

July 12, 2010

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

**Re: California Independent System Operator Corporation  
Docket No. ER10-\_\_\_\_ - 000**

**Amendments to California ISO FERC Electric Tariff to Enable  
Enhancements to the Congestion Revenue Rights Processes**

Dear Secretary Bose:

Pursuant to Section 205 of the Federal Power Act, 16 U.S.C. § 824d, and Part 35 of the Federal Energy Regulatory Commission's (FERC or the Commission) regulations, 18 C.F.R. Part 35, and in compliance with Order No. 714 regarding electronic filing of tariff submittals,<sup>1</sup> the California Independent System Operator Corporation (ISO) hereby submits for filing the attached amendments to its Fifth Replacement FERC Electric Tariff. The ISO is filing these amendments to enable various enhancements to the process of modeling, allocating, and auctioning Congestion Revenue Rights (CRRs).

**I. EXECUTIVE SUMMARY**

An integral component of the ISO's markets is the existence of CRRs, which market participants can use to manage their exposure to congestion charges. Following a robust stakeholder process launched after the start of the ISO's new market, the ISO proposes the following five enhancements to its CRR rules that are intended to improve the efficiency of the CRR processes.

1. Under prior Commission directive, the ISO transfers allocated CRRs when the underlying load migrates between load serving entities (LSEs). The ISO currently calculates the quantity of CRRs to be transferred based on detailed customer-specific retail data provided to it by the utility distribution companies (UDCs). The ISO proposes to retain the same methodology

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<sup>1</sup> *Electronic Tariff Filings*, Order No. 714, FERC Stats. & Regs. ¶ 31,276 (2008).

for calculating load transfers but proposes to have UDCs make the initial calculations that require access to such raw data. The ISO's proposal eliminates the need to transfer detailed retail level data to the ISO on a monthly basis, but ensure that the load transfers are calculated in a manner that is consistent with the ISO's existing calculations. The ISO also proposes a dispute resolution mechanism to provide opportunity for the transferee and transferor to resolve any issue with the load transfer amounts submitted to the ISO.

2. The ISO permits parties to request CRRs sourced at Trading Hubs, which are hypothetical generation pricing nodes (PNodes) based on a weighted average of constituent physical PNodes. The ISO currently awards such CRRs as a portfolio of many CRRs that reflects the constituent PNodes of that Trading Hub, with downward adjustments made to the individual CRRs to account for feasibility. The ISO proposes to now award a single CRR with its source at the Trading Hub for CRRs that have a Trading Hub as the requested CRR source. Adjustments for feasibility would now be made by issuing counterflow CRRs.
3. The original CRR design did not include multiple nomination tiers. As a result, in the early stages of the CRR development process, the ISO offered Multi-Point CRRs. Multi-Point CRRs are CRRs that specify more than one CRR source or CRR sink, or multiple CRR sources and sinks. Multi-Point CRRs permit CRRs holders to assign different priorities among multiple sources and sinks. When the multi-tiered process was added, the ISO maintained Multi-Point CRRs, but the need for Multi-Point CRRs has been reduced as a result of the flexibility added by the multi-tier processes. The ISO now proposes to eliminate Multi-Point CRRs given that they become a little-used vestige of an earlier CRR market design.
4. The ISO currently places limits on the CRR sinks that are available for nomination in earlier tiers of the monthly and annual allocation processes and additionally limits the megawatt quantity of nominated CRRs in tier 1 of the monthly process to 50% of the total megawatts available to that CRR holder in the monthly process. The ISO proposes to relax some of the restrictions to allow more flexibility in the monthly processes by providing the opportunity to nominate more CRR sinks in the earlier tiers. The ISO also proposes to allow LSEs to nominate 100% of their available load metric in tier 1 of the monthly process. By creating the flexibility to participate more fully in earlier tiers, these refinements can simplify the process for participants and economize on the time required to execute the monthly processes.
5. In modeling the feasibility of the various CRR nominations the ISO currently employs an objective function which seeks to distribute the maximum quantity of CRRs possible. The current optimization function

does this by completely curtailing the CRR nomination that is most effective at relieving a constraint before curtailing additional nominations. The ISO proposes to utilize a weighted least squares objective function which would distribute curtailments more broadly across all CRR nominations, rather than focusing curtailments on one CRR holder. Although this change would modestly reduce the total megawatt quantity of CRRs released, it would inject greater equity into the CRR process.

## II. BACKGROUND

Congestion Revenue Rights are instruments used by market participants to manage their exposure to transmission usage charges (*i.e.*, congestion charges). CRRs are settled based on the difference in the marginal cost of congestion, which is a component of the locational marginal price, between two PNodes. The quantity of CRRs available is based on a model of the ISO's electric system, which is referred to as the CRR Full Network Model (CRR FNM). Based on the CRRs requested, the ISO conducts a simultaneous feasibility test to determine which CRRs will be released in each round of the CRR process. The ISO releases Monthly, Seasonal, and Long Term CRRs, which are good for one month, three months, and ten years, respectively. CRRs are released through both an allocation and an auction mechanism. The ISO conducts both an annual process, in which Seasonal and Long Term CRRs are allocated and Seasonal CRRs are auctioned, and a monthly process, in which Monthly CRRs are allocated and auctioned. The allocation is an iterative, multi-tier process in which internal and external LSEs are entitled to nominate CRRs based on their load-serving obligations. The auction, in contrast, is open to all registered parties wishing to obtain CRRs. Eligibility to participate in the auctions is not based on an entity's load-serving obligations.

Last summer, after four months of experience with the new market design and based on stakeholder feedback on the operation of the CRR process, the ISO developed a list of candidate CRR enhancements. On August 14, 2009, the ISO released an Issue Paper that identified these potential enhancements and sought stakeholder input on the desirability of implementing the various enhancements.<sup>2</sup> Based on both written and verbal stakeholder feedback, the ISO refined that Issue Paper and released a Straw Proposal on November 9, 2009.<sup>3</sup> On December 9, 2009, the ISO released a Draft Final Proposal that was again refined based on written and verbal stakeholder feedback. This Draft Final Proposal comprised the ISO's view of the enhancements it intended to implement after receiving approval from the ISO Governing Board. On May 17, 2010, the ISO Governing Board approved the enhancements

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<sup>2</sup> The Issue Paper identified potential enhancements concerning both credit-related and non-credit-related CRR issues. All documents created as part of the stakeholder process leading to the instant filing can be found at: <http://www.caiso.com/2403/24037c20669e0.html>.

<sup>3</sup> Between the release of the Issue Paper and the Straw Proposal, the ISO bifurcated the stakeholder process to deal with the credit and non-credit enhancements separately. The ISO will seek authority to implement the credit-related enhancements under a separate tariff filing.

identified in the Draft Final Proposal and authorized ISO Management to make the instant filing.

As discussed further below, the instant filing seeks Commission-approval for tariff amendments necessary to effectuate five enhancements. These enhancements largely focus on making the CRR process function more efficiently and effectively and do not raise high-level policy issues related to CRRs. Furthermore, these enhancements were first identified based on a continual process of stakeholder feedback and input. For this reason, the instant filing enjoys broad stakeholder support.

### III. DISCUSSION

#### A. Transfer of Responsibility of Load Transfer Calculation.

The Commission has established the principle that LSEs hold allocated CRRs on behalf of the load they serve.<sup>4</sup> For that reason, when load migrates from one LSE to another, the Commission has mandated that CRRs should transfer with the load. To perform this transfer of CRRs, the ISO currently performs a two-stage process. In the first step, the ISO receives load migration data from each of the utility distribution companies (UDCs).<sup>5</sup> Using these data, the ISO calculates the net load migration between each pair of LSEs. In the second step, the ISO calculates the appropriate transfers of CRRs between LSEs.<sup>6</sup>

The first step of this process requires the ISO to handle data on individual retail end-use customers. This customer-specific retail data is not otherwise the type of data the ISO is responsible for handling and processing, and the current process requires the ISO to maintain business processes that do not serve the ISO's wholesale functions and that expose the ISO to risks in data management that it would not otherwise face.

The ISO's proposed change to this process involves shifting part of the first step of the process to the UDCs. With the approval of the proposed tariff amendments, the UDCs would be responsible for determining the number of end-use customers in each of several customer classes they serve that migrated to another LSE. The methodology as currently employed by the ISO requires that the ISO then multiply the average usage

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<sup>4</sup> *Cal. Indep. Sys. Operator Corp.*, 116 FERC ¶ 61,274, P 789 (2006) ("The allocation of CRRs is premised, in part, on the notion that CRRs should be awarded to LSEs on behalf of the load they serve, since it is their load that pays the embedded cost of the transmission system. Consequently, CRRs should follow load migrations as closely as realistically possible.").

<sup>5</sup> A UDC is defined in Appendix A of the ISO Tariff as "[a]n entity that owns a Distribution System for the delivery of Energy to and from the CAISO Controlled Grid, and that provides regulated retail electric service to Eligible Customers . . ." The LSE, on the other hand, is responsible for procuring the electricity used to serve customers. In the case of the traditional incumbent LSEs, the LSE and the UDC are one in the same. However, under Direct Access, which is California's term to describe retail competition, LSEs unaffiliated with UDCs can compete to serve load.

<sup>6</sup> The current process is governed by Section 36.8.5 of the Tariff and is described in section 7.3 of the business practices manual (BPM) for CRRs.

of a customer within each class by the number of customers from that class that transferred between LSEs. Once the UDCs carry out the requisite calculation of the load transfer amounts per class, they will forward the end results to the ISO. The ISO will then calculate the net load migration between each pair of LSEs serving load within each UDC's distribution service territory. Based on the net load migration results, the ISO will transfer the allocated CRRs between LSEs based on the load migration determination. Thus, the changes to the load migration process focus solely on who conducts the calculations in the first step of the load migration process. The ISO does not propose to change how those calculations are made.

The revised process eliminates the need for the UDCs to transfer customer-specific retail data to the ISO, and requires that the entities that handle this data in the course of their provision of retail service actually calculate the retail level load transfers. The UDCs will make the necessary calculations themselves and retain the raw data that under the current methodology the ISO is required to maintain. This improvement both reduces the ISO's exposure to handling retail data and reduces the volume of data that the UDCs must provide to the ISO.

During the course of considering this enhancement, some stakeholders expressed concern that a LSE might not have confidence in the load migration results if the calculation process is turned over to the UDCs. The ISO recognizes the need to ensure that there are proper mechanisms in place for affected LSEs to confirm that the UDCs have calculate the load transfers in a reliable manner. To address these concerns the ISO took several actions that ensure that the load transfers amounts are calculated uniformly among the UDCs and that there is ample opportunity for verification of the load transfers.

First, under the proposed amendments to Section 36.8.5.1 of the Tariff, the UDCs would be required to follow the same methodology specified in the ISO tariff to conduct the transfers. To ensure the successful transfer of the responsibility and that the calculations are conducted by the UDCs in a reliable manner the ISO is ready to assist the UDCs in carrying out their new load migration calculation responsibilities, including the provision of prototype computer software that performs the required calculations.

Second, the ISO added a dispute resolution mechanism as described in proposed Section 36.8.5.7. The proposed dispute resolution mechanism is intended to provide load transferees the opportunity to verify the load transfer amounts that are submitted to the ISO. Under the proposed dispute resolution mechanism, the ISO must provide the results of the UDCs' load migration calculations to the affected LSEs.<sup>7</sup> If the LSE contests any part of the calculations, it has four calendar days to inform both the ISO and the UDC. If the parties are unable to resolve the dispute themselves, they can

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<sup>7</sup> The ISO's initial proposal required the UDCs to submit the results to the affected LSEs. Based on feedback during the tariff stakeholder process, the ISO altered its proposal to require the ISO, rather than the UDCs, to submit this data to the LSEs.

submit the dispute to the ISO for review. As part of its review, the ISO may receive the data on which the calculations are based. This essentially would be the type of data that the ISO currently receives as part of the load migration process. Unlike current practice, however, the proposed Tariff amendments mandate that the ISO purge its system of the data once the dispute is resolved.

Once the dispute is submitted to the ISO, the ISO must, by the expiration of the fourth day that the affected LSE was provided the calculations, either: (1) recalculate the number of transferring customers, to the degree feasible, and use that as the input to the load migration calculations; or (2) use the original calculations provided by the LSE. If the ISO determines after CRRs have been transferred that the proper resolution of the dispute would require a recalculation of the migrating load (e.g., through the dispute resolution mechanism in Section 13 of the Tariff), the ISO will make appropriate adjustments in the following CRR allocations. The ISO will not, however, make any retroactive adjustments to CRR holdings under such circumstances. The prospective adjustments would consist of transfers of the affected CRRs and the adjustment of the eligible load metric to reflect the load transfers.

In the event a dispute cannot be resolved within the proposed process, the load serving entities may pursue further review through the existing alternative dispute resolution mechanisms in Section 13 of the Tariff, as would occur today. While the dispute is being considered under the procedures of Section 13, the ISO will proceed with the CRR process using the data provided by the UDC.

This is an enhancement to the current process in that there is currently limited opportunity for the load transferee to verify the load transfer data or the load transfer amounts calculated by the ISO until after associated CRRs are transferred. With the proposed changes, the load transferees will be able to actually review that the load transfer amounts submitted to the ISO consistently reflect the load they gained. The elimination of the need for the transfer of significant retail load data to the ISO and the ISO's manipulation of the data enables the ISO to include in its monthly process an opportunity to verify the load transfer data before the associated CRRs are actually transferred.

## **B. Modeling and Treatment of Trading Hubs**

Under the ISO's current procedures, participants in CRR allocations and auctions may request CRRs that have Trading Hubs as their CRR Source.<sup>8</sup> To ensure that CRRs whose source is defined at a Trading Hub reflect the congestion charges market participants will face in the ISO energy market, Trading Hub CRRs must maintain the same distribution factors among generators that will be used in the Day-Ahead Market.

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<sup>8</sup> Trading Hubs are aggregations of generation pricing nodes with fixed distribution factors to form a weighted-average price.

As a result of the need to maintain the same distribution factors, in the release of Trading Hub CRRs, if congestion on a network constraint limits further awards from a single generator within the aggregation, there can be no further awards from the Trading Hub as a whole. This can be particularly problematic if a constraint to an individual generator becomes limiting early in the CRR allocation, since no further capacity is then available for awards using trading hubs later in the allocation process.

To deal with this limitation, the ISO currently disaggregates a Trading Hub nomination into a portfolio of separate nominations for the constituent PNodes that comprise the Trading Hub. To the extent that the requested megawatt quantity for a particular source/sink pair were infeasible, the quantity of that particular CRR would be reduced to maintain feasibility. If none of the constituent source/sink pairs need to be reduced, then the CRR Holder will be awarded a portfolio of individual CRRs that is the financial equivalent of holding the nominated Trading Hub CRR.

The main problem with the current approach is that it leads to a proliferation of large quantities of small megawatt CRRs, which is both inefficient and burdensome from the perspective of CRR holders and the ISO alike. This problem gets compounded by the need to transfer CRRs to reflect load migration, which involves transferring fractions of these already fractional CRRs.

The ISO proposes a revised process to reduce the burden on the ISO and market participants for managing these multiple CRR holdings by reducing the volume of CRRs that the ISO must release and market participants must hold. This proposal is reflected in the proposed amendments to Section 36.8.4.1 of the Tariff. Under the ISO's approach, the ISO would continue to conduct the simultaneous feasibility test by unbundling the trading hub CRRs. However, the ISO would then conduct a post-allocation process to recombine the disaggregated CRRs back into a Trading Hub CRR. The MW quantity of the recombined Trading Hub CRR would be reduced from the nominated amount by the same percentage as the percentage reduction required on the source/sink pair that had the smallest percentage reduction upon disaggregation. To reflect any further reductions dictated by the simultaneous feasibility test, the ISO would then award counterflow CRRs on the path from the CRR Sink to the individual PNodes for which a reduction in quantity was mandated. To provide a simplified example, suppose a Trading Hub consists of three PNodes (PNode<sub>1</sub>, PNode<sub>2</sub>, & PNode<sub>3</sub>) with equal distribution factors and a LSE nominates a 10 megawatt CRR from that Trading Hub to a LAP. When the individual source/sink combinations are disaggregated, the PNode<sub>1</sub> → LAP and PNode<sub>2</sub> → LAP CRRs are feasible at 90% of the nominated amount and the PNode<sub>3</sub> → LAP CRR is feasible at 75% of the nominated amount. The LSE would be awarded a 9 megawatt Trading Hub → LAP CRR and .5 megawatt LAP → PNode<sub>3</sub> CRR as a counterflow.

In response to stakeholders' requests, the ISO also proposes to allow Trading Hub CRRs to be eligible for renewal in the priority nomination tier of the subsequent CRR allocation, which allows CRR holders to renew the previous year's awarded CRRs before new CRRs are awarded. This change, which is reflected in Section 36.8.3.5.1,

enhances the current process, and does not give trading hub CRRs priority over other CRRs in the priority nomination tiers of the subsequent years' allocations. When the Trading Hub CRRs are renominated, the counterflow CRRs will expire and will be replaced by whatever counterflow CRRs are required based on the simultaneous feasibility test run for that annual process.

### **C. Eliminating Multi-Point CRRs**

The current CRR process allows for Multi-Point CRRs, which enable participants to assign different priorities among multiple sources and sinks. With Multi-Point CRRs, the simultaneous feasibility test is provided options to clear an allocation or auction request based on the priorities submitted in the nomination or bid. Multi-point CRRs were originally proposed early in the design of the CRR process to enable participants to designate which CRRs were of a relatively higher priority. Because the initial CRR design was a single-step process, it was important to provide participants a way to designate priorities among their various nominations. With the adoption of the three-tier annual allocation process, however, the tier structure now provides the opportunity for parties to designate their priorities through their choice of which CRRs to nominate in each tier. Thus the primary motive for having multi-point CRRs no longer exists.

When the tiered structure was agreed upon, Multi-Point CRRs could have been, but were not, removed from the CRR design to allow participants an opportunity to use them since they were already part of the design. As it turns out, Multi-Point CRRs have had extremely limited use, totaling just over  $\frac{1}{2}$  of 1% of the total CRRs released in the 2009 annual CRR allocation and auction processes. This limited use of Multi-Point CRRs indicates that they are largely a vestige of an earlier market design concept and do not serve any significant purpose in the current CRR design. Additionally, maintaining Multi-Point CRRs will complicate implementation of new enhancements to the CRR system, such as the Weighted Least Squares objective function (described below). For these reasons, the ISO is proposing to eliminate Multi-Point CRRs from the CRR process. Eliminating Multi-Point CRRs involves removing Sections 11.2.4.2.3 and 36.2.4 from the Tariff completely, along with removing parts of Sections of 36.4.2, 36.13.4, and 36.13.6. Finally, it is also necessary to remove the definition of the term "Multi-Point CRR" from Appendix A of the Tariff.

### **D. Refining Monthly Allocation Process**

The current monthly CRR process consists of a two-tier process for requesting CRRs plus an auction. Market participants have requested a decrease in the monthly process as the current process can take a considerable amount of time and resources for both the ISO and participants. These comments led the ISO to consider improving the rules surrounding the monthly CRR process.

In consultation with stakeholders, the ISO has identified and proposes the following two improvements to the monthly process. The first improvement is to allow CRR nominations to sub-LAPs in the first tier of the monthly allocation. Currently, such

nominations are only allowed in the second tier. By allowing LSEs to nominate sub-LAPs in Tier 1, participants can structure their nominations up front to include sub-LAPS if they desire such granularity in CRRs rather than having to wait to participate in the second tier to obtain sub-LAP CRRs.<sup>9</sup>

The second improvement is to increase LSEs' eligibility to nominate CRRs in the first tier to 100% of the difference between their total eligibility to receive CRRs in the pertinent month and their previously allocated total of CRRs. At present, the eligibility in tier 1 is limited to 50%. Tier 2 will remain available to fill any remaining eligibility when nominations are not adequately covered in the first tier. During the stakeholder process, a participant suggested that sub-LAPs be made eligible CRR Sinks in tier 2 of the annual process as well. Currently, tier 3 is the only tier of the annual process for which sub-LAPs are eligible sinks. The ISO considered this suggestion and determined it was feasible. Accordingly, the ISO is also including this change as part of its proposal.

These enhancements (which are reflected in the proposed amendments to Sections 36.8.2, 36.8.3.5.3, 36.8.3.6.1 of the Tariff) simplify the monthly process by allowing participants to obtain the CRRs they desire in the first tier if that is the only tier in which they wish to participate. In addition, it leaves the two tier approach in place for participants that believe that the iterative nature of the nomination process better meets their needs.

#### **E. Adoption of the Weighted Least Squares Objective Function in the Simultaneous Feasibility Test**

As described above, in the event that there is a constraint prohibiting the full release of nominated or bid-in CRRs, the simultaneous feasibility test conducted in running the CRR allocations and auctions reduces CRR nominations to ensure that the CRRs are simultaneously feasible based on the network model and nominations or bids. The ISO's current processes for the CRR allocations use a mathematical optimization in which the objective function is to maximize the megawatt value of the released CRRs.<sup>10</sup> This maximum CRR objective function curtails the CRR nomination that is most effective in relieving a constraint completely before less effective nominations are curtailed. Although the maximum CRR function is efficient in the sense that it maximizes the total megawatts of CRRs released, it can impose most, if not all, of the curtailment on a single participant. Thus, the trade-off for achieving this efficiency is an inequitable distribution of awarded CRRs.

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<sup>9</sup> Sub-LAPs are defined sub-areas of the three Default LAPs, within which prices are expected to be relatively uniform due to minimal congestion within each sub-LAP. Sub-LAPs initially were included in the CRR design to permit LSEs to secure a partial hedge for the final increment of their CRR eligibility in the event that no additional LAP-level CRRs were feasible.

<sup>10</sup> The simultaneous feasibility test for the auctions (which will not change) is based on bids rather than nominations and thus optimizes the value of the awarded CRRs, rather than the megawatts of awarded CRRs.

To address this concern, the ISO is proposing to implement a weighted least squares objective function as a substitute for the maximum CRR function. The tariff authority for implementing this change is in the proposed amendments to Section 36.4.2 of the Tariff. The goal of the weighted least squares function is to distribute curtailments more equitably across all CRR nominations that are effective in relieving the constraint. Under the weighted least squares function, the ISO will curtail nominations through the following method:

1. The ISO will calculate shift factors for all nominations that can relieve the constraint in question.
2. The ISO will square the shift factor for each nomination and sum the squared shift factors.
3. The ISO will pro-rate the reduction in each nomination according to that nomination's squared shift factor as a percent of the summed squared shift factors.

Under the weighted least squares function, the nomination that is most effective at reducing the constraint will still be curtailed the most, but it will not be exclusively responsible for alleviating the congestion. The ISO acknowledges that use of the weighted least squares function will modestly reduce the total MWs of CRRs released, but believes this is an acceptable price to pay for the improved equity.

Implementation of the weighted least squares function necessitates one additional change in how rights under existing transmission contracts (ETCs) are treated in the allocation processes. Under the current process ETCs are accounted for through nominations submitted by the ISO to the allocation process to reflect the capacity under such rights. Subsequently, the allocation process produces CRRs that are not allocated to any participant and are retained by the ISO. This accounting of ETCs is necessary to ensure that the CRRs released through the allocation are sufficiently funded by the congestion revenue collected in the Day-Ahead Market. Holders of ETCs are entitled to submit schedules to reflect their use of the transmission grid affected by the ETCs and as such are exempt from congestion charges. Therefore, no congestion revenue will be collected from such schedules. Because these ETC rights must be accounted for and must be protected from curtailment to ensure they are adequately accounted for in the release of CRRs in the allocation process, in the simultaneous feasibility test, ETCs are given a significantly higher priority such that it is practically (although not mathematically) impossible for an ETC to be curtailed in favor of a regular CRR. The adoption of the weighted least squares approach complicates the ISO's ability to protect these contract rights in the simultaneous feasibility test in this manner. Thus, one additional element of the weighted least squares proposal is to now run a separate simultaneous feasibility test for ETCs, before the regular CRR simultaneous feasibility test is run. This proposal is reflected in the proposed amendment to Section 36.4 of the Tariff.

The ISO already conducts a similar run for TORs prior to the actual allocation process to ensure adequate capacity has been set aside to reflect the TORs. The ISO proposes to also include in this run the ETC rights. However, while the TOR rights are modeled as options in this preliminary run, the ETC rights will be run as obligations. The reason for this difference is that whereas TORs consist of transmission rights on a portion of the system that is owned and operated by an entity that is not a Participating Transmission Owner,<sup>11</sup> ETCs are rights on the ISO grid facilities owned and operated by the Participating Transmission Owners, which the ISO seeks to protect based on the pre-existing contract rights.<sup>12</sup>

This change in how the ISO accounts for ETCs is necessitated by the adoption of the weighted least squares approach. However, the ISO anticipates that this change should have no impact on the ultimate outcome of the amount of CRRs released through the allocation. Moreover, this change will have no impact on how the ISO honors the rights on the pre-existing transmission contracts that are grandfathered in the ISO's system as ETCs.

## II. DESCRIPTION OF TARIFF CHANGES

The following table reflects the proposed amendments to the Tariff that are covered by the instant filing.

Tariff Section	Relevant CRR Enhancement
11.2.4.2.3	Elimination of Multi-Point CRRs
36.2.4	Elimination of Multi-Point CRRs
36.4	Weighted Least Squares Objective Function
36.4.2	Elimination of Multi-Point CRRs & Weighted Least Squares Objective Function
36.8.2	Refinements of Monthly and Annual Process
36.8.3.5.1	Recombination of Trading Hub CRRs
36.8.3.5.3	Refinements of Monthly and Annual Process

<sup>11</sup> *Cal. Indep. Sys. Operator Corp.*, 116 FERC ¶ 61,274, P 975 (2006) (“TORs represent transmission capacity on facilities that are located within the CAISO Control Area that are either wholly or partially owned by an entity that is not a PTO”).

<sup>12</sup> *Id.* at P 901 n.374 (“ETCs are encumbrances, established prior to the CAISO's operation, in the form of a CAISO PTO's contractual obligation to provide transmission service to another party using transmission facilities owned by the PTO that have been turned over to the CAISO's operational control”).

36.8.3.6.1	Refinements of Monthly and Annual Process
36.8.4.1	Recombination of Trading Hub CRRs
36.8.5.1	Load Migration
36.8.5.7	Load Migration
36.13.4	Elimination of Multi-Point CRRs
36.13.6	Elimination of Multi-Point CRRs
Appendix A	Elimination of Multi-Point CRRs & Refinements of Monthly and Annual Process

### III. EFFECTIVE DATES

The ISO respectfully requests that the tariff amendments, contained in the instant filing, be approved and given staggered effective dates. In addition, the ISO respectfully requests a Commission-order by September 12, 2010, to enable the ISO to proceed the changes intended for the upcoming annual and monthly processes as discussed below.

The ISO requests an effective date of September 13, 2010 for amendments to the following sections: 11.2.4.2.3; 36.2.4; 36.8.2; 36.8.3.5.1; 36.8.3.5.3; 36.8.3.6.1; 36.13.4; 36.13.6; and Appendix A. These sections relate to the following enhancements, discussed above: eliminating Multi-Point CRRs; making Sub-LAPs eligible sinks in tier 2 of the annual process; and making Sub-LAPs eligible sinks in tier 1 of the monthly process. An effective date of September 13, 2010 would allow these enhancements to be implemented for the 2011 annual process, the first tier of which will be processed on or about September 14, 2010, and for the October 2010 monthly process, the first tier of which will be processed on or about September 20, 2010.

The ISO requests an effective date of December 10, 2010 for amendments to the following sections: 36.4; 36.4.2; 36.8.4.1; 36.8.5.1; and 36.8.5.7. These sections relate to the following enhancements, discussed above: creating a separate simultaneous feasibility test for ETCs (which is necessitated by implementation of weighted least squares); implementing weighted least squares; allowing CRRs nominated with a sink at a Trading Hub to be awarded as a single Trading Hub CRR, rather than being awarded as multiple CRRs disaggregated to the constituent PNodes;<sup>13</sup> altering the

<sup>13</sup> The current version of Section 36.4.2 describes the maximum CRR function, as well as how that function is applied to Multi-Point CRRs. The proposed amendments to this section involve elimination of language describing the maximum CRR function and inserting in its place language describing the weighted least squares function, along with eliminating the obsolete references to Multi-Point CRRs. Because it is not possible to stagger effective dates of language within a particular section of the Tariff, the ISO will not seek to strike the current references to Multi-Point CRRs as part of the changes to Section 36.4.2 that are proposed to be effective on September 10, 2010. Instead, the ISO proposes to keep this single reference to Multi-Point CRRs in place until December 10, 2010, even though the notion of Multi-Point CRRs will no longer be operative for the three months between September 10 and December 10.

ISO's data calculation obligations for load migration; and creating a dispute resolution process for load migration. An effective date of December 10, 2010 would allow these enhancements to be implemented for the January 2011 monthly process, the first tier of which will be processed on or about December 20, 2010.

These staggered effective dates are necessary due to implementation dependencies and the software development lifecycle. While it would be the ISO's preference to implement all of the enhancements discussed in the instant filing in time for the 2011 Annual Process, the alterations to the CRR software and the related testing that will be necessary to implement weighted least squares, the single Trading Hub CRR functionality, and the revised load migration process cannot be completed in time to use for the 2011 annual process. The ISO's CRR software vendor anticipates that the requisite software improvements will be ready at some point in November.

#### **IV. COMMUNICATIONS**

Communications regarding this filing should be addressed to the following individuals. The individuals identified with an asterisk are the persons whose names should be placed on the official service list established by the Secretary with respect to this submittal:

Anthony Ivancovich  
Assistant General Counsel- Regulatory  
Anna A. McKenna\*  
Senior Counsel - Regulatory  
David Zlotlow\*  
Counsel – Regulatory

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#### **V. SERVICE**

The ISO has served copies of this transmittal letter, and all attachments, on the California Public Utilities Commission and the California Energy Commission, and all parties with effective Scheduling Coordinator Service Agreements under the ISO Tariff. In addition, the ISO is posting this transmittal letter and all attachments on the ISO website.

#### **VI. ATTACHMENTS**

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

- Attachment A**      Revised ISO Tariff Sheets – Clean
- Attachment B**      Revised ISO Tariff Sheets – Blackline
- Attachment C**      California Board of Governors Memorandum on CRR  
Enhancements

## **VII. CONCLUSION**

For the foregoing reasons, the ISO respectfully requests that the Commission approve this tariff revision as filed. Please contact the undersigned if you have any questions concerning this matter.

Respectfully submitted,

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**Attachment A – Clean Sheets  
CRR Non Credit Enhancements Tariff Amendment  
California Independent System Operator Corporation  
Fifth Replacement FERC Electric Tariff**

### **36.4 FNM For CRR Allocation And CRR Auction**

When the CAISO conducts its CRR Allocation and CRR Auction, the CAISO shall use the most up-to-date DC FNM which is based on the AC FNM used in the Day-Ahead Market. The Seasonal Available CRR Capacity shall be based on the DC FNM, taking into consideration the following, all of which are discussed in the applicable Business Practice Manual: (i) any long-term scheduled transmission Outages, (ii) OTC adjusted for any long-term scheduled derates, and (iii) a downward adjustment due to TOR or ETC as determined by the CAISO. The Monthly Available CRR Capacity shall be based on the DC FNM, taking into consideration: (i) any scheduled transmission Outages known at least thirty (30) days in advance of the start of that month as submitted for approval consistent with the criteria specified in Section 36.4.3, (ii) adjustments to compensate for the expected impact of Outages that are not required to be scheduled thirty (30) days in advance, including unplanned transmission Outages, (iii) adjustments to restore Outages or derates that were applied for use in calculating Seasonal Available CRR Capacity but are not applicable for the current month, (iv) any new transmission facilities added to the CAISO Controlled Grid that were not part of the DC FNM used to determine the prior Seasonal Available CRR Capacity and that have already been placed in-service and energized at the time the CAISO starts the applicable monthly process, (v) OTC adjusted for any scheduled derates or Outages for that month, and (vi) a downward adjustment due to TOR or ETC as determined by the CAISO. For the first monthly CRR Allocation and CRR Auction for CRR Year One, to account for any planned or unplanned Outages that may occur for the first month of CRR Year One, the CAISO will derate all flow limits, including Transmission Interface limits and normal thermal limits, based on statistical factors determined as provided in the Business Practice Manuals.

### **36.4.2 Simultaneous Feasibility**

The annual and monthly CRR Allocation processes release CRRs to fulfill CRR nominations as fully as possible subject to a Simultaneous Feasibility Test. To the extent that nominations are not simultaneously feasible, the nominations are reduced in accordance with the CRR Allocation optimization formulation until simultaneous feasibility is achieved. The CRR Allocation optimization formulation, detailed in the Business Practice Manuals, utilizes a weighted least squares objective function that applies pro-rated reductions in flows on a binding constraint based on squares of the Power Transfer Distribution Factor of each CRR nomination for the binding constraint. In addition to the adjustments in Section 36.4.1, the Simultaneous Feasibility Test for each CRR Allocation considers:

- (a) CRRs representing ETCs, Converted Rights and any TOR capacity that was not captured in the adjustments described in Section 36.4, which the CAISO deems necessary to prevent the Congestion Settlement of ETCs, Converted Rights, and TORs from causing revenue inadequacy of allocated and auctioned CRRs;
- (b) In the case of the monthly CRR Allocation, the CRRs already released for that month in the annual CRR Allocation and Auction; and,
- (c) The CRRs allocated in previous CRR Allocation tiers as described in Sections 36.8.3.1 through 36.8.3.6.

The CAISO will be responsible for submitting CRR nominations associated with ETC and Converted Rights Self-Schedules. These nominations will be Point-to-Point CRR nominations. The priority weights for these Point-to-Point CRR nominations will be given a higher value than the proxy bids associated with the nominations submitted by the CRR Allocation participants, if they are included in the same market run.

In the event that transmission Outages and derates modeled for the monthly CRR Allocation and CRR Auction render previously issued Seasonal CRRs infeasible, the CAISO will increase the transfer capacity on the overloaded facilities just enough to render all Seasonal CRRs issued for the month feasible without creating any additional capacity beyond what is needed for the feasibility of the Seasonal CRRs. The CAISO will announce these adjustments to the market prior to conducting the monthly CRR Allocation

and CRR Auction so that Candidate CRR Holders can take these facts into consideration in preparing their nominations and bids.

### **36.8.2 Load Eligible For CRRs And Eligible CRR Sinks**

Any entity that wishes to participate in the CRR Allocation process must provide information that demonstrates that it has an obligation to serve load. An LSE's eligibility for allocation of CRRs is measured by the quantity of Load that it serves that is exposed to Congestion Charges for the use of the CAISO Controlled Grid as determined in Sections 36.8.2.1 and 36.8.2.2. An OBAALSE's eligibility for allocation of CRRs is also measured by the quantity of load that it serves that is exposed to Congestion Charges for the use of the CAISO Controlled Grid as determined in Section 36.9.3. For LSEs, the information necessary may include, but is not limited to, Settlement Quality Meter Data or relevant documents filed with the California Energy Commission. For OBAALSEs, the necessary information may include, but is not limited to, historical tagged Real-Time Interchange Export Schedules and historical load data reflecting the load they serve that is exposed to Congestion Charges for the use of the CAISO Controlled Grid. In addition, each such OBAALSE shall support its data submission with a written sworn affidavit by an executive authorized to represent the OBAALSE attesting to the accuracy of the data, and the CAISO will have the right to audit the raw data and calculations used to develop the submitted data set. An LSE serving internal Load is eligible for CRRs up to its Seasonal CRR Eligible Quantity or Monthly CRR Eligible Quantity, which is derived from its Seasonal CRR Load Metric or Monthly CRR Load Metric as described in Sections 36.8.2.1 and 36.8.2.2, respectively. Seasonal CRR Eligible Quantities and Monthly CRR Eligible Quantities for Qualified OBAALSEs are determined as provided in Section 36.9.3. These quantities are calculated for each LSE or Qualified OBAALSE separately for each combination of season and time of use period for the annual CRR Allocation process, and for each time of use period for each monthly CRR Allocation process, and for each CRR Sink at which the eligible LSE serves Load or the Qualified OBAALSE exports Energy from the CAISO Balancing Authority Area. MSS eligibility for CRRs will account for net or gross MSS Settlement in accordance with Section 4.9.13.1. If the MSS Operator elects net Settlement, LSEs for such MSS Load shall submit CRR Sink nominations at the MSS LAP. If the MSS elects for gross Settlement, LSEs for such MSS Load shall submit CRRs Sink nominations at the applicable Default LAP. Load that is Pumped-Storage Hydro Units but is not Participating Load may be scheduled and settled at a PNode or Custom Load Aggregation Point and therefore LSEs for such Load shall submit CRR Sink nominations at the applicable PNode or Custom

Load Aggregation Point. Load that is a Participating Load that is also aggregated is scheduled and settled at a Custom Load Aggregation Point that is customized specifically for such Load and, therefore, LSEs for such Participating Load shall submit CRR Sink nominations at the Custom Load Aggregation Point. Load that is Participating Load is scheduled and settled at an individual PNode, and therefore LSEs for such Load shall submit CRR Sink nominations at the applicable PNode. Load that is non-Participating Load, is not Pumped-Storage Hydro Units, and is not Load associated with ETCs, TORs, or MSS Operators that elects net Settlement, is scheduled and settled at the Default LAP. Therefore, LSEs for such Load shall submit CRR Sink nominations at their assigned Default LAP or Default LAPs if the Load they serve is located in more than one Default LAP. In tier 2 and tier 3 of the annual process and tier 1 and tier 2 of the monthly process, such LSEs may also submit CRR Sink nominations at a Sub-LAP of their assigned Default LAP. The CAISO will make available, prior to the beginning of the CRR Allocation process but no later than thirty (30) days before the date on which the Candidate CRR Holders or CRR Holders will be required to submit their nominations for the CRR Allocation, a list of allowable CRR Sinks to be used in the allocation. The allowable CRR Sinks will be consistent with the applicable CRR FNM. In the event that unforeseen changes to network conditions arise after the thirty-day release of the list of allowable CRR Sinks and warrant revisions to that list, the CAISO will provide updates to the list prior to the closing of nominations for the CRR Allocation.

#### **36.8.3.5.1 Tier 1 – Priority Nomination Process**

Tier 1 of the annual CRR Allocation in years beyond CRR Year One will be a Priority Nomination Process through which CRR Holders may nominate some of the same CRRs that they were allocated in the immediately previous annual CRR Allocation process. As provided in Section 36.8.3.4.2, nominations by a Qualified OBAALSE in the PNP are subject to source verification. In all annual CRR Allocations after CRR Year One, an LSE or a Qualified OBAALSE may make PNP nominations up to the lesser of: (1) two-thirds of its Seasonal CRR Eligible Quantity, minus the quantity of previously allocated Long Term CRRs for each season, time of use period and CRR Sink for that year; or, (2) the total quantity of Seasonal CRRs allocated to that LSE in the previous annual CRR Allocation, minus the quantity of previously allocated Long Term CRRs for each season, time of use period and CRR Sink, and minus any reduction for net loss of Load or plus any increase for net gain of Load through retail Load Migration as described in Section 36.8.5.1. In addition, an LSE's or Qualified OBAALSE's nomination of any particular CRR Source-CRR Sink combination in the PNP may not exceed the MW quantity of CRRs having that CRR Source and CRR Sink that the LSE or Qualified OBAALSE was allocated in the previous annual CRR Allocation, reduced by the MW quantity of those Long-Term CRRs with the same CRR Source and CRR Sink that were awarded in the prior year's Long-Term CRR allocation, for the same season and time of use period, and in the case of an LSE, adjusted for net Load loss or gain resulting from Load Migration as described in Section 36.8.5.2.2. An LSE or a Qualified OBAALSE may nominate CRRs awarded with a CRR Source at the Trading Hubs in the PNP. CRRs whose CRR Sink is a Sub-LAP are not eligible for nomination in the PNP. A CRR whose CRR Sink is a Custom LAP or PNode is eligible for nomination in the PNP. PNP Eligible Quantities are not affected by secondary transfers of CRRs, except as performed by the CAISO to reflect Load Migration as described in Section 36.8.5. That is, with the exception of transfers to reflect Load Migration: (i) an LSE or a Qualified OBAALSE may nominate in the PNP a CRR it was allocated in the prior annual CRR Allocation even though it transferred that CRR to another party during the year, and (ii) an LSE or a Qualified OBAALSE may not nominate in the PNP a CRR that it received through a secondary transfer from another party. CRRs received through a CRR Auction are not eligible for nomination in the PNP. CRRs received as Offsetting CRRs to reflect Load Migration are not eligible for nomination in the PNP. The maximum quantity of CRRs that an LSE or a Qualified

OBAALSE may nominate in the PNP is fifty percent (50%) of its Adjusted Load Metric, minus any previously allocated Long Term CRRs that are valid for the term of the CRRs being nominated. The CAISO does not guarantee that all CRR nominations in the PNP will be allocated. The CAISO will conduct an SFT to determine whether all CRR nominations in the PNP are simultaneously feasible. If the SFT determines that all priority nominations are not simultaneously feasible, the CAISO will reduce the allocated CRRs until simultaneous feasibility is achieved.

**36.8.3.5.3 Tier 2** In tier 2 of the annual CRR Allocation, the CAISO will allocate Seasonal CRRs to each LSE and Qualified OBAALSE up to two-thirds of its Seasonal CRR Eligible Quantity for each season, time of use period and CRR Sink, minus the quantity of: (i) CRRs allocated to that LSE or Qualified OBAALSE in tier 1, and (ii) Long Term CRRs previously allocated to it that are valid for the CRR term currently being allocated. In tier 2 of the annual CRR Allocation, Sub-LAPs will be eligible CRR Sinks provided that the Sub-LAP is within the nominating LSE's Default LAP. An LSE or a Qualified OBAALSE can nominate Seasonal CRRs sourced at Trading Hubs. In running the SFT the CAISO shall disaggregate the Seasonal CRR nominations sourced at Trading Hubs as described in Section 36.8.4.1.

**36.8.3.6.1 Tier 1** In tier 1 of the monthly CRR Allocations, each LSE or Qualified OBAALSE may nominate Monthly CRRs up to one-hundred percent (100%) of the difference between its Monthly CRR Eligible Quantity and the total of any Seasonal CRRs allocated in the annual CRR Allocation and any holdings of Long Term CRRs that are valid for the month and time of use of the CRRs being nominated. An LSE or a Qualified OBAALSE can nominate Monthly CRRs where the CRR Source is a Trading Hub. In tier 1 of the monthly CRR Allocation, Sub-LAPs will be eligible CRR Sinks, provided that the Sub-LAP is within the nominating LSE's Default LAP. In running the SFT the CAISO shall disaggregate the Monthly CRR nominations sourced at Trading Hubs as described in Section 36.8.4.1.

#### **36.8.4.1 CRRs with Trading Hub Sources**

For purposes of the CRR Allocation processes the CAISO shall disaggregate CRR nominations with Trading Hub CRR Sources into Point-to-Point CRR nominations each of whose CRR Source is a Generating Unit PNode that is an element of the Trading Hub. In performing this disaggregation the MW quantity of each Point-to-Point CRR nomination will equal the MW quantity of the CRR nomination multiplied by the weighting factor of the corresponding Generating Unit PNode in the defined Trading Hub. The disaggregated, individual Point-to-Point CRRs will be used by the CAISO in conducting the SFTs for the nominated CRRs. In CRR years other than CRR Year One, an LSE may nominate in the PNP any Point-to-Point CRRs it was allocated the previous year as a result of Seasonal CRR nominations with Trading Hubs as CRR Sources, and may then nominate those Seasonal CRRs awarded in the PNP as Long Term CRRs in Tier LT. In CRR Year One, an LSE that was allocated individual Point-to-Point CRRs in tiers 1 and 2 as a result of nominating CRRs sourced at a Trading Hub must nominate CRRs sourced at Trading Hubs in Tier LT in accordance with Section 36.8.3.1.3.1. For Qualified OBAALSEs, all nominated CRR Sources must be source verified as specified in Section 36.9.1. Any Long Term CRRs allocated by the CAISO as a result of nominations of CRRs sourced at Trading Hubs will be Point-to-Point CRRs each of whose CRR Sources is a Generating Unit PNode that is an element of the Trading Hub. After Trading Hub CRRs are allocated in each annual and monthly CRR Allocation process, the CAISO shall combine the allocated CRRs into a Trading Hub CRR and issue counterflow CRRs to the holders of Trading Hub CRRs as necessary to maintain simultaneous feasibility. CRR Holders of such combined Trading Hub CRRs will be eligible to renew these Trading Hub CRRs in the Priority Nomination Process of the subsequent seasonal CRR Allocation process as described in this Section 36.8.4.1 and Section 36.8.3.5.1.

### **36.8.5.1 Tracking of Load Migration by CAISO**

The CAISO will implement all appropriate adjustments due to Load Migration on a monthly basis. In order to enable the CAISO to track Load Migration and determine the appropriate adjustments, each UDC, MSS Operator, and other entity that provides distribution service to customers will provide to the CAISO the number of end-use customers that migrated in each of the customer classes in their service area. The end-use customer information provided to the CAISO by such parties shall be calculated based on the following details on each customer that migrates between LSEs: (i) customer identification information, (ii) information to establish the customer's retail customer class, (iii) the original and new LSEs serving the customer, (iv) the effective date of the Load Migration, and (v) the most recent twelve (12) months of billing data for the customer. Each UDC, MSS Operator and other entity that provides distribution service to customers will retain the details of the underlying calculations unless as requested by the CAISO pursuant to the dispute resolution process discussed in Section 36.8.5.7. The migration information provided to the CAISO by the parties shall consist of the number of customers served by each LSE in each retail customer class as of the start of each month, multiplied by the average consumption by customers in each retail customer class. Further details regarding the methodology used by the UDCs, MSSs, and other entities that provide distribution service to customers, to calculate this migration information to be supplied to the CAISO is set forth in the applicable Business Practice Manual. The CAISO will receive information from each UDC, MSS Operator, and other entity providing distribution service on an ongoing daily basis, and will perform the calculations for any appropriate adjustments due to Load Migration on a monthly basis. New CRRs allocated due to Load Migration in accordance with Section 36.8.5.3 will be made effective on the first day of the first month, following the CAISO's performance of the calculations, in which the Load Migration is effective by the first of the month.

### **36.8.5.7 Dispute Resolution Mechanism Regarding Load Migration Data Transfers**

The CAISO shall provide the Load migration information referred to in Section 36.8.5.1 to the affected load-gaining or load-losing LSE. The data received by each affected LSE will be limited to the count of customers for which it is the load-gaining LSE, and the count of customers for which it is the load-losing LSE. The affected LSEs shall contact the CAISO and the UDC, MSS or other entities that provide distribution service to customers that calculate this migration information, of any dispute regarding the load migration data provided to the CAISO no later than four calendar days after the affected LSE has received the load migration data. In the event that the affected LSE and UDC, MSS or other entity that provide distribution service to customers, are unable to resolve the LSE's disagreement, the LSE and UDC, MSS, or other entity that provides distribution service to customers, will submit the dispute to the CAISO. During the consultations with the CAISO concerning the dispute, the CAISO may request the data specified in Section 36.8.5.1, on which the load migration data is based and may request explanations of the disputed data from the disputing parties. In the event that the CAISO needs to receive and review the relevant data, the CAISO will purge the data after the resolution of the dispute. In the event that the affected parties cannot agree to a resolution of the dispute prior to the expiration of the fourth calendar day after the data was provided to the load-gaining or load-losing LSE by the CAISO, the CAISO will decide either to: (1) recalculate, to the extent feasible, the aggregated count of transferring customers and proceed with the subsequent steps based on that calculated amount; or (2) proceed with the amounts provided by the UDC, MSS or other entity that provides distribution service to customers. Nothing in this section should be construed to restrict the affected parties from seeking the dispute resolution mechanism available under Section 13; provided however, that in the interim the CAISO may proceed with the CRR processes defined in the CAISO Tariff based on the load migration amounts provided by the UDC, MSS or other entity that provides distribution service to customers. If the CAISO later determines that the resolution of the dispute requires a modification of the load-gaining or load-losing LSE's rights, the CAISO will make the appropriate adjustments in any of the upcoming CRR Allocations, but will not make any retroactive adjustments to the load-gaining or load-losing LSE's rights.

#### **36.13.4 Bids In The CRR Auctions**

Bids to purchase CRRs shall be submitted in accordance with the requirements set out in this Section 36.13.4 and as further specified in the applicable Business Practice Manuals. Once submitted to the CAISO, CRR bids may not be cancelled or rescinded by the Market Participant after the CRR Auction is closed. Market Participants may bid for Point-to-Point CRRs. Each bid for a Point-to-Point CRR shall specify:

- (a) The associated month or season and time of use period;
- (b) The associated CRR Source and CRR Sink;
- (c) A monotonically non-increasing piecewise linear bid curve in quantities (denominated in thousandths of a MW) and prices (\$/MW).

Bid prices in all CRR bids may be negative.

### **36.13.6 Clearing Of The CRR Auction**

The SFT used to clear the CRR Auction will utilize the same DC FNM and optimization algorithm as the corresponding CRR Allocation, except that nominations to the CRR Auction will have associated price-quantity bid curves. The CRR Auction SFT will use the bid prices in determining which CRRs to award when not all nominations are simultaneously feasible, will select the set of simultaneously feasible CRRs with the highest total auction value as determined by the CRR bids, and will calculate nodal prices at each PNode of the DC FNM. In the event that there are two or more identical bids for a specific combination of CRR Source and CRR Sink that affect an overloaded constraint, the CRR Auction optimization cannot distinguish these bids based on either effectiveness or price and therefore the CRR Auction optimization will award each CRR bidder a pro rata share of the CRRs that can be awarded based on the bid MW amounts. Based on the nodal prices calculated by the CRR Auction SFT, the CRR Market Clearing Price per MW for a specific CRR will equal the nodal price at the CRR Sink minus the nodal price at the CRR Source.

**- Multi-Point CRR**

The CAISO does not support Multi-Point CRRs. A CRR Obligation specified according to one or more CRR Sources and one or more CRR Sinks and a flow from the CRR Source(s) to the CRR Sink(s), provided that at least the CRR Sink or the CRR Source identifies more than one point.

**- Priority Nomination Process (PNP)**

The step in an annual CRR Allocation in years beyond CRR Year One through which CRR Holders re-nominate (1) Seasonal CRRs they were allocated in the prior year (less any Long Term CRRs awarded in the Allocation of the immediately preceding year), (2) Long Term CRRs that are expiring, and(3) Existing Transmission Contracts and Converted Rights that are expiring.

**Attachment B – Blacklines**  
**CRR Non Credit Enhancements Tariff Amendment**  
**California Independent System Operator Corporation**  
**Fifth Replacement FERC Electric Tariff**

\* \* \*

#### **11.2.4.2.3 Multi-Point CRR**

~~For each CRR Holder, the CAISO shall calculate a CRR Payment for each Multi-Point CRR held by the CRR Holder, equal to the sum of the MCCs at each CRR Sink weighted by their associated MWh quantities as specified by the CRR, minus (2) the sum of the MCCs at each CRR Source weighted by their associated MWh quantities as specified by the CRR. If the calculated amount is positive, the CAISO shall calculate a CRR Payment for the Multi-Point CRR. If the result of this calculated amount is negative, the CAISO will calculate a CRR Charge for the Multi-Point CRR.~~

\* \* \*

#### **36.2.4 Multi-Point CRRs[Not Used]**

~~A Multi-Point CRR is a CRR Obligation defined by more than one CRR Source and/or more than one CRR Sink, plus a specified distribution of the total MW value of the CRR over the multiple CRR Sources and/or multiple CRR Sinks such that the total MW assigned to all CRR Sources equals the total MW assigned to all CRR Sinks equals the MW value of the CRR. For the allocation of CRRs under this Section 36, an LSE seeking to be allocated a Multi-Point CRR must specify a single CRR Sink in its nomination.~~

\* \* \*

#### **36.4 FNM For CRR Allocation And CRR Auction**

When the CAISO conducts its CRR Allocation and CRR Auction, the CAISO shall use the most up-to-date DC FNM which is based on the AC FNM used in the Day-Ahead Market. The Seasonal Available CRR Capacity shall be based on the DC FNM, taking into consideration the following, all of which are discussed in the applicable Business Practice Manual: (i) any long-term scheduled transmission Outages, (ii) OTC adjusted for any long-term scheduled derates, and (iii) a downward adjustment due to TOR or ETC as determined by the CAISO. The Monthly Available CRR Capacity shall be based on the DC FNM, taking into consideration: (i) any scheduled transmission Outages known at least thirty (30) days in advance of the start of that month as submitted for approval consistent with the criteria specified in Section 36.4.3, (ii) adjustments to compensate for the expected impact of Outages that are not required to be scheduled thirty (30) days in advance, including unplanned transmission Outages, (iii) adjustments to restore Outages or derates that were applied for use in calculating Seasonal Available CRR Capacity

but are not applicable for the current month, (iv) any new transmission facilities added to the CAISO Controlled Grid that were not part of the DC FNM used to determine the prior Seasonal Available CRR Capacity and that have already been placed in-service and energized at the time the CAISO starts the applicable monthly process, (v) OTC adjusted for any scheduled derates or Outages for that month, and (vi) a downward adjustment due to TOR or ETC as determined by the CAISO. For the first monthly CRR Allocation and CRR Auction for CRR Year One, to account for any planned or unplanned Outages that may occur for the first month of CRR Year One, the CAISO will derate all flow limits, including Transmission Interface limits and normal thermal limits, based on statistical factors determined as provided in the Business Practice Manuals.

\* \* \*

#### **36.4.2 Simultaneous Feasibility**

The annual and monthly CRR Allocation processes release CRRs to fulfill CRR nominations as fully as possible subject to a Simultaneous Feasibility Test. To the extent that nominations are not simultaneously feasible, the nominations are reduced in accordance with the CRR Allocation optimization formulation until simultaneous feasibility is achieved. The CRR Allocation optimization formulation, detailed in the Business Practice Manuals, utilizes a weighted least squares objective function that applies pro-rated~~The CRR Allocation optimization formulation, detailed in the Business Practice Manuals, reduces nominated CRRs based on effectiveness in relieving overloaded constraints in order to minimize the total MW volume reduction of nominations while achieving simultaneous feasibility. In the event that there are two or more identical nominations for a specific combination of CRR Source and CRR Sink that affect an overloaded constraint, the CRR Allocation optimization formulation cannot distinguish these nominations based on effectiveness and, therefore, the CRR Allocation optimization will award each such Candidate CRR Holder a pro rata share of the CRRs that can be awarded based on each Candidate CRR Holder's nominated MW amounts. In addition to the adjustments in Section 36.4.1, the SFT for each CRR Allocation considers: reductions in flows on a binding constraint based on squares of the Power Transfer Distribution Factor of each CRR nomination for the binding constraint. In addition to the adjustments in Section 36.4.1, the Simultaneous Feasibility Test for each CRR Allocation considers:~~

- (a) CRRs representing ETCs, Converted Rights and any TOR capacity that was not captured in the adjustments described in Section 36.4, which the CAISO deems necessary to prevent the Congestion Settlement of ETCs, Converted Rights, and TORs from causing revenue inadequacy of allocated and auctioned CRRs;
- (b)- In the case of the monthly CRR Allocation, the CRRs already released for that month in the annual CRR Allocation and Auction; and,
- (c)- The CRRs allocated in previous CRR Allocation tiers as described in Sections 36.8.3.1 through 36.8.3.6.

The CAISO will be responsible for submitting CRR nominations associated with ETC and Converted Rights Self-Schedules. These nominations will be Point-to-Point CRR nominations. The priority weights for these Point-to-Point CRR nominations will be given a higher value than the proxy bids associated with the nominations submitted by the CRR Allocation participants, if they are included in the same market run. ~~In addition, as further provided in the Business Practice Manual, the CAISO will enforce the following general pro-rationing rules when one or more sources from an Multi-Point CRR nomination compete with a Point-to-Point CRR nomination for a limited amount of capacity on a constraint, and the effectiveness on the constraint for each of the competing Multi-Point CRR sources is equal to the effectiveness of the Point-to-Point CRRs on the constraint. As further provided in the Business Practice Manual, in certain circumstances such as when the CAISO receives a relatively small sink nomination value, could not apply.~~

- ~~(1) — The cleared MW amounts for the Point-to-Point CRR and the Multi-Point CRR high priority sources are proportional to their respective nominated MW values;~~
- ~~(2) — The cleared MW amounts for the Multi-Point CRR sources are inversely proportional to the total number of high priority sources in the Multi-Point CRR; and~~
- ~~(3) — Point-to-Point CRR sources always have priority over low priority Multi-Point CRR sources.~~

In the event that transmission Outages and derates modeled for the monthly CRR Allocation and CRR Auction render previously issued Seasonal CRRs infeasible, the CAISO will increase the transfer capacity on the overloaded facilities just enough to render all Seasonal CRRs issued for the month feasible without creating any additional capacity beyond what is needed for the feasibility of the Seasonal CRRs. The CAISO will announce these adjustments to the market prior to conducting the monthly CRR Allocation and CRR Auction so that Candidate CRR Holders can take these facts into consideration in preparing their nominations and bids.

\* \* \*

### **36.8.2 Load Eligible For CRRs And Eligible CRR Sinks**

Any entity that wishes to participate in the CRR Allocation process must provide information that demonstrates that it has an obligation to serve load. An LSE's eligibility for allocation of CRRs is measured by the quantity of Load that it serves that is exposed to Congestion Charges for the use of the CAISO Controlled Grid as determined in Sections 36.8.2.1 and 36.8.2.2. An OBAALSE's eligibility for allocation of CRRs is also measured by the quantity of load that it serves that is exposed to Congestion Charges for the use of the CAISO Controlled Grid as determined in Section 36.9.3. For LSEs, the information necessary may include, but is not limited to, Settlement Quality Meter Data or relevant documents filed with the California Energy Commission. For OBAALSEs, the necessary information may include, but is not limited to, historical tagged Real-Time Interchange Export Schedules and historical load data reflecting the load they serve that is exposed to Congestion Charges for the use of the CAISO Controlled Grid. In addition, each such OBAALSE shall support its data submission with a written sworn affidavit by an executive authorized to represent the OBAALSE attesting to the accuracy of the data, and the CAISO will have the right to audit the raw data and calculations used to develop the submitted data set. An LSE serving internal Load is eligible for CRRs up to its Seasonal CRR Eligible Quantity or Monthly CRR Eligible Quantity, which is derived from its Seasonal CRR Load Metric or Monthly CRR Load Metric as described in Sections 36.8.2.1 and 36.8.2.2, respectively. Seasonal CRR Eligible Quantities and Monthly CRR Eligible Quantities for Qualified OBAALSEs are determined as provided in Section 36.9.3. These quantities are calculated for each LSE or Qualified OBAALSE separately for each combination of season and time of use period for the annual CRR Allocation process, and for each time

of use period for each monthly CRR Allocation process, and for each CRR Sink at which the eligible LSE serves Load or the Qualified OBAALSE exports Energy from the CAISO Balancing Authority Area. MSS eligibility for CRRs will account for net or gross MSS Settlement in accordance with Section 4.9.13.1. If the MSS Operator elects net Settlement, LSEs for such MSS Load shall submit CRR Sink nominations at the MSS LAP. If the MSS elects for gross Settlement, LSEs for such MSS Load shall submit CRRs Sink nominations at the applicable Default LAP. Load that is Pumped-Storage Hydro Units but is not Participating Load may be scheduled and settled at a PNode or Custom Load Aggregation Point and therefore LSEs for such Load shall submit CRR Sink nominations at the applicable PNode or Custom Load Aggregation Point. Load that is a Participating Load that is also aggregated is scheduled and settled at a Custom Load Aggregation Point that is customized specifically for such Load and, therefore, LSEs for such Participating Load shall submit CRR Sink nominations at the Custom Load Aggregation Point. Load that is Participating Load is scheduled and settled at an individual PNode, and therefore LSEs for such Load shall submit CRR Sink nominations at the applicable PNode. Load that is non-Participating Load, is not Pumped-Storage Hydro Units, and is not Load associated with ETCs, TORs, or MSS Operators that elects net Settlement, is scheduled and settled at the Default LAP. Therefore, LSEs for such Load shall submit CRR Sink nominations at their assigned Default LAP or Default LAPs if the Load they serve is located in more than one Default LAP. In tier 2 and tier 3 of the annual process and tier 1 and tier 2 of the monthly process, such LSEs may also submit CRR Sink nominations at a Sub-LAP of their assigned Default LAP. The CAISO will make available, prior to the beginning of the CRR Allocation process but no later than thirty (30) days before the date on which the Candidate CRR Holders or CRR Holders will be required to submit their nominations for the CRR Allocation, a list of allowable CRR Sinks to be used in the allocation. The allowable CRR Sinks will be consistent with the applicable CRR FNM. In the event that unforeseen changes to network conditions arise after the thirty-day release of the list of allowable CRR Sinks and warrant revisions to that list, the CAISO will provide updates to the list prior to the closing of nominations for the CRR Allocation.

\* \* \*

#### **36.8.3.5.1 Tier 1 – Priority Nomination Process**

Tier 1 of the annual CRR Allocation in years beyond CRR Year One will be a Priority Nomination Process through which CRR Holders may nominate some of the same CRRs that they were allocated in the immediately previous annual CRR Allocation process. As provided in Section 36.8.3.4.2, nominations by a Qualified OBAALSE in the PNP are subject to source verification. In all annual CRR Allocations after CRR Year One, an LSE or a Qualified OBAALSE may make PNP nominations up to the lesser of: (1) two-thirds of its Seasonal CRR Eligible Quantity, minus the quantity of previously allocated Long Term CRRs for each season, time of use period and CRR Sink for that year; or, (2) the total quantity of Seasonal CRRs allocated to that LSE in the previous annual CRR Allocation, minus the quantity of previously allocated Long Term CRRs for each season, time of use period and CRR Sink, and minus any reduction for net loss of Load or plus any increase for net gain of Load through retail Load Migration as described in Section 36.8.5.1. In addition, an LSE's or Qualified OBAALSE's nomination of any particular CRR Source-CRR Sink combination in the PNP may not exceed the MW quantity of CRRs having that CRR Source and CRR Sink that the LSE or Qualified OBAALSE was allocated in the previous annual CRR Allocation, reduced by the MW quantity of those Long-Term CRRs with the same CRR Source and CRR Sink that were awarded in the prior year's Long-Term CRR allocation, for the same season and time of use period, and in the case of an LSE, adjusted for net Load loss or gain resulting from Load Migration as described in Section 36.8.5.2.2. An LSE or a Qualified OBAALSE may ~~not~~ nominate CRRs awarded with a CRR Source ~~sourced at the~~ Trading Hubs in the PNP. CRRs whose CRR Sink is a Sub-LAP are not eligible for nomination in the PNP. A CRR whose CRR Sink is a Custom LAP or PNode is eligible for nomination in the PNP. PNP Eligible Quantities are not affected by secondary transfers of CRRs, except as performed by the CAISO to reflect Load Migration as described in Section 36.8.5. That is, with the exception of transfers to reflect Load Migration: (i) an LSE or a Qualified OBAALSE may nominate in the PNP a CRR it was allocated in the prior annual CRR Allocation even though it transferred that CRR to another party during the year, and (ii) an LSE or a Qualified OBAALSE may not nominate in the PNP a CRR that it received through a secondary transfer from another party. CRRs received through a CRR Auction are not eligible for nomination in the PNP. CRRs received as Offsetting CRRs to reflect Load Migration are not eligible for nomination in the PNP. The maximum quantity of CRRs that an LSE or a Qualified OBAALSE may nominate in the PNP is fifty percent (50%) of its Adjusted Load Metric, minus

any previously allocated Long Term CRRs that are valid for the term of the CRRs being nominated. The CAISO does not guarantee that all CRR nominations in the PNP will be allocated. The CAISO will conduct an SFT to determine whether all CRR nominations in the PNP are simultaneously feasible. If the SFT determines that all priority nominations are not simultaneously feasible, the CAISO will reduce the allocated CRRs until simultaneous feasibility is achieved.

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**36.8.3.5.3 Tier 2-** In tier 2 of the annual CRR Allocation, the CAISO will allocate Seasonal CRRs to each LSE and Qualified OBAALSE up to two-thirds of its Seasonal CRR Eligible Quantity for each season, time of use period and CRR Sink, minus the quantity of: (i) CRRs allocated to that LSE or Qualified OBAALSE in tier 1, and (ii) Long Term CRRs previously allocated to it that are valid for the CRR term currently being allocated. In tier 2 of the annual CRR Allocation, Sub-LAPs will be eligible CRR Sinks provided that the Sub-LAP is within the nominating LSE's Default LAP. An LSE or a Qualified OBAALSE can nominate Seasonal CRRs sourced at Trading Hubs. In running the SFT the CAISO shall disaggregate the Seasonal CRR nominations sourced at Trading Hubs as described in Section 36.8.4.1.

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### **36.8.3.6 Monthly CRR Allocation Beyond CRR Year One**

The monthly CRR Allocation shall consist of a sequence of two (2) tiers of allocations for each time of use period (on-peak and off-peak). The monthly CRR Allocation will distribute Monthly CRRs and will allow an LSE and a Qualified OBAALSE to nominate CRRs up to one hundred percent (100%) of its Monthly CRR Eligible Quantity, minus the total of any Seasonal CRRs allocated in the annual CRR Allocation, and minus any holdings of Long Term CRRs that are valid for the month and time of use of the CRRs being nominated. All CRR nominations by Qualified OBAALSEs must be source verified.

**36.8.3.6.1 Tier 1-** In tier 1 of the monthly CRR Allocations, each LSE or Qualified OBAALSE may nominate Monthly CRRs up to ~~one-hundred~~fifty percent (~~100~~50%) of the difference between its Monthly CRR Eligible Quantity and the total of any Seasonal CRRs allocated in the annual CRR Allocation and any holdings of Long Term CRRs that are valid for the month and time of use of the CRRs being nominated. An LSE or a Qualified OBAALSE can nominate Monthly CRRs where the CRR Source is a

Trading Hub. In tier 1 of the monthly CRR Allocation, Sub-LAPs will be eligible CRR Sinks, provided that the Sub-LAP is within the nominating LSE's Default LAP. In running the SFT the CAISO shall disaggregate the Monthly CRR nominations sourced at Trading Hubs as described in Section 36.8.4.1.

\* \* \*

#### **36.8.4.1 CRRs with Trading Hub Sources**

For purposes of the CRR Allocation processes the CAISO shall disaggregate CRR nominations with Trading Hub CRR Sources into Point-to-Point CRR nominations each of whose CRR Source is a Generating Unit PNode that is an element of the Trading Hub. In performing this disaggregation the MW quantity of each Point-to-Point CRR nomination will equal the MW quantity of the CRR nomination multiplied by the weighting factor of the corresponding Generating Unit PNode in the defined Trading Hub. The disaggregated, individual Point-to-Point CRRs will be used by the CAISO in conducting the SFTs for the nominated CRRs. In CRR years other than CRR Year One, an LSE may nominate in the PNP any Point-to-Point CRRs it was allocated the previous year as a result of Seasonal CRR nominations with Trading Hubs as CRR Sources, and may then nominate those Seasonal CRRs awarded in the PNP as Long Term CRRs in Tier LT. In CRR Year One, an LSE that was allocated individual Point-to-Point CRRs in tiers 1 and 2 as a result of nominating CRRs sourced at a Trading Hub must nominate CRRs sourced at Trading Hubs in Tier LT in accordance with Section 36.8.3.1.3.1. For Qualified OBAALSEs, all nominated CRR Sources must be source verified as specified in Section 36.9.1. Any Long Term CRRs allocated by the CAISO as a result of nominations of CRRs sourced at Trading Hubs will be Point-to-Point CRRs each of whose CRR Sources is a Generating Unit PNode that is an element of the Trading Hub. After Trading Hub CRRs are allocated in each annual and monthly CRR Allocation process, the CAISO shall combine the allocated CRRs into a Trading Hub CRR and issue counterflow CRRs to the holders of Trading Hub CRRs as necessary to maintain simultaneous feasibility. CRR Holders of such combined Trading Hub CRRs will be eligible to renew these Trading Hub CRRs in the Priority Nomination Process of the subsequent seasonal CRR Allocation process as described in this Section 36.8.4.1 and Section 36.8.3.5.1.

\* \* \*

#### **36.8.5.1 Tracking of Load Migration by CAISO**

The CAISO will implement all appropriate adjustments due to Load Migration on a monthly basis. In order to enable the CAISO to track Load Migration and determine the appropriate adjustments, each UDC, MSS Operator, and other entity that provides distribution service to customers will provide to the CAISO the number of end-use customers that migrated in each of the customer classes in their service area. The end-use customer following minimum information provided to the CAISO by such parties shall be calculated based on the following details on each customer that migrates between LSEs: (i) customer identification information, (ii) information to establish the customer's retail customer class, (iii) the original and new LSEs serving the customer, (iv) the effective date of the Load Migration, and (v) the most recent twelve (12) months of billing data for the customer. Each UDC, MSS Operator and other entity that provides distribution service to customers will retain the details of the underlying calculations unless as requested by the CAISO pursuant to the dispute resolution process discussed in Section 36.8.5.7. The migration information provided to the CAISO by the parties shall consist of~~also provide to the CAISO the~~ number of customers served by each LSE in each retail customer class as of the start of each month, multiplied by~~plus information on~~ the average consumption by customers in each retail customer class. Further details regarding the methodology used by the UDCs, MSSs, and other entities that provide distribution service to customers, to calculate this migration information to be supplied to the CAISO is set forth in the applicable Business Practice Manual. The CAISO will receive information from each UDC, MSS Operator, and other entity providing distribution service on an ongoing daily basis, and will perform the calculations for any appropriate adjustments due to Load Migration on a monthly basis. New CRRs allocated due to Load Migration in accordance with Section 36.8.5.3 will be made effective on the first day of the first month, following the CAISO's performance of the calculations, in which the Load Migration is effective by the first of the month.

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#### **36.8.5.7 Dispute Resolution Mechanism Regarding Load Migration Data Transfers**

The CAISO shall provide the Load migration information referred to in Section 36.8.5.1 to the affected load-gaining or load-losing LSE. The data received by each affected LSE will be limited to the count of customers for which it is the load-gaining LSE, and the count of customers for which it is the load-losing LSE. The affected LSEs shall contact the CAISO and the UDC, MSS or other entities that provide

distribution service to customers that calculate this migration information, of any dispute regarding the load migration data provided to the CAISO no later than four calendar days after the affected LSE has received the load migration data. In the event that the affected LSE and UDC, MSS or other entity that provide distribution service to customers, are unable to resolve the LSE's disagreement, the LSE and UDC, MSS, or other entity that provides distribution service to customers, will submit the dispute to the CAISO. During the consultations with the CAISO concerning the dispute, the CAISO may request the data specified in Section 36.8.5.1, on which the load migration data is based and may request explanations of the disputed data from the disputing parties. In the event that the CAISO needs to receive and review the relevant data, the CAISO will purge the data after the resolution of the dispute. In the event that the affected parties cannot agree to a resolution of the dispute prior to the expiration of the fourth calendar day after the data was provided to the load-gaining or load-losing LSE by the CAISO, the CAISO will decide either to: (1) recalculate, to the extent feasible, the aggregated count of transferring customers and proceed with the subsequent steps based on that calculated amount; or (2) proceed with the amounts provided by the UDC, MSS or other entity that provides distribution service to customers. Nothing in this section should be construed to restrict the affected parties from seeking the dispute resolution mechanism available under Section 13; provided however, that in the interim the CAISO may proceed with the CRR processes defined in the CAISO Tariff based on the load migration amounts provided by the UDC, MSS or other entity that provides distribution service to customers. If the CAISO later determines that the resolution of the dispute requires a modification of the load-gaining or load-losing LSE's rights, the CAISO will make the appropriate adjustments in any of the upcoming CRR Allocations, but will not make any retroactive adjustments to the load-gaining or load-losing LSE's rights.

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#### **36.13.4 Bids In The CRR Auctions**

Bids to purchase CRRs shall be submitted in accordance with the requirements set out in this Section 36.13.4 and as further specified in the applicable Business Practice Manuals. Once submitted to the CAISO, CRR bids may not be cancelled or rescinded by the Market Participant after the CRR Auction is closed. Market Participants may bid for Point-to-Point CRRs, ~~and Multi-Point CRRs~~. Each bid for a Point-to-Point CRR shall specify:

- (a)- The associated month or season and time of use period;
- (b)- The associated CRR Source and CRR Sink;
- (c)- A monotonically non-increasing piecewise linear bid curve in quantities (denominated in thousandths of a MW) and prices (\$/MW).

Each bid for a Multi-Point CRR shall specify:

- ~~(d) — The associated month or season and time of use period;~~
- ~~(e) — The associated CRR Sources and CRR Sinks;~~
- ~~(f) — For each CRR Source, a monotonically non-decreasing piecewise linear bid curve in quantities (denominated in thousandths of a MW) and prices (\$/MW);~~
- ~~(g) — For each CRR Sink, a monotonically non-increasing piecewise linear bid curve in quantities (denominated in thousandths of a MW) and prices (\$/MW).~~

Bid prices in all CRR bids may be negative.

\* \* \*

### **36.13.6 Clearing Of The CRR Auction**

The SFT used to clear the CRR Auction will utilize the same DC FNM and optimization algorithm as the corresponding CRR Allocation, except that nominations to the CRR Auction will have associated price-quantity bid curves. The CRR Auction SFT will use the bid prices in determining which CRRs to award when not all nominations are simultaneously feasible, will select the set of simultaneously feasible CRRs with the highest total auction value as determined by the CRR bids, and will calculate nodal prices at each PNode of the DC FNM. In the event that there are two or more identical bids for a specific combination of CRR Source and CRR Sink that affect an overloaded constraint, the CRR Auction optimization cannot distinguish these bids based on either effectiveness or price and therefore the CRR Auction optimization will award each CRR bidder a pro rata share of the CRRs that can be awarded based on the bid MW amounts. Based on the nodal prices calculated by the CRR Auction SFT, the CRR Market Clearing Price per MW for a specific CRR will equal the nodal price at the CRR Sink minus the nodal price at the CRR Source. ~~For a Multi-Point CRR the CRR Market Clearing Price will equal the sum over all relevant CRR Sinks of the nodal price at each CRR Sink times that CRR Sink's share of the total~~

~~MW of the CRR, minus the sum over all relevant CRR Sources of the nodal price at each CRR Source times that CRR Source's share of the total MW of the CRR Market Participants shall pay the associated CRR Market Clearing Prices for all CRRs bought through the CRR Auction.~~

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## Appendix A

### Master Definition Supplement

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#### **- Multi-Point CRR**

The CAISO does not support Multi-Point CRRs. A CRR Obligation specified according to one or more CRR Sources and one or more CRR Sinks and a flow from the CRR Source(s) to the CRR Sink(s), provided that at least the CRR Sink or the CRR Source identifies more than one point.

\* \* \*

#### **- Priority Nomination Process (PNP)**

-The step in an annual CRR Allocation in years beyond CRR Year One through which CRR Holders re-nominate (1) Seasonal CRRs they were allocated in the prior year (less any Long Term CRRs awarded in the Allocation of the immediately preceding year), (2) Long Term CRRs that are expiring, and (3) Existing Transmission Contracts and Converted Rights that are expiring.

\* \* \*