISO’s ability to treat certain units as “must-take” units, such as qualifying facilities in neighboring California (*i.e.* non-ISO) balancing authority areas under a PURPA contract with a public utility within the balancing authority area or nuclear units that are outside of the balancing authority area but under contract with load-serving entities within the balancing authority area. Accordingly, to ensure that these units are properly modeled and accorded the appropriate scheduling priority that would not threaten the regulatory preferences or unique operational characteristics of these units, the ISO has updated the Master File to properly reflect the “must-take” of certain external units.

To effectuate this clarification for MRTU, the ISO proposes on compliance a minor revision to the definition of “Regulatory Must-Take Generation” to eliminate the restriction on the location of the resource:

Those gGeneration resources identified by CPUC, or a Local Regulatory Authority, the operation of which is not subject to competition. These resources will be scheduled by the relevant Scheduling Coordinator directly with the CAISO on a must-take basis. Regulatory Must-Take Generation includes gGeneration from Qualifying Facility Generating Units subject to a mandatory purchase obligation as defined by federal law, nuclear units and pre-existing power purchase contracts with minimum Energy take requirements.

### **C. Enforcement of All Constraints in CAISO Markets Processes**

There are several instances in the existing MRTU Tariff where the language misleadingly suggests that all transmission constraints are enforced at all times in the operation of the CAISO Markets.<sup>11</sup> As has been discussed previously in this proceeding, this is simply not practical from a software perspective nor desirable or feasible from an operational perspective. An important element of the Parameter Filing was to provide tariff revisions that set forth rules and parameters under which the ISO will relax transmission constraints when economically or operationally sensible, rather than procuring additional resources through economic bids. As recognized by

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<sup>10</sup> This is because “Generation” is defined as “Energy delivered from a Generating Unit.” “Generating Unit” is, in turn, defined as a resource “located within the CAISO Balancing Authority Area.”

<sup>11</sup> See *e.g.*, Section 8.3.3.5 specifies “The Full Network Model incorporates Transmission Losses and models and enforces all network constraints...” Similar language is found in Section 27.5.1.

the Commission this will ensure optimization software solutions that represent both sound economics and good utility practice.<sup>12</sup> The ISO's locational marginal price-based market optimization software is designed to combine the economics of the market with the physics of operating the integrated grid in a reliable manner. Therefore, strict enforcement of all constraints at all times would run contrary to the nature of using the software tools to arrive at schedules and dispatches that are operationally sound and reasonable. This contradiction alone requires the proposed amendments to clarify these tariff statements. However, as discussed below recent discussions with market participants regarding the preparation of the Full Network Model ("FNM") for use in the Day-Ahead Market ("DAM"), Real-Time Market ("RTM") and Congestion Revenue Rights ("CRR") processes and observations on the performance of the FNM during market simulations further reveal the need to clarify these statements.<sup>13</sup>

The ISO market processes are able to consider the system conditions throughout the network through the use of the FNM, and through the day-ahead and real-time market optimizations the ISO can then enforce constraints to manage congestion and create feasible schedules. In order for the markets to produce results that are not only economically sound but also operationally reliable, ISO staff is required to evaluate whether or not the model and the assumptions going into the market are sound.

The ISO has found through market simulation that there can be many instances where incomplete or inaccurate operational data on system conditions due to insufficient telemetry can result in spurious results. Therefore, for grid facilities where the ISO's visibility via telemetry to actual flows is not sufficient, better operator and engineering judgment calls for the non-enforcement of certain constraints. In general, for grid facilities where there is not sufficient visibility to ensure the accuracy required for managing congestion through the market systems, as a default approach the ISO will not enforce these constraints in the markets because doing so would lead to prices and dispatches that are not accurate reflections of realistic flows. The operators will then manage any congestion and operate the system as they do today, based on available real-time information including State Estimator solutions and available telemetry. If real-time conditions are such that a constraint that was not being enforced by default becomes a real operational concern, the ISO operators may then enforce the constraint in the real-time dispatch to provide dispatch relief through the RTM and consider if appropriate and reasonable to enforce such a constraint in the DAM on a prospective basis.

Similarly, there are certain contingencies that, if they occur in real time, are addressed by dispatching use-limited quick-start resources. Market simulation results have shown that if these

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<sup>12</sup> Parameter Order at P 1.

<sup>13</sup> See BPM for FNM, Section 2. The Business Practice Manual provides the details on the ISO's process for developing the FNM for use in the DAM, RTM and CRR runs. The FNM is an integral component of all these market processes and the degree of accuracy of the modeling of facilities and characteristics of the grid is an important element of ensuring that the CAISO Markets are operated in a manner that is consistent with good utility practice.

contingencies are regularly enforced in the day-ahead market, the market will commit and schedule the use-limited resources even though the conditions requiring the use of those resources typically do not materialize in real-time. Enforcing such contingencies in the day-ahead market thus results in the market's unnecessary commitment and scheduling of use-limited resources whose use could have been avoided by waiting to determine if the conditions causing the associated constraints to bind actually materialize, or relying on today's management of such contingency constraints through real-time operating procedures.

A more complete explanation of the ISO's practices regarding the enforcement of constraints on the system is provided in the Business Practice Manuals for the Full Network Manual. The most recent release of the Business Practice Manual for the FNM, posted on March 23, 2009, contains enhancements to reflect greater detail on these ISO market processes.

For all the reasons discussed above, language in the current tariff that suggests that all transmission constraints are enforced at all times is inaccurate and should therefore be corrected. Therefore, the ISO proposes to clarify the language in section 27.1.5 as follows (indicated in underline and strike-out format), which if accepted by the Commission, the ISO will make on further compliance. A similar change would be made to Section 8.3.3.5 which contains the same misleading statement.

#### **27.5.1 Description of FNM for CAISO Markets.**

... For the CAISO Markets Processes, the FNM incorporates Transmission Losses and, models, relaxes and enforces all network Constraints within the CAISO Balancing Authority Area in accordance with Section 27.4.3 and as further described in the Business Practice Manual, which are reflected in the Day-Ahead Schedules, AS Awards and RUC Awards, HASP Intertie Schedules, Dispatch Instructions and the LMPs resulting from each CAISO Markets Process. ...

Again, to the extent the Commission finds this revision outside the scope this proceeding, the ISO respectfully asks the Commission to treat this revision as a Section 205 filing and grant waiver of the 60-day notice period to permit this change to be effective as of MRTU *go live*. Good cause exists to grant this waiver, for otherwise the tariff language would specify an unrealistic and inappropriate requirement and thus clearly be incompatible with the actual procedures followed regarding the enforcement of constraints in the ISO markets.

**IV. COMMUNICATIONS**

Communications regarding this filing should be addressed to the following individuals, whose names should be placed on the official service list established by the Secretary with respect to this submittal:

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**V. CONTENTS OF FILING**

This filing comprises:

This transmittal letter;

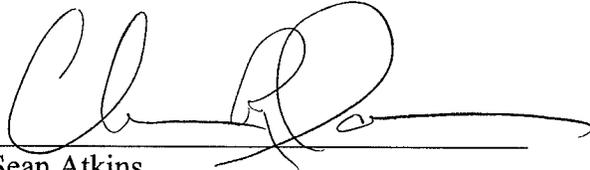
Attachment A: Clean Tariff Sheets

Attachment B: Blackline Tariff Sheets

**VI. CONCLUSION**

For the reasons set forth above, the ISO respectfully requests that the Commission accept this filing and find it satisfies the compliance obligations contained in the Parameters Order and the additional clarifications requested by the ISO consistent with that order.

Respectfully submitted,



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**Attachment A – Clean Sheets  
Pricing and Scheduling Parameters  
4<sup>th</sup> Replacement Tariff (MRTU)  
March 23, 2009**

**27.4.3.4 Insufficient Supply to Meet CAISO Forecast of CAISO Demand in the RTM.**

In the RTM, in the event that Energy offers are insufficient to meet the CAISO Forecast of CAISO Demand, the SCUC and SCED software will relax the system energy-balance constraint. In such cases the software utilizes a pricing parameter set to the maximum Energy Bid price specified in Section 39.6.1.1 for price-setting purposes.

**27.4.3.5 Protection of TOR, ETC and CVR Self-Schedules in the IFM.**

In accordance with the submitted and accepted TRTC Instructions, valid Day-Ahead TOR Self-Schedules, Day-Ahead ETC Self-Schedules and Day-Ahead CVR Self-Schedules shall not be adjusted in the IFM in response to an insufficiency of Effective Economic Bids. The scheduling parameters associated with the TOR, ETC, or CVR Self-Schedules will be set to values higher than the scheduling parameter associated with relaxation of an internal transmission Constraint as specified in Section 27.4.3.1, so that when there is a congested transmission Constraint that would otherwise subject a Supply or Demand resource submitted in a valid and balanced ETC, TOR or CVR Self-Schedule to adjustment in the IFM, the IFM software will relax the transmission Constraint rather than curtail the TOR, ETC, or CVR Self-Schedule. This priority will be adhered to by the operation of the IFM Market Clearing software, and if necessary, by adjustment of Schedules after the IFM has been executed and the results have been reviewed by the CAISO operators.

**27.4.3.6 Effectiveness Threshold**

The CAISO Markets software includes a lower effectiveness threshold setting which governs whether the software will consider a bid "effective" for managing congestion on a congested constraint. The CAISO will set this threshold at two percent (2%).

**27.5 Full Network Model.**

**Attachment B - Blacklines**  
**Pricing and Scheduling Parameters**  
**4<sup>th</sup> Replacement Tariff (MRTU)**  
**March 23, 2009**

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#### **27.4.3.6 Effectiveness Threshold**

The CAISO Markets software includes a lower effectiveness threshold setting which governs whether the software will consider a bid “effective” for managing congestion on a congested constraint. The CAISO will set this threshold at two percent (2%).

\* \* \*

**CERTIFICATE OF SERVICE**

I hereby certify that I have served the foregoing document upon the parties listed on the official service list in the captioned 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 23<sup>rd</sup> day of March, 2009.

  
Daniel Klein  
Daniel Klein