



May 30, 2008

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. ER08-\_\_\_\_-000  
Amendment to the Current ISO Tariff and to the MRTU Tariff to  
Enhance Congestion Revenue Rights-Related Provisions**

**California Independent System Operator Corporation  
Docket Nos. ER06-615-\_\_\_\_ and ER07-1257-\_\_\_\_  
Compliance Filing**

**California Independent System Operator Corporation  
Docket No. ER08-519-\_\_\_\_\_  
Compliance Filing**

Dear Secretary Bose:

Pursuant to Section 205 of the Federal Power Act ("FPA"),<sup>1</sup> and Section 35.13 of the regulations of the Federal Energy Regulatory Commission ("Commission"),<sup>2</sup> the California Independent System Operator Corporation ("CAISO") respectfully submits for filing an original and five copies of an amendment ("Amendment") to both the current ISO Tariff ("ISO Tariff") and the CAISO's Market Redesign and Technology Upgrade ("MRTU") Tariff to enhance provisions under those tariffs relating to Congestion Revenue Rights ("CRRs").<sup>3</sup> Specifically, the tariff revisions in the instant filing address: (1) modifications to the annual CRR release program in light of the current MRTU implementation

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<sup>1</sup> 16 U.S.C. § 824d.

<sup>2</sup> 18 C.F.R. § 35.13.

<sup>3</sup> Capitalized terms not otherwise defined herein have the meanings set forth in the Master Definitions Supplement, Appendix A to the ISO Tariff, in Part G (Definitions) of Appendix BB to the ISO Tariff, in the Master Definitions Supplement, Appendix A to the MRTU Tariff, and in the instant filing.

schedule; (2) enhancements to the CRR release process; and (3) modifications to strengthen the CAISO's CRR credit policy. In addition, CAISO submits its filing in compliance with Paragraphs 68 and 69 of the Commission's "Order on Technical Conference and Compliance," 122 FERC ¶ 61,271, issued in Docket Nos. ER06-615 and ER07-1257 on March 24, 2008 ("March 24 Order"). The CAISO respectfully requests that the Commission approve all of the changes in the Amendment to the current effective ISO Tariff to be effective sixty days after submittal of the instant filing, *i.e.*, on July 30, 2008. Further, the CAISO submits its filing in compliance with Paragraph 39 of the Commission's "Order on Tariff Filings," 122 FERC ¶ 61,296, issued in Docket No. ER08-519 on March 31, 2008 ("March 31 Order"). The CAISO requests that the Commission approve all of the changes in the Amendment to the MRTU Tariff to be effective upon implementation of MRTU.

Two extra copies of this filing are also enclosed. Please stamp these copies with the date and time filed and return them to the messenger.

## **I. BACKGROUND**

### **A. Treatment of CRRs Under the Current ISO Tariff and the MRTU Tariff**

Over the last several years, the CAISO has developed through an extensive stakeholder process a structure under MRTU for creating and releasing CRRs,<sup>4</sup> which will replace the Firm Transmission Rights ("FTRs") that are used under the CAISO's current market design. Appendix BB to the ISO Tariff includes currently effective language that enables the CAISO to release CRRs, both through the CRR Allocation and the CRR Auction processes, in preparation for operations under MRTU. Corresponding provisions are set forth in Section 36 of the MRTU Tariff, which will go into effect when MRTU is implemented as discussed below. Market Participants that obtain CRRs may hold them or may, subject to the relevant tariff provisions, transfer them to other

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<sup>4</sup> A CRR is defined as a CRR Obligation or a CRR Option. ISO Tariff, Appendix BB, Part H, § 36.2; MRTU Tariff, § 36.2. A CRR Obligation "entitles its holder to receive a CRR Payment if the Congestion in a given Trading Hour is in the same direction as the CRR Obligation, and requires the CRR Holder to pay a CRR Obligation charge if the Congestion in a given Trading Hour is in the opposite direction of the CRR." ISO Tariff, Appendix BB, Part H, § 36.2.1; MRTU Tariff, § 36.2.1. A CRR Option "entitles its CRR Holder to a CRR Payment if the Congestion is in the same direction as the CRR Option, but requires no CRR Obligation charge if the Congestion is in the opposite direction of the CRR." ISO Tariff, Appendix BB, Part H, § 36.2.2; MRTU Tariff, § 36.2.2. CRR Obligations can either be positively valued, in which case they are expected to yield a stream of Congestion revenue to the CRR Holder, or negatively valued, in which case they are expected to result in a stream of Congestion charges to the CRR Holder. CRRs can have different lengths of term and are differentiated by time of use (*i.e.*, on-peak and off-peak). ISO Tariff, Appendix BB, Part H, §§ 36.2.5-36.2.7; MRTU Tariff, §§ 36.2.5-36.2.7.

Market Participants.<sup>5</sup> Market Participants are also subject to creditworthiness requirements concerning CRRs that are contained in Section 12 of the current ISO Tariff and will be subject to similar creditworthiness requirements contained in Section 12 of the MRTU Tariff once MRTU is implemented.

On December 3, 2007, the CAISO completed its first annual CRR Allocation and on December 19, 2007, the CAISO completed its first annual CRR Auction, releasing the CRRs planned to be in effect in conjunction with the then-anticipated "go live" date for MRTU of April 1, 2008.<sup>6</sup> On January 4, 2008, the CAISO settled the outcome of the first annual CRR Auction.

As previously reported in the CAISO's MRTU status reports filed in Docket No. ER06-615, to date, the CAISO was required to delay the start of the Integrated Market Simulation – Update 2 ("IMS-U2") due to system stability issues, and the delay of IMS-U2 affected the previously proposed go-live date of April 1, 2008. The CAISO is on track for a fall 2008 implementation of MRTU, but will not announce a new date until Market Participants have an opportunity to participate in scenario testing and provide feedback to CAISO management. The target date for discussion of a new MRTU go-live date is the July 9-10, 2008 CAISO Governing Board meeting.

On January 31, 2008, in Docket No. ER08-519, the CAISO filed a proposed amendment to the current ISO Tariff to provide for the treatment of CRRs and FTRs in light of the delayed implementation of the MRTU Tariff. The contingency plan discussed in the tariff amendment to address this delay in MRTU implementation ("CRR Contingency Plan") addressed the need to: (1) reduce the term of any CRRs already released through the first annual CRR Allocation and CRR Auction processes; (2) resettle those CRRs released through the CRR Auction held in December 2007; and (3) make available FTRs as of April 1, 2008. In the March 31 Order, the Commission accepted for filing the proposed tariff revisions effective April 1, 2008, subject to compliance filing requirements. On May 31, 2008, the CAISO submitted a filing to comply with the Commission's directives as specified in Paragraphs 29, 42, 45 and 51 of the March 31 Order. The CAISO submitted its compliance filing sooner than 30 days after issuance of the March 31 Order in preparation for its issuance of an invoice settling the outcome of the CRR resettlement on April 23, 2008. The CAISO specified that the second required compliance filing to comply with the requirements of Paragraph 39 of the March 31 Order would be submitted at a

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<sup>5</sup> See ISO Tariff, Appendix BB, Part H, § 36.1; MRTU Tariff, § 36.1.

<sup>6</sup> Specifically, it was anticipated that MRTU would go into effect on March 31, 2008 and that the first Trading Day under MRTU would be April 1, 2008. For ease of reference, the then-anticipated go-live date for MRTU is described as April 1, 2008 in this Amendment.

later date to enable the CAISO to complete its stakeholder process then underway to address the issue raised by Paragraph 39.

### **B. The 30-Day Rule for Scheduling of Outages**

Under the MRTU Tariff, certain types of Outages are subject to the "30-day rule," which requires Participating Transmission Owners to submit for approval all planned Outages that may have a significant effect upon CRR revenue adequacy thirty days in advance of the first day of the month in which the Outage is proposed to be performed.<sup>7</sup> In proposing the 30-day rule the CAISO stated that the criteria for determining which outages may have a significant effect on CRR revenue adequacy would be developed with stakeholders and incorporated into a Business Practice Manual ("BPM").<sup>8</sup> Subsequently, the CAISO developed the criteria for determining which outages may have a significant effect on CRR revenue adequacy with its stakeholders and incorporated the criteria in its BPMs for Outages and for CRRs. The Western Power Trading Forum ("WPTF") then submitted comments as part of the BPM technical conference process arguing that the policies found in Section 10.3.1 of the BPM for CRRs, which provide for the granting of exemptions from the 30-day rule, should be included in the MRTU Tariff.<sup>9</sup> In the March 24 Order, the Commission granted WPTF's request that the CAISO include in the MRTU Tariff the 30-day rule exemption policies found in Section 10.3.1 of the BPM for CRRs.<sup>10</sup> The proposed tariff changes to implement the Commission's direction on this issue are discussed, *infra*, at Section II.C of this transmittal letter.

### **C. Stakeholder Process Concerning the Amendment**

On March 25, 2008, the CAISO posted on its Website an issue paper concerning the CRR release process and the other non-credit related issues, and another issue paper concerning CRR credit policy enhancements. The CAISO held an initial stakeholder meeting on April 1, 2008, concerning the subjects addressed in each of these issue papers, and requested written stakeholder comments by April 8, 2008. On April 14, 2008, after considering stakeholder input, the CAISO posted on its Website straw proposals for policy changes regarding CRRs. On April 21, 2008, the CAISO held a conference call with

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<sup>7</sup> See MRTU Tariff, § 9.3.6.3.2.

<sup>8</sup> See *California Independent System Operator Corp.*, 116 FERC ¶ 61,274, at P 1333 (2006) ("September 21 Order").

<sup>9</sup> See March 24 Order at PP 61-63.

<sup>10</sup> *Id.* at PP 68-69.

stakeholders regarding the straw proposals and requested written stakeholder comments by April 28, 2008.

On May 5, 2008, after considering stakeholder input, the CAISO posted on its Website a draft final proposal for CRR policy changes ("Draft Final Proposal"), and on May 12, 2008 the CAISO held a stakeholder conference call to discuss the Draft Final Proposal. On May 13, 2008, the CAISO posted on its Website a draft of the tariff language to be included in this Amendment.

On May 16, 2008, the CAISO posted on its Website the final proposal for CRR policy changes concerning each of the enhancements described in this filing ("Final Proposal"). A copy of the Final Proposal is provided in Attachment E to this filing. On May 19, 2008, the CAISO posted on its Website revised tariff language (incorporating changes only to a few tariff sections) to be included in the Amendment, and requested written stakeholder comments on the revised tariff language by May 20, 2008. On May 21, 2008, the CAISO made a presentation regarding the CRR enhancements described herein to the CAISO Governing Board. The materials presented to the CAISO Governing Board are provided as Attachment F to this filing. The CAISO Governing Board approved the submission of this Amendment on May 21, 2008.<sup>11</sup> On May 23, 2008, the CAISO held a stakeholder conference call to discuss the Final Proposal and to respond to stakeholder comments and questions concerning the revised tariff language the CAISO had posted.

## **II. PROPOSED CHANGES TO THE CURRENT ISO TARIFF AND TO THE MRTU TARIFF**

### **A. Modifications to the CRR Release Process to Address the Current MRTU Implementation Schedule**

The CAISO is proposing certain modifications to the CRR release process to address the current MRTU implementation schedule which targets the fall of 2008 for the start of MRTU.<sup>12</sup>

When the CAISO conducted the first annual CRR release process for 2008, it was assumed that MRTU would start on April 1, 2008. Therefore, the

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<sup>11</sup> The materials the CAISO posted on its Website as described above and other background materials are available on the CAISO Website at <http://www.caiso.com/1b8c/1b8cdf25138a0.html>.

<sup>12</sup> As previously noted, the CAISO will not announce a new date for the start of MRTU until Market Participants have an opportunity to participate in scenario testing and provide feedback to CAISO management. The target date for discussion regarding a new MRTU go-live date is the July 9-10, 2008 CAISO Governing Board meeting.

CAISO released CRRs for Season 2 (April 1 to June 30), Season 3 (July 1 to September 30), and Season 4 (October 1 to December 31) of 2008. The CAISO also indicated to Market Participants that in the second annual CRR Allocation process for 2009, Season 1 (January 1, 2009 to March 31, 2009) would be treated as a "Year One" season and would be subject to source verification.

Consistent with these actions, the CAISO is proposing revised tariff language to define: (i) CRR Year One as the second, third, and fourth quarters of calendar year 2008 and the first quarter of calendar year 2009; and (ii) CRR Year Two as the second, third, and fourth quarters of calendar year 2009 and the first quarter of calendar year 2010.<sup>13</sup> In addition, as explained further below, the CAISO is redefining CRR Year Three and CRR Year Four in an analogous fashion, necessitated by the staggered Long Term CRR release quantities.

The CAISO is also proposing tariff language to address two additional issues related to: (i) the changes in the MRTU implementation schedule, and (ii) treating the first season of calendar year 2009 as a "CRR Year One" season subject to source verification. The first issue is how to treat the Seasonal CRRs that were released for the Seasons 2 and 3 of 2008 (*i.e.*, April 1, 2008 to June 30, 2008, and July 1, 2008 to September 30, 2008, respectively) as they relate to the release process for Seasons 2 and 3 of 2009. The second issue is what historical reference period should be used for the source verification for Season 1 of 2009. Each of these issues, and the proposed tariff revisions addressing the issues, are discussed in more detail below.

**1. The Historic Reference Period Used for CRR Source Verification for the Last Quarter of CRR Year One (*i.e.*, the First Quarter of 2009)**

As noted above, the CAISO is proposing to redefine CRR Year One as the second, third, and fourth quarters of calendar year 2008 and the first quarter of calendar year 2009. For CRR Allocation purposes in CRR Year One, the historic reference period for the verification of sources during Seasons 2, 3, and 4 of 2008 is calendar year 2006. This period was utilized by the CAISO in conducting the first annual CRR release process during 2007. For CRR Allocation purposes in the last quarter of CRR Year One (*i.e.*, the first quarter or Season 1 of 2009), the CAISO is proposing to use the first quarter of 2007 (January 1, 2007 to March 31, 2007) as the historic reference period for source verification.<sup>14</sup>

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<sup>13</sup> See Attachment A hereto at Appendix BB, Part G, definitions of CRR Year One and of CRR Year Two; Attachment C hereto at Attachment A, definitions of CRR Year One and of CRR Year Two.

<sup>14</sup> See Attachment A hereto at Appendix BB, Part H, § 36.8.3.4.1; Attachment C hereto at § 36.8.3.4.1.

In proposing the first quarter of 2007 as the historic reference period for the source-verified allocation of CRRs in the first quarter of 2009 (*i.e.*, in the last quarter of CRR Year One), the CAISO is using the most recent first-quarter historical period that will support a long-standing objective of the source verification process, namely to ensure that eligible parties would not have had an opportunity to engage in strategic energy contracting behavior to alter their CRR allocation eligibility. In that regard, certain stakeholders suggested using the first quarter of 2006. The CAISO recognizes that choosing any period other than calendar year 2006 will require all entities eligible for CRR allocation to submit additional source verification information. However, the CAISO believes that this additional effort is outweighed by the benefits of using the more recent 2007 source verification information.<sup>15</sup> Specifically, the more recent historical year enables parties to more closely match their CRR holdings with their current ownership and contractual rights to energy sources. Following the same logic, some parties advocated using an even more recent period, *i.e.*, first quarter of 2008, as the historical reference period for nominating CRRs for Season 1 of 2009. In rejecting that proposal, the CAISO notes that its choice of the first quarter of 2007 as the historic reference period still adheres to the principle that source verification should be based on supply decisions made in the past, *i.e.*, in a period when the supply decisions could not have been influenced by the knowledge that the period in question was going to be used as a source verification period in the CRR Allocation process.<sup>16</sup> Because the CAISO did not release CRRs for Season 1 of 2008 during the 2007 release process, parties knew at that time that Season 1 of 2009 would be treated as a source-verified season, and could have engaged in strategic contracting on the possibility of Quarter 1 of 2008 being adopted as the relevant historical reference period.<sup>17</sup>

In view of the considerations described above, the CAISO believes it is optimal to use the first quarter of 2007 as the historic reference period for CRR source verification purposes for the last season of CRR Year One (*i.e.*, the first quarter of 2009).

**2. Seasons 2 and 3 of 2009 Will be Treated as “CRR Year Two Seasons” and the CRRs Released in Seasons 2 and 3 of 2008 Will be Eligible for Renewal in the Priority Nomination Process**

Because of: (i) the delay in the start of MRTU from April 1, 2008 to a currently targeted date in the fall of 2008, and (ii) the fact that the previously

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<sup>15</sup> See Attachment E hereto, Final Proposal at 8.

<sup>16</sup> See *id.*

<sup>17</sup> *Id.*

released Seasonal CRRs for Season 2 (April 1 to June 30) and Season 3 (July 1 to September 30) of 2008 will not be in effect during MRTU market operations, the issue arises whether to treat Seasons 2 and 3 of 2009 under the CRR Year One rules or the CRR Year Two rules.<sup>18</sup> Specifically, the issue the CAISO faced was whether to: (i) treat Seasons 2 and 3 of 2009 as “CRR Year Two” seasons and allow the awarded CRRs for 2008 to be nominated for renewal in the Priority Nomination Process (“PNP”), or (ii) treat these seasons as “Year One” seasons and require source verification for these periods.<sup>19</sup> The CAISO decided to adopt the first option. Accordingly, the CAISO is proposing to treat Seasons 2 and 3 of 2009 as “CRR Year Two” seasons and allow the CRRs for 2008 to be nominated for renewal in the PNP.<sup>20</sup> An additional consequence of this decision is that Seasons 2 and 3 of 2009 would also be treated under the CRR Year Two rules with regard to the quantities of Long Term CRRs eligible Load Serving Entities (“LSEs”) may nominate.<sup>21</sup> This matter is discussed in more detail later in this filing.

The majority of the stakeholders submitting comments supported the CAISO’s proposal. Nonetheless, the CAISO briefly will discuss two other approaches suggested by certain stakeholders that the CAISO did not adopt. The first suggestion was to start anew with source verification for quarters 2 and 3 of 2009. The CAISO did not adopt this suggestion because it would have a negative effect on previously released Long Term CRRs and thereby undermine the long-term certainty many parties were seeking to obtain through the 2007 release of Long Term CRRs. In that regard, in nominating Long Term CRRs in Tier LT, LSEs are limited to their allocated one-year Seasonal CRRs from the source-verified tiers (tiers 1 and 2). Therefore, if the CAISO were to start over with source verification for quarters 2 and 3 of 2009, the CAISO would not only have to obtain new source verification data from all eligible LSEs for purposes of the 2009 Seasonal CRRs, but it also would have to declare the previous round of source verification for 2008 to be null and void. In turn, this would require the CAISO to nullify the allocated Long Term CRRs as well as the one-year

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<sup>18</sup> For the Seasonal CRRs released in Season 4 of the 2008 (October 1, 2008 to December 31, 2008), as long as MRTU goes live during this season, the CRRs will be in effect and will be used to manage congestion costs when the MRTU market is in operation.

<sup>19</sup> See Attachment E hereto, Final Proposal at 9.

<sup>20</sup> See Attachment A hereto at Appendix BB, Part H, § 36.8.3.5.1; Attachment C hereto at § 36.8.3.5.1. The provisions of Section 36.8.3.5 govern the annual CRR Allocation beyond CRR Year One.

<sup>21</sup> See ISO Tariff, Appendix BB, Part H, § 36.8.3.1.3.1; MRTU Tariff, § 36.8.3.1.3.1 (both concerning Tier LT).

Seasonal CRRs for quarters 2 and 3 of 2008. Due to these undesirable consequences, the CAISO did not adopt this suggestion.<sup>22</sup>

A second suggestion proffered by some stakeholders was simply to carry over all of the CRRs allocated in quarters 2 and 3 of 2008 into quarters 2 and 3 of 2009 without conducting a new allocation process. The CAISO did not adopt this approach because it would not be consistent with either the PNP process or the source verification process already embodied in the CRR tariff provisions, and would be at odds with the expectations of Market Participants. The suggestion is inconsistent with the PNP process because the ability of eligible parties to exercise choice in the annual renewal of one-year Seasonal CRRs is a key principle in the design of the CRR Allocation process. To carry over all of the CRRs allocated in quarters 2 and 3 of 2008 to 2009 without conducting a new allocation process would eliminate the flexibility Market Participants have to choose which Seasonal CRRs they nominate for renewal.<sup>23</sup> In addition, the suggestion is inconsistent with expectations of Market Participants as reflected in the comments of several Market Participants that support the CAISO's decision. These commenters note that treating Seasons 2 and 3 of 2009 as "CRR Year Two" seasons and allowing the CRRs for 2008 to be nominated for renewal in the PNP is consistent with their expectations at the time they made their nominations in the first annual CRR Allocation process. Carrying over all of the CRRs allocated in quarters 2 and 3 of 2008 to 2009 would therefore be at great variance with Market Participants' expectations.

For the aforementioned reasons, the CAISO believes its proposal to treat Seasons 2 and 3 of 2009 as "CRR Year Two" seasons and to allow the CRRs for 2008 to be nominated for renewal in the PNP is the best option. The CAISO respectfully requests that the Commission accept the proposed tariff changes discussed above to effectuate this option and also submits that the above explanation satisfies the compliance requirements in Paragraph 39 of the March 31 Order.

### **3. Issues Involving the Impact of MRTU Delay on Long Term CRRs**

The delay in implementation of MRTU also impacts the treatment of Long Term CRRs nominated and awarded for Seasons 2 and 3 in CRR Year One from Seasonal CRRs awarded in tiers 1 and 2. Since the previously assumed April 1, 2008 go-live date for MRTU has been delayed at least until October 1, 2008, the awarded Long Term CRRs are based on Seasonal CRRs that have not been in

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<sup>22</sup> See Attachment E hereto, Final Proposal at 9.

<sup>23</sup> See *id.*, Final Proposal at 10.

effect during MRTU market operations. There are two aspects of this situation to consider.

First, while the term of these Long Term CRRs is ten years, consistent with the MRTU Tariff definition, under the design of the Long Term CRR release process they are actually constructed by combining a one-year Seasonal CRR with a nine-year term extension awarded through Tier LT. Thus, although the delay in MRTU implementation does not affect the nine-year extension, it does render moot the initial one-year Seasonal CRR, and as a result the period in which these Long Term CRRs will be in effect is nine years rather than ten years. The CAISO is not proposing any new tariff provisions to address this issue and notes that Long Term CRRs with a ten-year term will be available in the CRR Year Two process.<sup>24</sup>

Second, because the first quarter of calendar year 2009 will be in CRR Year One and the last three quarters will be in CRR Year Two, the staggered increases in the amount of Seasonal CRRs that an LSE is allowed to nominate as Long Term CRRs will be different for different quarters of 2009. For the first quarter of 2009, an LSE may nominate Long Term CRRs from any of the Seasonal CRRs it was allocated in the PNP up to a maximum of twenty (20) percent of the LSE's Adjusted Load Metric.<sup>25</sup> For the second, third, and fourth quarters of 2009, an LSE may nominate Long Term CRRs from any of the Seasonal CRRs it was allocated in the PNP up to a maximum of thirty (30) percent of the LSE's Adjusted Load Metric.<sup>26</sup> The CAISO does not see any problem applying the previously approved tariff provisions for CRR Year One and CRR Year Two to the respective quarters of calendar year 2009. In fact, this approach is fully consistent with treating Seasons 2 and 3 of 2009 as CRR Year Two seasons as discussed in Section II.A.2 above. However, additional changes to the tariff are required to the definitions of CRR Year Three and CRR Year Four to accommodate the staggered increase in the maximum amount of Seasonal CRRs obtained through the prior tiers that can be nominated as Long Term CRRs.

As provided in the current ISO Tariff and the MRTU Tariff, in years subsequent to CRR Year One, the percentage of the LSEs Adjusted Load Metric that can be nominated as Long Term CRRs increases from 20 to 30 percent in CRR Year Two. In CRR Year Three, the limit increases by ten percent (10%) to

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<sup>24</sup> *Id.*

<sup>25</sup> See ISO Tariff, Appendix BB, Part H, § 36.8.3.1.3.1; MRTU Tariff, § 36.8.3.1.3.1 (both concerning Tier LT).

<sup>26</sup> See ISO tariff, Appendix BB, Part H, § 36.8.3.5.2.1; MRTU Tariff, § 36.8.3.5.2.1 (both concerning Tier LT).

forty percent (40%) and in CRR Year Four and all subsequent years it increase to fifty percent (50%) of its Adjusted Load Metric.<sup>27</sup> Therefore, the CAISO proposes changes to the definitions of CRR Year Three and CRR Year Four so that appropriate limits are applied for the quarters in each of those CRR years.<sup>28</sup>

#### **4. Issue Involving the CRR Release Process That Does Not Require Tariff Changes**

There is one issue that arises out of the delay in the implementation of MRTU and impacts the application of the CRR rules but does not require any additional changes to the tariff and deserves discussion herein. In the event that MRTU is implemented in the last quarter of 2008, the previously released 2008 Season 4 source-verified CRRs will be in effect for all or part of their three-month duration. If this turns out to be the case, the CAISO confirms that the PNP process for Season 4 of 2009 will be available to allow the Seasonal CRRs awarded in CRR Year One to be nominated for renewal.<sup>29</sup> This does not require any further tariff changes and will be accomplished under the current rules.

#### **B. Enhancements to the CRR Rules**

##### **1. Changes to Increase Megawatt Granularity of CRR Tracking**

The CAISO is proposing to change the megawatt granularity for CRR release and tracking from one tenth of a megawatt (0.1 MW) to one thousandth of a megawatt (0.001 MW).<sup>30</sup> In its February 9, 2006 filing in the MRTU proceeding, the CAISO proposed that CRRs would be distributed and settled in no less than 0.1 MW denominations.<sup>31</sup> Although the CRR software systems were developed and configured to reflect this decision, it is important to note that the 0.1 MW threshold does not affect the CRR optimization algorithm, which carries sufficient decimal places to ensure accuracy in performing its calculations down to a thousandth of a MW. Nonetheless, the existing 0.1 MW threshold means

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<sup>27</sup> See ISO Tariff, Appendix BB, Part H, § 36.8.3.5.2.1; MRTU Tariff, § 36.8.3.5.2.1.

<sup>28</sup> See Attachment A hereto at Appendix BB, Part G, definitions of CRR Year Three and of CRR Year Four; Attachment C hereto at Attachment A, definitions of CRR Year Three and of CRR Year Four.

<sup>29</sup> See Attachment E hereto, Final Proposal at 10.

<sup>30</sup> See Attachment A hereto at Appendix BB, Part H, §§ 36.3.1, 36.7.1.1, 36.13.4; Attachment C hereto at §§ 36.3.1, 36.7.1.1, 36.13.4.

<sup>31</sup> See CAISO Electric Tariff Filing to Reflect MRTU, Docket No. ER06-615-000 (Feb. 9, 2006), at Attachment A, § 36.3.1 ("February 9 MRTU Tariff Filing"). The Commission accepted this proposal for filing. See September 21 Order at Ordering Paragraph (A).

that for purposes of awarding CRRs to CRR Holders and tracking their CRR holdings: (i) CRR quantities less than 0.05 MW that result from the optimization will be rounded to zero, and (ii) CRR quantities less than 0.1 MW but not less than 0.05 MW will be rounded to 0.1 MW.

Subsequent to the February 9 MRTU Tariff Filing, the CAISO and stakeholders discussed further details related to: (1) CRR transfers for Load Migration, and (2) the disaggregation of CRR nominations sourced at Trading Hubs. In these discussions, the CAISO recognized that the Load Migration process and the disaggregation of CRRs nominated at Trading Hubs could result in significant quantities of small-denomination CRRs being rounded to zero, and that the problem would be more severe the smaller the initial MW denomination. The CAISO determined that it could reduce the CRR granularity threshold in time for the summer 2008 CRR process; the only open question was the specific value to use for the CRR granularity threshold.

As noted above, the CAISO proposes to set the new level of granularity at 0.001 MW (*i.e.*, 1 kW). Based on the CAISO's assessment, adopting this level of granularity does not present implementation issues for the CAISO.<sup>32</sup> The CAISO believes this level of granularity will be sufficient to minimize the impact of rounding small CRR denominations down to zero, thereby benefiting smaller LSEs who are more likely to be managing smaller CRR quantities.<sup>33</sup>

## **2. Changes Concerning Monthly CRR Eligibility for LSEs Serving Loads Without Verifiable Load Forecasts**

The CAISO is proposing new tariff provisions to determine eligibility for Monthly CRRs for loads that are otherwise eligible, but which do not have verifiable load forecasts.<sup>34</sup> The existing MRTU Tariff provisions require LSEs that are eligible for an allocation of Monthly CRRs to provide monthly load forecast data to the CAISO as the basis of determining the maximum quantity of CRRs each such LSE may be allocated.<sup>35</sup> The existing MRTU Tariff further provides

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<sup>32</sup> The CRR software vendor is making the threshold value configurable, so that the value selected for the summer 2008 CRR process could even be modified again at a later time if necessary.

<sup>33</sup> For more analysis supporting the CAISO's choice of 0.001 MW denominations, see Attachment E hereto, Final Proposal at 11-13.

<sup>34</sup> See Attachment A hereto at Appendix BB, Part H, § 36.8.2.2.2; Attachment C hereto at § 36.8.2.2.2. The CAISO also proposes minor tariff changes to distinguish the tariff language that applies to loads that do have verifiable load forecasts from the tariff language that applies to loads that do not have verifiable load forecasts. See Attachment A hereto at Appendix BB, Part H, § 36.8.2.2.1; Attachment C hereto at § 36.8.2.2.1.

<sup>35</sup> See MRTU Tariff, §§ 36.8.2.2, 36.8.6.

that the CAISO will use load forecast data which LSEs have provided to the California Energy Commission ("CEC") for Resource Adequacy purposes as a basis to validate and if necessary adjust their CRR eligibility for consistency.<sup>36</sup>

However, the CAISO has identified situations where certain load served by an LSE may be eligible for a Monthly CRR allocation but is not included in the load forecast the LSE provides to the CEC for Resource Adequacy purposes, thus preventing the CAISO from performing the validation required by the tariff provisions noted above. Therefore, the CAISO proposes provisions in new Section 36.8.2.2.2 to determine the Monthly CRR eligibility for otherwise CRR-eligible loads that do not have verifiable load forecasts. The main feature of the new provisions is that the monthly CRR eligibility for such loads will be based on the historical load data for such loads for the same month from the previous five years (or as many years as are available in the event that five years of data do not exist).

Under Section 36.8.2.2.2, each month the CAISO will use the LSE's submitted hourly historical load data for the relevant load and the relevant month to calculate two (2) load duration curves for each year of historical load data (one on-peak and one off-peak load duration curve for the applicable month) for each CRR Sink in which such Load is located. For each time-of-use period and eligible sink location, a load metric for each of the five relevant months will be computed. The load metric is the MW level of demand that is exceeded only 0.5% of the hours based on the LSE's historical load of each relevant month. The CAISO will calculate an LSE's Monthly CRR Eligible Quantity for each time-of-use period for such load by averaging the 0.5% exceeded values for all years of submitted historical data consistent with the rule regarding the "exceedance" percentage already in the tariff, and then subtracting the quantity of load served by its Transmission Ownership Rights, Existing Transmission Contracts, and Converted Rights.

The LSEs serving loads without verifiable load forecasts will submit their historical load data using the same procedures and timeline already in place for the monthly processes. Also, the new provisions only apply for the monthly CRR Allocation process; there is no change in provisions for the annual CRR Allocation process as this process is not based on load forecasts.

To ensure complete consistency with the tariff changes described above, the CAISO also proposes to modify the definition of Monthly CRR Load Metric as the load metric used for determining eligibility for CRR Allocation as provided in Section 36.8.2.2.<sup>37</sup>

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<sup>36</sup> See, e.g., MRTU Tariff, §§ 36.8.2, 40.2.2.3.

<sup>37</sup> See Attachment A hereto at Appendix BB, Part G, definition of Monthly CRR Load Metric; Attachment C hereto at Appendix A, definition of Monthly CRR Load Metric.

**C. Proposed Changes in Compliance with Paragraphs 68 and 69 of the March 24 Order and Changes to the Exemptions from the 30-Day Rule for Scheduling Transmission Outages**

As explained in Section I.B above, the MRTU Tariff requires that planned Outages of transmission facilities that may have a significant effect upon CRR revenue adequacy must be submitted to the CAISO for approval no less than thirty (30) days in advance of the first day of the month in which the Outage is proposed to begin.<sup>38</sup> The Commission approved this MRTU Tariff rule in the September 21 Order (subject to additional modifications to be submitted in a compliance filing) and found the rule to be appropriate on rehearing of the September 21 Order.<sup>39</sup> Consistent with direction provided in the September 21 Order and the April 20 Order, the CAISO developed with stakeholders the criteria for determining which Outages may have a significant effect on CRR revenue adequacy and incorporated the criteria into a BPM.<sup>40</sup> Also, consistent with the Commission's direction, the CAISO included the Transmission Maintenance Coordinating Committee ("TMCC") in the development of the rule.<sup>41</sup> The CAISO made several changes to its initially proposed rule on the recommendations of TMCC members and other stakeholders, and the final rule was reflected in the BPMs for Outages and for CRRs.<sup>42</sup> Thus the criteria reflected in the BPMs for Outages and for CRRs included exemptions from the 30-day rule that had been developed through the stakeholder process. In its March 24 Order, the Commission agreed with WPTF that the detail on the exemptions from the 30-day rule as reflected in Section 10.3.1 of the BPM for CRRs should appear in the MRTU Tariff as well.

In the recent stakeholder process on CRR rule enhancements, the CAISO considered, among other things, whether to expand the exemptions from the 30-day rule as reflected in its BPM for CRRs so that instead of limiting the exemptions to Outages that occur within a single calendar day, the exemptions would apply to Outages conducted fully within a 24-hour period. The CAISO also engaged with stakeholders concerning whether any additional exemptions should

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<sup>38</sup> See MRTU Tariff, § 9.3.6.3.2; see also BPM for Outage Management, § 4.2.1.1. The latest version of the BPM for Outage Management can be found at <http://www.caiso.com/1c95/1c95db445b420.doc>.

<sup>39</sup> See *California Independent System Operator Corp.*, 119 FERC ¶¶ 61,076, at PP 644-46 (2007) ("April 20 Order").

<sup>40</sup> See September 21 Order at P 1333; April 20 Order at P 646.

<sup>41</sup> See April 20 Order at P 646.

<sup>42</sup> All of the BPMs are available on the CAISO Website at <http://www.caiso.com/17ba/17baa8bc1ce20.html>.

be recognized. While prior to the March 24 Order the CAISO did not anticipate the need to file the proposed rule changes concerning exemptions from the 30-day rule because they resided in the BPMs, the March 24 Order requires the inclusion of the exemptions provisions in the MRTU Tariff. Therefore, the CAISO is submitting rule changes in proposed Section 36.4.3 of the MRTU Tariff in compliance with the Commission's directives in the March 24 Order.<sup>43</sup> In addition, the CAISO proposes to include corresponding tariff language in Appendix BB, Part, H, Section 36.4.3 of the ISO Tariff, and also to make minor changes in Appendix BB, Part H, Section 36.4 of the ISO Tariff and in Section 36.4 of the MRTU Tariff to reflect the addition of Section 36.4.3.

The CAISO notes that, in attempting to incorporate the language in Section 10.3.1 of the BPM for CRRs into the tariff, as required explicitly in the March 24 Order, it became apparent that the tariff would be more comprehensive if it included not only the 30-day rule itself, but also the criteria for determining what types of Outages may have a "significant effect" on CRR revenue adequacy, as well as the exceptions to those criteria. Proposed Section 36.4.3 includes all of this information and thus provides more detail than is found in Section 10.3.1 of the BPM for CRRs.

Section 36.4.3 also reflects a modification to the exemption from the 30-day rule for an Outage that can be completed within a single calendar day: the CAISO proposes to modify the provision to exempt from the 30-day requirement those Outages that are planned to be initiated and completed within a "twenty-four (24) hour period." The revised provision, adopted in response to a request by Participating Transmission Owners ("PTOs"), allows the PTOs greater flexibility to reduce the number of planned Outages that must be scheduled under the 30-day rule by allowing the exemption to apply if the Outage is planned to be initiated and completed within a 24-hour period which may consist of portions of two consecutive calendar days. The CAISO believes that the change should not have an adverse impact on CRR revenue adequacy because the total duration of an exempt outage is not any greater under the revised provision than it could be under the original provision.

The CAISO notes that Section 10.3.1 of the BPM provides for additional criteria through which Outages in the categories covered by the 30-day rule may be granted an exemption from the 30-day rule. Section 10.3.1 also sets forth a procedure, based on the well-known "revenue adequacy theorem" for FTRs, that a PTO can use to place a transmission facility on a list to receive such an exemption. Proposed Section 36.4.3 does not incorporate these additional methods of receiving an exemption from the 30-day rule (that currently appear in

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<sup>43</sup> On May 23, 2008, the CAISO requested a modest extension of time of 14 days, until June 6, 2008, to comply with the requirement that the exemptions to the 30-day rule be included in the MRTU Tariff as required in Paragraphs 68 and 69 of the March 24 Order.

Section 10.3.1 of the BPM). The CAISO will conform the provisions in the BPM to Tariff Section 36.4.3 by eliminating the above-listed BPM provisions in the next revision of the BPM for CRRs. In support of this change to the BPM, the CAISO notes that some of the PTOs argued that the exemption criteria based on the revenue adequacy theorem: (i) were overly conservative, *i.e.*, would have allowed very few nominated facilities to be granted exemptions, (ii) relied on a theoretical basis of revenue adequacy rather than empirical assessment, and (iii) required a technical analysis that the PTOs are not able to perform. In addition, eliminating the above-listed provisions from the 30-day rule is consistent with the CAISO's conviction that it is better to start MRTU operations with more conservative exemption criteria in order to minimize the risk of having to assess a charge to all Measured Demand due to CRR revenue inadequacy. Moreover, there is no reliable, empirical basis on which to evaluate candidate exemptions – which several parties have argued the CAISO should use instead of relying on the revenue adequacy theorem – in the absence of actual operating data from the new Locational Marginal Pricing (“LMP”) markets.<sup>44</sup>

The CAISO recognizes that certain PTOs have expressed some concern regarding the lack of a more sophisticated method for determining whether there should be additional exemptions from the 30-day rule on the basis that Outages at certain facilities do not significantly impact CRR revenue adequacy. The CAISO commits to assess the effectiveness of the initial rules exemptions from the 30-day rule and the CAISO's approach to modeling Outages in the Monthly CRR process during the first year of MRTU operation, and to consider changes after observing twelve months of market outcomes. The CAISO is committed to assessing the effectiveness of these provisions based on actual experience with the LMP markets. The CAISO notes that the CRR Balancing Account will be cleared at the end of each month, and will provide a simple indicator of CRR revenue adequacy on a monthly basis. If the end-of-month balance (net of CRR Auction revenues) is negative, it indicates that the CAISO's allowance for Outages in the monthly CRR release was insufficient to prevent CRR revenue inadequacy on average over the hours of the month. If the balance is positive, it indicates that more CRRs could have been released without adversely impacting CRR revenue adequacy. Furthermore, actual LMP values will be generated for each hour in the Integrated Forward Market (“IFM”) and each Real-Time dispatch interval, and these LMP values will reflect the actual grid conditions for those hours and Real-Time intervals. The LMPs and the corresponding grid conditions and patterns of load and generation will provide a data base for estimating the impact of different transmission outages on revenue adequacy.<sup>45</sup>

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<sup>44</sup> See Attachment E hereto, Final Proposal at 14.

<sup>45</sup> See *id.*, Final Proposal at 15.

#### **D. Enhancements to CRR Credit Policy**

##### **1. Credit Policy Enhancements Related to CRR Transfers Due to Load Migration**

LSEs receive allocated CRRs based on the Load they serve without having to provide Financial Security in advance of a CRR Allocation.<sup>46</sup> When Load Migration occurs (*i.e.*, when responsibility to serve Load is transferred from one LSE to another), the CRRs associated with the migrated Load must be transferred to the Load-gaining LSE. The current ISO Tariff and the MRTU Tariff provide that, in order to reflect Load Migration, the CAISO will create new CRRs identical to the CRRs being transferred with the migrated Load, allocate the new CRRs to the Load-gaining LSE, and assign counter-flow CRRs (Offsetting CRRs) to the Load-losing LSE to offset the CRRs transferred with the migrated Load.<sup>47</sup>

When Load Migration occurs, a credit risk can arise if the Load-losing LSE does not have the financial capability to meet the credit requirements for holding the counter-flow CRRs it is assigned. This can occur in either one of the following circumstances:

- (1) prior to Load Migration, the Load-losing LSE has already sold the CRRs it was allocated; or
- (2) the Load-losing LSE has purchased counter-flow CRRs through a subsequent CRR Auction.

In either of these circumstances, the CAISO's current credit policy permits the Load-losing LSE to maintain little or no credit coverage for its CRRs as a result of the Load-losing LSE's ability to purchase counter-flow CRRs through a CRR Auction and to net its allocated CRRs against the counter-flow CRRs it purchases.<sup>48</sup> As a result, once Load Migration occurs, there is a risk that the Load-losing LSE will be unable to meet the financial requirements of taking on the counter-flow CRRs it will be assigned. In this regard, the CAISO observed in the first CRR Allocation and Auction process that some LSEs with allocated CRRs purchased negatively valued, near exact counter-flow CRRs in the CRR Auction (*i.e.*, those LSEs were paid by the CAISO to take on such CRRs).

To mitigate this credit risk, the CAISO proposes two tariff modifications. First, the CAISO proposes to add to Section 12.6.3.1(b) of the current ISO Tariff

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<sup>46</sup> ISO Tariff, § 12.6.1; MRTU Tariff, § 12.6.1.

<sup>47</sup> ISO Tariff, Appendix BB, Part H, § 36.8.5.3; MRTU Tariff, § 36.8.5.3.

<sup>48</sup> See ISO Tariff, § 12.6.3.1(b); MRTU Tariff, § 12.6.3.1(b).

and of the MRTU Tariff provisions stating that, if a CRR Holder holds one or more CRRs obtained through a CRR Allocation and also holds one or more CRRs obtained through a CRR Auction, the individual credit requirements applicable to any of the CRRs obtained through a CRR Allocation may not be netted against the individual credit requirements applicable to any of the CRRs obtained through a CRR Auction in determining such CRR Holder's Estimated Aggregate Liability.<sup>49</sup> Second, the CAISO proposes to add new Section 12.6.4 of the current ISO Tariff and of the MRTU Tariff. Section 12.6.4 provides that each LSE that sells a CRR obtained through a CRR Allocation must, as a prerequisite to the sale of any such CRR, have an Aggregate Credit Limit with a sufficient margin to cover the credit requirement for holding the Offsetting CRR that the LSE would be responsible for assuming in the event of Load Migration from the LSE to another LSE, and also provides that the credit requirement for holding the Offsetting CRR will be included in the Estimated Aggregate Liability of the LSE upon the transfer of the allocated CRR.

## **2. Revisions to Credit Requirement to Hold a CRR With a Term of One Year or Less**

Section 12.6.3.2 of the current ISO Tariff and of the MRTU Tariff states that each CRR Holder that holds a CRR with a term of one year or less is subject to a credit requirement equal to the negative of the most recent CRR Auction Price for the CRR plus the Credit Margin for the CRR. Under this methodology, the CRR Auction Price is used as a proxy for the expected value of the underlying CRR. As detailed in Section 12.6.3.4, the Credit Margin is calculated based on the distribution of historical values of the CRR.

The CAISO has reviewed its existing CRR credit policy and has evaluated approaches to improve the accuracy of the credit requirement for the calculation for holding CRRs. The CAISO's analysis shows that in most scenarios the current credit policy provides sufficient coverage for the financial risks associated with CRRs. However, under one specific scenario the credit requirement calculated based on CRR Auction Price would be insufficient: where the CRR Auction Price is higher (*i.e.*, less negative) than the historical expected value of a negatively valued CRR, a credit requirement based on the CRR Auction Price

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<sup>49</sup> As explained in Section II.D.5.c below, the CAISO proposes to add language to Section 12.6.3.1(d) of the ISO Tariff and of the MRTU Tariff to clarify all CRRs transferred through the Secondary Registration System will be treated like auctioned CRRs for the purpose of calculating the credit requirements for holding the CRRs. Pursuant to this proposed change to Section 12.6.3.1(d), all CRRs transferred through the Secondary Registration System will be treated like auctioned CRRs under the proposed netting provisions of Section 12.6.3.1(b) described above, *i.e.*, the individual credit requirements applicable to any of the CRRs obtained through a CRR Allocation may not be netted against the individual credit requirements applicable to any of the CRRs obtained through a CRR Auction or transferred through the Secondary Registration System in determining the CRR Holder's Estimated Aggregate Liability.

would be less than that based on the historical expected value, and thus the CAISO may not have sufficient credit coverage to protect against a default with a ninety-five percent likelihood.

To address this issue, the CAISO proposes to be able to take into account the historical expected values of CRRs in determining credit requirements for holding CRRs. Specifically, the CAISO proposes to modify Section 12.6.3.2 so that each CRR Holder that holds a CRR with a term of one year or less will be subject to a credit requirement equal to the negative of the most recent CRR Auction Price of the CRR or the Historical Expected Value of the CRR, whichever is lower, plus the Credit Margin for the CRR. The CAISO proposes to define Historical Expected Value in Appendix A to the current ISO Tariff and to the MRTU Tariff as the expected value of a CRR, as calculated by the CAISO, based on monthly historical market operations data for the applicable month, with such values being established based on at least one year and up to three years of historical market operations data. Due to the need for historical LMP market data for the same month in the previous year, this modification to the credit policy cannot be applied until one year after MRTU start-up.

In response to stakeholder suggestions, the CAISO analyzed the possible approach of using data from the CAISO's LMP Study to calculate Historical Expected Value as an interim solution before the CAISO has accumulated one year of historical market operations data. The CAISO had concerns about this approach because: (1) the LMP study data are simulated prices based on the pre-MRTU zonal supplemental energy market data from prior to May 2005, when different tariff rules applied than will apply under the MRTU nodal market; (2) other assumptions made in the LMP studies may not necessarily reflect the actual market conditions under MRTU; and (3) bidding behavior may also change under MRTU. The CAISO's further analysis supported its initial conclusion that the use of LMP study data would not be appropriate for calculating CRR proxy expected values. As explained in the Final Proposal, using CRR proxy expected values derived from LMP study data could potentially have a dramatic impact on credit requirements for certain CRRs that is difficult to justify in the absence of any actual market operation data.<sup>50</sup>

In order to explain how the CAISO will apply the formula in Section 12.6.3.2 prior to the time it has at least one year of historical market operations data, the CAISO also proposes to revise Section 12.6.3.2 to state that the CRR Auction Price will be used until twelve months of historical market operations data are available.

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<sup>50</sup> See Attachment E hereto, Final Proposal at 21.

This enhancement will provide additional assurance that CRR Holders have sufficient credit coverage to meet CRR payment obligations. The CAISO proposes to calculate Historical Expected Values in a manner consistent with the Credit Margin calculation, *i.e.*, at a daily level (\$/MW-Day) for each month and for both on-peak and off-peak. The calculation of Historical Expected Value and of Credit Margin for a specific month will be based on the same historical market operation data for the same month of at least the most recent year and up to the three most recent years.

In order to include changes in Historical Expected Value in the CAISO's adjustments to credit requirements for holding CRRs with term of one year or less, the CAISO also proposes to modify Section 12.6.3.1(c) of the current ISO Tariff and of the MRTU Tariff to state that the CAISO may adjust the credit requirements for holding such CRRs at the CAISO's discretion to account for changes in the monthly auction prices for CRRs and changes in the Historical Expected Values for CRRs, or more frequently than monthly if necessary if the CAISO finds that actual or anticipated market conditions indicate that CRR credit requirements may be inadequate to cover the financial risk of the CRRs.

### **3. Revisions to Affiliate Disclosure Requirement**

The MRTU Tariff contains a provision requiring a CRR Holder to disclose to the CAISO the identities of all Affiliates that are also CRR Holders or Market Participants.<sup>51</sup> The CAISO believes this disclosure requirement should be broadened to take into account every CRR Holder, Candidate CRR Holder, and Affiliate, in order to enhance the CAISO's monitoring of CRR holdings and CAISO Markets activity for anomalous market behavior, gaming, or the exercise of market power. Therefore, the CAISO proposes to apply the disclosure requirement to both CRR Holders and Candidate CRR Holders, and also proposes to require the disclosure of all Affiliates, not just Affiliates that are CRR Holders or Market Participants. The CAISO proposes to make these changes by amending Section 39.9 of the MRTU Tariff and by adding Section 39.9, as amended, to Part H of Attachment BB of the current ISO Tariff. In addition, the CAISO proposes to amend Section 12.1.1.1 of the current ISO Tariff and Section 12.1.1.2 of the MRTU Tariff to indicate that the information disclosed pursuant to Section 39.9 will be one of the qualitative factors used by the CAISO to calculate Unsecured Credit Limits.

The CAISO notes that this proposal was presented to stakeholders for the first time in the Draft Final Proposal. The need for this provision was highlighted to the CAISO when a Candidate CRR Holder failed to disclose its relationship

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<sup>51</sup> ISO Tariff, Appendix BB, new Part M, § 39.9; MRTU Tariff, § 39.9. In Appendix A to both the current ISO Tariff and the MRTU Tariff, the term Market Participant is defined to include a CRR Holder.

with another Candidate CRR Holder. The CAISO believes an abbreviated stakeholder process is appropriate for this revision because of the need for closing the gap in Affiliate disclosure obligations for all entities holding CRRs or participating in the CRR Auction.

Stakeholders agree that the disclosure requirement should be extended to Candidate CRR Holders but some stakeholders have expressed concern that the disclosure requirement should be limited to Affiliates that are Market Participants, CRR Holders, or Candidate CRR Holders and not be extended to all Affiliates, unless the entity is requesting an Unsecured Credit Limit, in which case the full disclosure requirement would be appropriate. The CAISO recognizes that the proposed disclosure requirement is broad but believes it is reasonable and appropriate to require CRR Holders and Candidate CRR Holders to disclose their Affiliates regardless of whether the entity is seeking an Unsecured Credit Limit. Due to the risks associated with CRRs, *i.e.*, that the value of CRRs is difficult to estimate, can switch from positively valued to negatively valued, and can have potentially very high *prospective negative* value – and the fact that new and different types of entities desire to hold these instruments, the CAISO believes that it should be able to have as much information as it can about the entity holding or proposing to hold CRRs. This would include information about the entity's Affiliates outside of the CAISO's markets. For example, the CAISO believes it is reasonable and appropriate to know whether a CRR Holder or Candidate CRR Holder has Affiliates participating in other organized electricity markets or has Affiliates engaged in risky lines of business. This need is particularly relevant in light of the default experienced in the markets of PJM Interconnection, L.L.C. ("PJM") caused by holders of negatively valued firm transmission rights.<sup>52</sup> Under the CAISO's proposed policy, a Candidate CRR Holder or CRR Holder would have to disclose all of its Affiliates, including any Affiliates that are entities that defaulted in PJM. This information will be utilized by the CAISO to determine the level of monitoring that may be appropriate.

#### **4. Revisions to Credit Requirement for Participation in CRR Auctions**

##### **a. Addition of the Requirement to Provide Security to Cover Credit Margins in CRR Auctions**

Section 12.6.2 of the current ISO Tariff and of the MRTU Tariff states that the credit requirement to participate in a CRR Auction is the greater of \$500,000 or the sum of the absolute values of all bids for CRRs submitted by the participant in the relevant CRR Auction. The purpose of this requirement is to ensure that auction participants bidding for positively priced CRRs have sufficient

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<sup>52</sup> See *PJM Interconnection, L.L.C.*, 122 FERC ¶ 61,279 (2008).

credit to cover winning bids equal to the bid prices and to ensure that auction participants bidding for negatively valued CRRs have sufficient available credit (through an Unsecured Credit Limit and/or Financial Security Amount) to cover the payments from the CAISO for winning negatively valued CRRs. However, this requirement is not intended to provide credit coverage for holding the CRRs won in the auction. The winner could default after the auction due to an inability to meet credit requirements for holding those CRRs.

Both the New York Independent System Operator ("NYISO") and the Midwest Independent Transmission System Operator ("MISO") have recognized the default risks associated with negative, zero, and low-positive priced CRRs. For example, based on a study conducted by the NYISO, low-positive transmission rights run a disproportionately greater risk of reversing, thereby becoming negative and requiring the customer to make payments.<sup>53</sup> Within the past several months, the NYISO and MISO filed, and obtained Commission acceptance of, enhancements to their respective credit policies that require minimum dollar-per-MW credit posting requirements for submitting bids in auctions.<sup>54</sup> The minimum posting requirements help to address the risk associated with a market participant that obtains a significant number of negative, zero, or low-positive transmission rights during an auction but is unable to satisfy the credit requirements for holding those rights following the close of the auction. In addition, both the NYISO and MISO have proposed further enhancements to their credit policies to ensure that holding requirements are similarly adjusted,<sup>55</sup> the Commission has accepted the NYISO's proposal<sup>56</sup> and a Commission order on the MISO's proposal is pending.

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<sup>53</sup> See "TCC Credit Requirements," October 24, 2007 Presentation to NYISO's Management Committee by Sheri Prevratil, available at [http://www.nyiso.com/public/webdocs/committees/mc/meeting\\_materials/2007-10-24/mc\\_agenda\\_06\\_TCC\\_Credit\\_Presentation\\_final.pdf](http://www.nyiso.com/public/webdocs/committees/mc/meeting_materials/2007-10-24/mc_agenda_06_TCC_Credit_Presentation_final.pdf). The NYISO study was conducted based on Transmission Congestion Contract ("TCC") auction data between Spring 2005 and Spring 2006. *Id.*

<sup>54</sup> See NYISO's Filing of Proposed Tariff Revisions Regarding the Credit Requirements for Transmission Congestion Contract Auctions, Docket No. ER08-334-000 (Dec. 14, 2007); *New York Independent System Operator, Inc.*, 122 FERC ¶ 61,124 (2008) (accepting NYISO filing in relevant part); MISO Section 205 Filing to Revise the FTR Credit Policy in Attachment L of the Open Access Transmission and Energy Markets Tariff, Docket No. ER08-622-000 (Feb. 29, 2008); *Midwest Independent Transmission System Operator, Inc.*, 123 FERC ¶ 61,126 (2008) (accepting MISO filing in relevant part).

<sup>55</sup> See NYISO's Filing of Proposed Tariff Revisions Regarding the Credit Requirements for Holding Transmission Congestion Contracts and Request for Expedited Treatment, Docket No. ER08-778-000 (Apr. 2, 2008); MISO Section 205 Filing to Revise the FTR Credit Policy in Attachment L of the Open Access Transmission and Energy Markets Tariff, Docket No. ER08-622-001 (Mar. 31, 2008).

<sup>56</sup> *New York Independent System Operator, Inc.*, 123 FERC ¶ 61,090 (2008).

The CAISO's current credit policy regarding CRR *Holders* addresses the default risk identified by NYISO and MISO: under the current ISO Tariff and the MRTU Tariff, the credit requirement that applies to each CRR Holder includes, *inter alia*, the Credit Margin for the CRRs it holds.<sup>57</sup> However, to date, the CAISO has not required that CRR *Auction participants* establish credit coverage for the Credit Margin related to their bids during the auction. Accordingly, there is a risk that an auction participant could win CRRs that have a credit requirement in excess of the auction participant's available credit during the auction and it would be unable to post additional collateral. To address this risk, the CAISO proposes to modify Section 12.6.2 of the current ISO Tariff and the MRTU Tariff to state that the credit requirement to be permitted to participate in a CRR Auction is the greater of \$500,000 or the sum equal to the sum of the absolute values of all bids for CRRs submitted by the participant in the relevant CRR Auction plus the sum of the Credit Margins for all of the CRRs for which the auction participant submits bids in the relevant CRR Auction. This proposal provides credit coverage commensurate with the risk of the CRRs, in that more volatile CRRs would require a greater amount of coverage and less volatile CRRs would require lower coverage. Any credit coverage posted by a CRR Auction participant that is in excess of the CRR holding requirements will be released to the CRR Auction participant after the close of the CRR Auction.<sup>58</sup>

Further, the CAISO proposes to add provisions to Section 12.6.2 of the current ISO Tariff and of the MRTU Tariff stating that a CRR Holder or Candidate CRR Holder that fails to provide sufficient credit in a CRR Auction will either: (1) not be permitted to participate in the CRR Auction or (2) have bids exceeding its Available Credit Limit for participation in the CRR Auction, in accordance with the formula described above, rejected by the CAISO on a last-in, first-out basis. The CAISO is expressly authorized to take the first of these two actions contained in the existing ISO Tariff and MRTU Tariff but the second of the two actions is a new proposal that gives the CAISO the flexibility to reject bids in excess of the

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<sup>57</sup> See ISO Tariff, §§ 12.6.3.2-12.6.3.4; MRTU Tariff, §§ 12.6.3.2-12.6.3.4.

<sup>58</sup> The CAISO recognizes that there are two aspects of its current requirements for CRR Auctions that may, in some cases, already require CRR Auction participants to provide excess credit coverage that could be used to meet the subsequent credit requirement for holding CRRs, including the Credit Margin requirement. These two aspects are the \$500,000 minimum credit requirement under Section 12.6.2 and the fact that an auction participant is unlikely to be the winning bidder for all CRRs on which it bids. However, these may not provide sufficient coverage in all cases to ensure that the CRR Auction participant is able to meet the subsequent CRR holding requirement established by the CAISO after the close of the auction. While the CAISO does have the ability to "repossess" CRRs and resell them in a subsequent auction if an auction participant does not meet a collateral call, this is an imperfect solution, as the CAISO may be unable to sell the CRRs that were defaulted upon and prices of other CRRs may have been affected by the bids of the defaulting party. Adding the Credit Margin requirement to Section 12.6.2, as proposed by the CAISO, will help to reduce this risk.

Available Credit Limit without requiring the CAISO to forbid participation in the CRR Auction.

**b. Ministerial Changes**

Section 12.1.5A.4 of the current ISO Tariff includes the following two sentences:

Each FTR Bidder may choose to designate a portion of their Unsecured Credit Limit and/or posted Financial Security specifically for the FTR auction by notifying the ISO of the FTR Bidder's intent. Alternatively, the FTR Bidder may choose to post additional Financial Security solely to cover their participation in the FTR auction by notifying the ISO of the purpose for the additional Financial Security.

The CAISO has also included these two sentences in Section 12.6.2 of the MRTU Tariff after modifying them to change "FTR Bidder" to "CRR Holder or Candidate CRR Holder" and to change "FTR auction" to "CRR Auction."<sup>59</sup> The CAISO proposes to modify Section 12.6.2 of the current ISO Tariff and of the MRTU Tariff to include the following two sentences, which are similar to the sentences in Section 12.1.5A.4 quoted above:

Each CRR Holder or Candidate CRR Holder may choose to designate a portion of its Unsecured Credit Limit and/or posted Financial Security specifically for the CRR Auction by notifying the ISO of the CRR Holder's or Candidate CRR Holder's intent. Alternatively, the CRR Holder or Candidate CRR Holder may choose to post additional Financial Security to cover its participation in the CRR Auction, and shall notify the ISO of the portion of its total Financial Security to be assigned as its CRR Auction bidding limit.

Further, the CAISO proposes to change "Candidate CRR Holder" to "CRR Holder or Candidate CRR Holder" in a couple of other places in Section 12.6.2 of the current ISO Tariff, which is a ministerial change the CAISO has already made to Section 12.6.2 of the MRTU Tariff.<sup>60</sup>

Finally, the CAISO proposes to eliminate a reference to credit requirements for Long Term CRRs in Section 12.6.3.1(c) of the currently effective

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<sup>59</sup> See Section 12.6.2, Volume 5 of CAISO Filing of Fourth Replacement Version of FERC Electric Tariff, Docket Nos. ER06-615-016 and ER08-367-000 (Dec. 21, 2007).

<sup>60</sup> See *id.*

ISO Tariff. The CAISO removed this language from the MRTU Tariff in its December 21, 2007 filing in the MRTU proceeding, in compliance with a prior Commission order.<sup>61</sup> For the same reason, the language should also be deleted from the current ISO Tariff.

## **5. Revisions to General Credit Requirements Provisions**

### **a. Clarification of the CAISO's Authority to Increase Security Requirements When Necessary**

The CAISO, in the stakeholder process concerning CRR enhancements, stated that it has tariff authority under the current ISO Tariff, and the MRTU Tariff to impose additional credit requirements. In this regard, the CAISO explained that both of those tariffs provide that the Estimated Aggregate Liability includes amounts a Market Participant is "reasonably anticipated to be liable for."<sup>62</sup> The CAISO also explained that both tariffs allow the CAISO to reevaluate the credit requirements for holding CRRs on an ongoing basis.<sup>63</sup> In response, Market Participants expressed two concerns. One concern related to the triggers for imposing additional credit requirements and the methodology for calculating such requirements. With respect to this concern, CAISO management confirmed to the CAISO Governing Board that it would develop a business process for determining the triggers and methodology for calculating additional credit requirements. The second concern expressed by Market Participants related to whether the CAISO's tariff was sufficiently clear. To address this concern, the CAISO proposes to clarify Section 12.6.3.1(c) of both the current ISO Tariff and the MRTU Tariff to state that the CAISO may adjust CRR holding requirements on a monthly basis or more frequently than monthly if necessary if the CAISO finds that actual or anticipated market conditions indicate that CRR holding requirements may be inadequate to cover the financial risk of the CRRs.

### **b. Clarification of Netting of Offsetting CRRs**

Section 12.6.3.1(b) of the current ISO Tariff and of the MRTU Tariff explains how the credit requirements for holding CRRs are determined on the portfolio basis. The first step of that process involves the netting of Offsetting CRRs. This step occurs before the credit holding requirements for the remaining

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<sup>61</sup> See CAISO Filing of Fourth Replacement Version of FERC Electric Tariff, Docket Nos. ER06-615-016 and ER08-367-000 (Dec. 21, 2007), Transmittal Letter at 27 (citing *California Independent System Operator Corp.*, 120 FERC ¶ 61,192, at P 45 (2007)).

<sup>62</sup> ISO Tariff, § 12.1.5; MRTU Tariff, § 12.1.3.

<sup>63</sup> ISO Tariff, § 12.6.3.1(c); MRTU Tariff, § 12.6.3.1(c).

CRRs are calculated. The CAISO proposes changes to Section 12.6.3.1(b) to more clearly explain this first step.

**c. Clarification of Transfers of CRRs**

Section 12.6.3.1(d) of the current ISO Tariff and of the MRTU Tariff explains transfers of CRRs. The CAISO proposes to add language to Section 12.6.3.1(d) to clarify that CRRs transferred through the Secondary Registration System will be treated like auctioned CRRs for the purpose of calculating the credit requirements for holding the CRRs, regardless of whether the CRRs were originally allocated or purchased at auction or acquired through the Secondary Registration System. In addition, the CAISO proposes to clarify the section to state that CRRs assigned to Load-gaining or Load-losing LSEs as a result of Load Migration will be treated like allocated CRRs for the purpose of calculating the credit requirements for holding the CRRs.

**III. EFFECTIVE DATE AND REQUESTS FOR WAIVER**

The CAISO respectfully requests that the Commission approve all of the changes in the Amendment to the current effective ISO Tariff to be effective sixty days after submittal of the instant filing, *i.e.*, on July 30, 2008.

The CAISO requests that the Commission approve all of the changes in the Amendment to the MRTU Tariff to be effective upon implementation of MRTU. As discussed in the monthly status reports the CAISO has submitted in Docket No. ER06-615, the CAISO will not be able to announce a new proposed implementation date for MRTU until the CAISO is confident that the MRTU software is operating successfully. At this time, the CAISO is on track for a fall 2008 implementation date for MRTU with a target of October 1, 2008. The CAISO anticipates that this date will be confirmed by the CAISO Governing Board at its July 8-9, 2008 meeting. Accordingly, the CAISO is filing clean MRTU Tariff sheets without indicating a proposed effective date and therefore requests waiver of Order No. 614<sup>64</sup> and applicable provisions of Section 35.9 of the Commission's regulations.<sup>65</sup>

The CAISO understands that in the absence of a proposed effective date the Commission is not compelled to take any action within the 60-day timeframe prescribed by the Federal Power Act. Although the Commission is not compelled to take action within any prescribed timeframe, the CAISO requests that the Commission issue an order regarding the changes to the MRTU Tariff contained in this Amendment within 60 days or as soon thereafter as possible. A timely

<sup>64</sup> *Designation of Electric Rate Schedule Sheets*, FERC Stats. & Regs. ¶ 31,096 (2000).

<sup>65</sup> 18 C.F.R. § 35.9.

order will allow a more orderly transition to MRTU for the CAISO and its Market Participants. Moreover, in light of the fact that the proposed tariff amendments contained herein are to be included in both the current ISO Tariff and the MRTU Tariff, the Commission will be able to address the MRTU Tariff-related amendments at the same time it addresses the amendments proposed for the current ISO Tariff.

Because the exact date of MRTU implementation is unknown at this time, the CAISO, pursuant to Section 35.11 of the Commission's regulations,<sup>66</sup> also requests waiver, if necessary, of Section 35.3 of the Commission's regulations,<sup>67</sup> 18 C.F.R. § 35.3, in order to permit the clean MRTU Tariff sheets contained in this Amendment to become effective more than 120 days after the date this Amendment was filed. Making the filing at this time hopefully will permit the CAISO, Market Participants, state authorities, and the Commission to resolve the issues discussed herein prior to the implementation of MRTU and provide greater certainty to the CAISO Markets. Granting a waiver in this instance would be consistent with the similar waivers of Section 35.3 that the Commission has granted for other MRTU Tariff filings.

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<sup>66</sup> 18 C.F.R. § 35.11.

<sup>67</sup> 18 C.F.R. § 35.3.

#### **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. SERVICE**

The CAISO has served copies of this transmittal letter, and all attachments, on the California Public Utilities Commission, the California Energy Commission, and all entities with effective Scheduling Coordinator Service Agreements under the current ISO Tariff. In addition, the CAISO is posting this transmittal letter and all attachments on the CAISO Website, and will provide courtesy copies of this filing to all parties in the MRTU proceeding (Docket No. ER06-615).

#### **VI. ATTACHMENTS**

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

Attachment A	Red-lined changes to the current ISO Tariff to implement the revisions contained in this Amendment
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- Attachment B      Clean ISO Tariff sheets incorporating the red-lined changes contained in Attachment A
- Attachment C      Red-lined changes to the MRTU Tariff to implement the revisions contained in this Amendment
- Attachment D      Clean MRTU Tariff sheets incorporating the red-lined changes contained in Attachment C
- Attachment E      Final Proposal on CRR enhancements dated May 16, 2008
- Attachment F      Materials presented to the CAISO Governing Board on CRR enhancements

**VII. CONCLUSION**

For all the foregoing reasons, the Commission should approve as filed this Amendment to enhance the CRR provisions in the current ISO Tariff and the MRTU Tariff, to comply with Paragraphs 68 and 69 of the March 24 Order, and to comply with Paragraph 39 of the March 31 Order. Please feel free to contact the undersigned if you have any questions concerning this matter.

Respectfully submitted,



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**Attachment A – Clean Sheets**

**Congestion Revenue Rights Credit and Enhancements Amendment Filing**

**Currently Effective ISO Tariff**

**May 30, 2008**

**Step 5** – Calculate the Market Participant's or FTR Bidder's Tangible Net Worth Percentage (TNWP) or Net Assets Percentage (NAP).

- a.  $TNWP = MAP * BDP / CDP$  for Rated/Unrated Public/Private Corporations
- b.  $NAP = MAP * BDP / CDP$  for Rated Governmental Entities

Where:

MAP = Maximum Allowable Percentage;

BDP = Base Default Probability;

CDP = see Step 4 above; and

If the SC's CDP > 0.5%, the TNWP or NAP equals 0%

**Step 6** – Calculate the Market Participant's or FTR Bidder's Tangible Net Worth or Net Assets.

- a.  $TNW$  for Rated/Unrated Public/Private Corporations = Assets minus Intangibles (e.g., Good Will) minus Liabilities
- b.  $NA$  for Rated Governmental Entities = Total Assets minus Total Liabilities

**Step 7** – Calculate the Market Participant's or FTR Bidder's Unsecured Credit Limit.

- a.  $UCL = TNW * TNWP$  for Rated/Unrated Public/Private Corporations
- b.  $UCL = NA * NAP$  for Rated Governmental Entities

**Step 8** – Adjust Unsecured Credit Limit downward, if warranted based on the ISO's review of factors in Section 12.1.1.1.

- a.  $Final\ UCL = UCL\ from\ Step\ 7 * (0 - 100\%)$

#### **12.1.1.1 Qualitative and Quantitative Credit Strength Indicators.**

In determining a Market Participant's or FTR Bidder's Unsecured Credit Limit, the ISO may rely on information gathered from financial reporting agencies, the general/financial/energy press, and provided by the Market Participant or FTR Bidder to assess its overall financial health and its ability to meet its financial obligations. Information considered by the ISO in this process may include the following qualitative factors:

- a) Applicant's history;
- b) Nature of organization and operating environment;
- c) Management;
- d) Contractual obligations;
- e) Governance policies;
- f) Financial and accounting policies;
- g) Risk management and credit policies;
- h) Market risk including price exposures, credit exposures and operational exposures;
- i) Event risk;
- j) The state or local regulatory environment; and
- k) Affiliate disclosure information provided pursuant to Section 39.9 of Part M of Appendix BB.

Material negative information in these areas may result in a reduction of up to 100% in the Unsecured Credit Limit that would otherwise be granted based on the eight-step process described in Section 12.1.1A. A Market Participant or FTR Bidder, upon request, will be provided a written analysis as to how the provisions in Section 12.1.1A and this section were applied in setting its Unsecured Credit Limit.

**12.1.1.2 Financial Statements.**

Market Participants and FTR Bidders requesting unsecured credit are required to provide financial statements so that a credit review can be completed. Based on availability, the Market Participant or FTR Bidder must submit a financial statement for the most recent financial quarter, as well as audited financial statements for the most recent three fiscal years, or the period of existence of the Market Participant or FTR Bidder, if shorter, to the ISO or the ISO's designee. If audited financial statements are not available, financial statements, as described below, should be submitted, signed and attested to by an officer of the Market Participant or FTR Bidder as a fair representation of the financial condition of the Market Participant or FTR Bidder in accordance with generally accepted accounting principles. The information should include, but is not limited to, the following:

- a. If publicly traded:
  - i. Annual and quarterly reports on Form 10-K and Form 10-Q, respectively
  - ii. Form 8-K reports, if any

**12.6 Credit Obligations Applicable to CRRs.**

**12.6.1 Credit Requirements for CRR Allocations.**

Subject to applicable requirements of Section 36.9.2 of Appendix BB concerning the prepayment of Wheeling Access Charges, Load-Serving Entities eligible to participate in any CRR Allocation are not required to provide additional Financial Security in advance of a CRR Allocation.

**12.6.2 Credit Requirements for CRR Auctions.**

To establish available credit for participating in any CRR Auction, each CRR Holder or Candidate CRR Holder must have an Unsecured Credit Limit or have provided Financial Security in a form consistent with Section 12.1.2. Each CRR Holder or Candidate CRR Holder may choose to designate a portion of its Unsecured Credit Limit and/or posted Financial Security specifically for the CRR Auction by notifying the ISO of the CRR Holder's or Candidate CRR Holder's intent. Alternatively, the CRR Holder or Candidate CRR Holder may choose to post additional Financial Security to cover its participation in the CRR Auction, and shall notify the ISO of the portion of its total Financial Security to be assigned as its CRR Auction bidding limit. Each CRR Holder or Candidate CRR Holder that participates in a CRR Auction shall ensure that its Aggregate Credit Limit in excess of its Estimated Aggregate Liability is the greater of \$500,000 or the sum equal to the sum of the absolute values of all of its bids for CRRs submitted in the relevant CRR Auction plus the sum of the Credit Margins for all of the CRRs for which the Candidate CRR Holder submits bids in the relevant CRR Auction. A CRR Holder or Candidate CRR Holder that fails to satisfy this requirement shall not be permitted to participate in the relevant CRR Auction, or shall have bids exceeding its Available Credit Limit for participation in the CRR Auction, in accordance with the above formula, rejected by the ISO on a last-in, first-out basis.

**12.6.3 Credit Requirements for the Holding of CRRs.**

**12.6.3.1 Credit Requirements Generally.**

- (a) Each CRR Holder, whether it obtains CRRs through a CRR Allocation or a CRR Auction, must maintain an Aggregate Credit Limit in excess of its Estimated Aggregate Liability including the credit requirement of the CRR portfolio determined as described in this Section 12.6.3. CRR Holders obtaining CRRs in the initial CRR Allocation will be required to comply with the credit requirements associated with such CRRs as determined by the ISO after completion of the initial CRR Auction. The ISO shall issue a market notice after completion of the initial CRR Auction to announce that CRR Holders obtaining CRRs in the initial CRR Allocation must comply with such credit requirements.

- (b) Each CRR Holder shall be required to ensure that its Aggregate Credit Limit is sufficient to satisfy the credit requirements described in this Section 12.6.3. Except as provided in this paragraph, CRRs are evaluated on a portfolio basis as follows. If a CRR Holder owns more than one CRR, such CRR Holder shall be subject to an overall credit requirement that is equal to the sum of the individual credit requirements applicable to each of the CRRs held by such CRR Holder, which is calculated after the MW associated with any Offsetting CRRs are netted out. If this sum is positive, the amount will be added to the CRR Holder's Estimated Aggregate Liability. However, if the sum is negative, the CRR Holder's Estimated Aggregate Liability shall not be reduced. If a CRR Holder holds one or more CRRs obtained through a CRR Allocation and also holds one or more CRRs obtained through a CRR Auction, the individual credit requirements applicable to any of the CRRs obtained through a CRR Allocation may not be netted against the individual credit requirements applicable to any of the CRRs obtained through a CRR Auction in determining such CRR Holder's Estimated Aggregate Liability.
- (c) The ISO shall reevaluate the credit requirements for holding CRRs, and shall adjust the credit requirements accordingly, not less than monthly. The ISO may adjust the credit requirements for holding CRRs with terms of one year or less at the ISO's discretion to account for changes in the monthly auction prices for CRRs and changes in the Historical Expected Values for CRRs, or more frequently than monthly if necessary if the ISO finds that actual or anticipated market conditions indicate that CRR credit requirements may be inadequate to cover the financial risk of the CRRs. The ISO may also adjust the credit requirements for holding Long Term CRRs annually to reflect the changes in auction prices of one-year CRRs in annual auctions, and to reflect updates to Credit Margins based on actual Locational Marginal Price data derived from market operations.

- (d) In cases where the ownership of a CRR is to be transferred through either the Secondary Registration System or through Load Migration, the ISO shall evaluate and adjust the credit requirements for both the current owner of the CRR and the prospective owner of the CRR as appropriate prior to the transfer. If additional Financial Security is required from either the current or prospective owner, the transfer will not be completed until such Financial Security has been provided to and accepted by the ISO. CRRs transferred through the Secondary Registration System will be treated like auctioned CRRs for the purpose of calculating the credit requirements for holding the CRRs, regardless of whether the CRRs were originally allocated or purchased at auction or acquired through the Secondary Registration System. CRRs assigned to Load-gaining or Load-losing Load-Serving Entities as a result of Load Migration will be treated like allocated CRRs for the purpose of calculating the credit requirements for holding the CRRs.

**12.6.3.2 Calculation of the Credit Amount Required to Hold a CRR With a Term of One Year or Less.**

Each CRR Holder that holds a CRR with a term of one year or less shall be subject to a credit requirement (\$/MW) equal to the negative of the most recent CRR Auction Price of such CRR or the Historical Expected Value of such CRR, whichever is lower, plus the Credit Margin for such CRR. The CRR Auction Price will be used until twelve (12) months of historical market operations data are available.

**12.6.3.3 Calculation of the Credit Amount Required to Hold a Long Term CRR.**

Each CRR Holder that holds a Long Term CRR shall be subject to a credit requirement (\$/MW) equal to (i) the negative of the most recent CRR Auction Price of a CRR with the same source and sink as the Long Term CRR but with only a one-year term, plus (ii) the Credit Margin calculated for the one-year CRR. If there is less than one year remaining in the term of a Long Term CRR, the credit requirement shall be determined pursuant to Section 12.6.3.2.

**12.6.3.4 Calculation of Credit Margin.**

The Credit Margin (\$/MW) for a CRR is equal to (i) the Expected Congestion Revenue minus (ii) the Fifth Percentile Congestion Revenue of such CRR. Both values will be based on the probability distribution of Congestion revenue of such CRR calculated using historical Locational Marginal Price data, when available, and proxy values, including data taken from Locational Marginal Price studies conducted by the ISO, until such time as historical Locational Marginal Price data is available, with the details of such calculation published in a Business Practice Manual. The ISO may reassess its determinations regarding the Credit Margin determination at any time and shall require additional Financial Security if the reassessment results in an increase in a CRR Holder's Estimated Aggregate Liability that is not covered by a CRR Holder's Aggregate Credit Limit (consisting of the CRR Holder's Unsecured Credit Limit and/or Financial Security).

**12.6.4 Credit Requirements for Sales of Allocated CRRs.**

Each Load-Serving Entity that sells a CRR obtained through a CRR Allocation shall, as a prerequisite to the sale of any such CRR, have an Aggregate Credit Limit with a sufficient margin to cover the credit requirement for holding the Offsetting CRR that the Load-Serving Entity would be responsible for assuming in the event of Load Migration from the Load-Serving Entity to another Load-Serving Entity pursuant to Section 36.8.5.3 of Appendix BB. The credit requirement for holding the Offsetting CRR will be included in the Estimated Aggregate Liability of the Load-Serving Entity upon the transfer of the allocated CRR.

<b><u>High Voltage Transmission Revenue Requirement</u></b>	The portion of a Participating TO's TRR associated with and allocable to the Participating TO's High Voltage Transmission Facilities and Converted Rights associated with High Voltage Transmission Facilities that are under the ISO Operational Control.
<b><u>High Voltage Wheeling Access Charge</u></b>	The Wheeling Access Charge associated with the recovery of a Participating TO's High Voltage Transmission Revenue Requirements in accordance with Section 26.1.
<b><u>Historical Expected Value</u></b>	The expected value of a CRR, as calculated by the ISO, based on monthly historical market operation data for the applicable month. Such values will be established based on at least one (1) year and up to three (3) years of historical market operations data.
<b><u>Host Control Area</u></b>	The Control Area in which a System Resource subject to this ISO Tariff is connected to the electric grid. The Host Control Area may, or may not, be directly interconnected with the ISO Control Area.

- (b) Financial Security information as set forth in Sections 12.1 and 12.6 of the ISO  
Tariff;
- (c) proof of completion of CRR training or expected completion of CRR training; and
- (d) the prescribed non-refundable application fee.

**4.10.1.5.2 Candidate CRR Holder Load Serving Entity Certifications.**

A Candidate CRR Holder applicant that intends to obtain CRRs through the CRR Allocation process must certify that it qualifies as a Load Serving Entity as defined in the CAISO Tariff. A Candidate CRR Holder applicant that intends to participate in the CRR Allocation for load it serves located outside the CAISO Control Area must certify that it qualifies as that load's load serving entity and prior to actual participation in the CRR Allocation will also be required to fulfill the requirements in Section 36.9 of this Appendix.

**4.10.1.9 Final Registration and Qualification of Candidate CRR Holder Applicant.**

**4.10.1.9.1 Notice of Completed Registration and Qualification of Candidate CRR Holder.**

Once the CAISO has accepted a Candidate CRR Holder applicant's application, the CAISO will provide the Candidate CRR Holder applicant with a final written notice to certify that a Candidate CRR Holder applicant has become a Candidate CRR Holder. The CAISO shall issue such final written notice of full registration and qualification as a Candidate CRR Holder after the CAISO has determined that the Candidate CRR Holder applicant has fully satisfied all the following requirements:

- (a) fully executed a CRR Entity Agreement with the CAISO;
- (b) provided its bank account information and arranged for Fed-Wire transfers;
- (c) met the Financial Security requirements of Sections 12.1 and 12.6 of the ISO Tariff;
- (d) certified that it has attended required CRR training; and
- (e) obtained and installed any necessary software for communication with the CAISO as necessary.

**4.10.1.9.2 Market Notice**

The CAISO shall issue a Market Notice stating the new Candidate CRR Holder status.

- (d) The CAISO shall, following termination of a CRR Entity Agreement and within thirty (30) days of being satisfied that no sums remain owing by the Candidate CRR Holder or CRR Holder under the CAISO Tariff, return or release to the Candidate CRR Holder or CRR Holder, as appropriate, any Financial Security support provided by such Candidate CRR Holder or CRR Holder to the CAISO under Sections 12.1 and 12.6 of the CAISO Tariff.

#### **4.10.3.2 Suspension of Registration and Qualification**

Pending FERC acceptance of termination of service pursuant to the filing of a notice of termination of the CRR Entity Agreement, the CAISO will suspend the registration and qualification of a Candidate CRR Holder or CRR Holder that has received a notice of termination under the CRR Entity Agreement and the Candidate CRR Holder will not be able to submit nominations in the CRR Allocation or bids in the CRR Auction, or to register as a CRR Holder in the Secondary Registration System.

<b>Load Distribution Factors (LDF)</b>	A number that reflects the relative amount of Load at each PNode within a Load Aggregation Point. Load Distribution Factors determine how the aggregated Load at a given LAP is distributed to the associated power system Nodes. The sum of all Load Distribution Factors for a single Load Aggregation Point equals one.
<b>Long Term CRR</b>	A Congestion Revenue Right differentiated by season and time-of-use period (on-peak and off-peak) with a term of ten years.
<b>Marginal Cost of Congestion (MCC)</b>	The component of LMP at a PNode that accounts for the cost of congestion, as measured between that Node and a Reference Bus.
<b>Marginal Cost of Losses (MCL)</b>	The component of LMP at a PNode that accounts for the marginal real power losses, as measured between that Node and a Reference Bus.
<b>Market Power Mitigation - Reliability Requirement Determination (MPM-RRD)</b>	The two-optimization run process conducted in both the Day-Ahead Market and the HASP that determines the need for the CAISO to employ market power mitigation measures or Dispatch RMR Units.
<b>Monthly CRR Eligible Quantity</b>	The MW quantity of CRRs an LSE is eligible to nominate for the relevant month in a monthly CRR Allocation.
<b>Monthly CRR Load Metric</b>	The load metric used for determining eligibility for CRR Allocation as provided in Section 36.8.2.2 of this Appendix BB.
<b>MSS Aggregator</b>	An entity that has executed an agreement with the CAISO that enables it to represent individual MSS Operators in the CAISO Markets on an aggregated basis, which agreement has been accepted by FERC.
<b>Pricing Node (PNode)</b>	A single network Node or subset of network Nodes where a physical injection or withdrawal is modeled and for which a Locational Market Price is calculated and used for financial settlements.
<b>Pumped-Storage Hydro Units</b>	Hydroelectric dam with capability to produce electricity by pumping water between reservoirs at different elevations.
<b>Real-Time Market (RTM)</b>	The spot market conducted by the CAISO using SCUC and SCED in the Real-Time, after the HASP is completed for the purpose of unit commitment, Ancillary Service procurement, Congestion Management and Energy procurement based on Supply Bids and CAISO Forecast of CAISO Demand.
<b>Reference Bus</b>	The Location(s) on the CAISO Controlled Grid relative to which mathematical quantities relating to powerflow solution will be calculated.

<b>Adjusted Load Metric</b>	A Load Serving Entity's Load Metric minus the megawatts of Load served using Existing Transmission Contracts, Converted Rights, and Transmission Ownership Rights.
<b>Adjusted Verified CRR Source Quantity</b>	The MW amount eligible for nomination by an LSE or Qualified OCALSE in a verified tier of the CRR Allocation process, determined by reducing a Verified CRR Source Quantity to account for circumstances where the ownership or contract right to a generating resource is effective only for a portion of a particular season or month for which CRRs are being nominated.
<b>CAISO</b>	See ISO in Appendix A.
<b>CAISO Controlled Grid</b>	The system of transmission lines and associated facilities of the Participating TOs that have been placed under the CAISO's Operational Control.
<b>CAISO Tariff</b>	The California Independent System Operator Corporation Operating Agreement and Tariff, dated March 31, 1997, as it may be modified from time to time.
<b>CAISO Website</b>	The CAISO internet home page at <a href="http://www.aiso.com">http://www.aiso.com</a> / or such other internet address as the CAISO shall publish from time to time.
<b>CRR Balancing Account</b>	The financial account held by the CAISO for CRRs.
<b>CRR Charge</b>	The Charge assessed by the CAISO on the holder of a CRR Obligation when Congestion is in the opposite direction of the CRR Source to CRR Sink specification.
<b>CRR Year Four</b>	Second, third and fourth quarters of calendar year 2011 and first quarter of calendar year 2012.
<b>CRR Year One</b>	Second, third and fourth quarters of calendar year 2008 and first quarter of calendar year 2009.
<b>CRR Year Three</b>	Second, third and fourth quarters of calendar year 2010 and first quarter of calendar year 2011.
<b>CRR Year Two</b>	Second, third and fourth quarters of calendar year 2009 and first quarter of calendar year 2010.
<b>Existing Transmission Contract (ETC) or Existing Contracts</b>	The contracts which grant transmission service rights in existence on the CAISO Operations Date (including any contracts entered into pursuant to such contracts) as may be amended in accordance with their terms or by agreement between the parties thereto from time to time.

### **36.2.6 Seasonal CRRs.**

Seasonal CRRs have a term of three months, and are differentiated by the different time of use periods (on-peak and off-peak) for each day within a season. Seasonal CRRs are made available through the annual CRR Allocation and CRR Auction processes conducted each year prior to the year in which the Seasonal CRR applies.

### **36.2.7 Long Term CRRs.**

Long Term CRRs have a term of ten years. Long Term CRRs are seasonal and are differentiated by the different time of use periods (on-peak and off-peak) for each day within a season. When Long Term CRRs are nominated and allocated they apply to the same season and time of use period for each year of the ten-year term and represent binding ten-year commitments by the CRR Holders that hold Long Term CRRs. Long Term CRRs are nominated and allocated to LSEs in Tier LT that is one tier in the sequence of tiers in the annual CRR Allocation process. Long Term CRRs are not available through the CRR Auction.

### **36.2.8 Full Funding of CRRs.**

All CRRs will be fully funded; provided however, that full funding of CRRs will be suspended if a System Emergency as described in Section 7.7.4, an Uncontrollable Force as described in Section 14, or a Participating TO's withdrawal of facilities or Entitlements from the CAISO Controlled Grid as described in Section 36.8.7 of this Appendix leaves the CAISO with inadequate revenues.

## **36.3 CRR Specifications.**

### **36.3.1 Quantity.**

CRRs are distributed and settled in no less than one-thousandth of a MW denomination.

**36.3.2 Term.**

CRRs are Monthly CRRs, Seasonal CRRs, Long Term CRRs or Merchant Transmission CRRs. For CRR purposes, the applicable seasons are conventional calendar quarters as defined in the Business Practice Manual.

**36.3.3 On-Peak and Off-Peak Specifications.**

CRRs are defined either for on-peak or off-peak hours as specified by the CAISO in the applicable Business Practice Manuals consistent with the WECC standards at the time of the relevant CRR Allocation or CRR Auction.

**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 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 of this Appendix, (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 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.

**36.4.3 Scheduling Requirements for Outages that May Have a Significant Effect on CRR Revenue Adequacy.**

As provided in Section 9.3.6.3.2 of the MRTU Tariff, Outages that may have a significant effect upon CRR revenue adequacy must be submitted for approval no less than thirty (30) days in advance of the first day of the month in which the Outage is proposed to begin. Outages that may have a significant effect upon CRR revenue adequacy are defined in terms of the type of facility and the planned duration of the Outage. Outages of the types of transmission facilities described below that extend beyond a twenty-four (24) hour period must be submitted for CAISO approval consistent with this 30-day advance submittal requirement. The types of transmission facilities on the CAISO Controlled Grid to which this 30-day advance submittal and approval requirement applies consist of transmission facilities that:

- (a) are rated above 200 kV; or
- (b) are part of any defined flow limit as described in a CAISO Operating Procedure;  
or
- (c) were out of service in the last three (3) years and for which the CAISO determined a special flow limit was needed for real-time operation.

A list of the transmission facilities that satisfy criteria (b) and (c) above is provided in the Operating Procedures. The list will be reviewed by the CAISO on an annual basis and revised as appropriate. The following types of Outages need not be submitted for approval within this thirty-day time frame and will not be designated as Forced Outages if they otherwise comply with the requirements in Section 9.3.6 of the MRTU Tariff: (1) Outages previously approved by CAISO that are moved within the same calendar month either by the CAISO or by request of the Participating TO; and (2) Outages associated with CAISO-approved allowable transmission maintenance activities during restricted maintenance operations as covered in CAISO Operating Procedures.

**36.6 [NOT USED]**

**36.7 Bilateral CRR Transactions.**

**36.7.1 Transfer of CRRs.**

**36.7.1.1 General Provisions of CRR Transfers.**

A CRR Holder may sell or otherwise transfer CRRs in increments of at least one-thousandth of a MW. Sales or other such transfers must be for at least a full day term consistent with the on-peak or off-peak specification of the CRR. The transferee may be any entity that is a Candidate CRR Holder or a CRR Holder consistent with the CAISO Tariff and the applicable Business Practice Manuals. All CRRs that are so sold or otherwise transferred by the CRR Holder continue to be subject to the relevant terms and conditions set forth in the CAISO Tariff and the applicable Business Practice Manuals.

**36.7.1.2 Specific Provisions for Transfer of Long Term CRRs.**

A CRR Holder that holds Long Term CRRs may sell or transfer through the Secondary Registration System MW portions and temporal segments of a Long Term CRR corresponding to the current calendar year as well as the calendar year covered by the most recently completed annual CRR Allocation. For such sales or transfers the Long Term CRR will be subject to the same limits on granularity that apply to Seasonal CRRs and Monthly CRRs, as specified in Section 36.7.1 of this Appendix. A CRR Holder that holds Long Term CRRs may not transfer or sell through the Secondary Registration System any temporal segment of a Long Term CRR beyond the calendar year covered by the most recently completed annual CRR Allocation. For temporal segments beyond the year covered by the most recently completed annual CRR Allocation, the CRR Holder to whom a Long Term CRR was originally allocated remains the holder

### **36.8.2.1 Seasonal CRR Eligible Quantity.**

The CAISO constructs load duration curves by season and time of use periods for the annual CRR Allocation process for each LSE based on the LSE's submission to the CAISO of its historical hourly Load data for the prior year, for each LAP within which the LSE serves Load. An LSE's Seasonal CRR Load Metric for each season and time of use period is the MW level of Load that is exceeded only in 0.5% of the hours based on the LSE's historical Load data. In the event that the LSE has lost or gained net Load through Load Migration during the course of the prior year, the historical Load data will be adjusted to reflect the loss or gain in accordance with the applicable BPM. The CAISO calculates an LSE's Seasonal CRR Eligible Quantity by first subtracting from that LSE's Seasonal CRR Load Metric the quantity of Load served by its TORs, ETCs, and Converted Rights to form the LSE's Adjusted Load Metric, and then multiplying the result by 0.75.

### **36.8.2.2 Monthly CRR Eligible Quantity.**

#### **36.8.2.2.1 Based on Load Forecast.**

Each month, LSEs whose load forecasts are verifiable in accordance with Section 36.8.6 of this Appendix will submit hourly load forecast data for the relevant month. Each month the CAISO will use the LSE's submitted hourly load forecast data for the relevant month to calculate two load duration curves (one on-peak and one off-peak load duration curve for the applicable month) to form the basis for monthly allocations for each CRR Sink in which the LSE serves Load. Each LSE's submitted hourly forecast data should reflect any Load growth that is not due to Load Migration as well as the effect of net Load Migration for that LSE. The Monthly CRR Load Metric for such Load is the MW level of Load that is exceeded only in 0.5% of the hours based on the LSE's submitted load forecast. The CAISO will calculate an LSE's Monthly CRR Eligible Quantity by subtracting from that LSE's Monthly CRR Load Metric the quantity of Load served by its TORs, ETCs, and Converted Rights. In addition, the CAISO will adjust the LSE's Monthly CRR Eligible Quantity, if such an adjustment is determined to be necessary pursuant to Section 36.8.6 of this Appendix.

**36.8.2.2.2 Based on Historical Load Data.**

An LSE that serves Load that is eligible for CRRs but for which its load forecast is not verifiable in accordance with Section 36.8.6 of this Appendix shall, each month, submit to the CAISO five (5) years of prior hourly historical load data for that Load for the same applicable month. Such LSE may submit fewer years of historical data for that Load if granted a waiver by the CAISO because five (5) years of such load data does not exist. Each month the CAISO will use the LSE's submitted hourly historical load data for the relevant month to calculate two (2) load duration curves for each year of historical load data (one on-peak and one off-peak load duration curve for the applicable month) for each CRR Sink in which such Load is located. For each load duration curve, the CAISO will calculate the MW level of Load that is exceeded only in 0.5% of the hours. The CAISO will calculate an LSE's Monthly CRR Eligible Quantity for each on-peak and off-peak period for such Load by averaging the 0.5% exceeded values for all years of submitted historical data, and then subtracting the quantity of Load served by its TORs, ETCs, and Converted Rights.

**36.8.3.2.1 Tier 1.** In tier 1 of the monthly CRR Allocations, an LSE or a Qualified OCALSE may nominate and the CAISO will allocate to the LSE or Qualified OCALSE Monthly CRRs up to fifty percent (50%) of the difference between its Monthly CRR Eligible Quantity and the quantity of Seasonal CRRs and previously allocated Long Term CRRs that apply to that month and time of use period. An LSE or a Qualified OCALSE can nominate Monthly CRRs sourced at Trading Hubs in accordance with the LSE's or Qualified OCALSE's verified CRR Sources. In running the SFT the CAISO shall disaggregate the Monthly CRR nominations sourced at Trading Hubs as described in Section 36.8.4.1 of this Appendix. All allocated CRRs that result from such disaggregation will be Point-to-Point CRRs each of whose CRR Source is a Generating Unit PNode that is an element of the Trading Hub.

**36.8.3.2.2 Tier 2.** In tier 2 of the monthly CRR Allocations, an LSE or a Qualified OCALSE may nominate and the CAISO will allocate to the LSE or Qualified OCALSE Monthly CRRs up to one hundred percent (100%) of the difference between its CRR Eligible Quantity and the quantity of Seasonal CRRs and previously allocated Long Term CRRs that apply to that month and time of use period, minus the quantity of CRRs the entity was allocated in tier 1 of the CRR Year One monthly CRR Allocation. An LSE or a Qualified OCALSE can nominate Monthly CRRs sourced at Trading Hubs. In running the SFT the CAISO shall disaggregate the Monthly CRR nominations sourced at Trading Hubs as described in Section 36.8.4.1 of this Appendix. In tier 2 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. A Qualified OCALSE can only nominate CRRs from its verified CRR Sources as provided in Section 36.8.3.4.2 of this Appendix.

**36.8.3.3 [NOT USED]**

from the locations to be nominated as CRR Sources to serve its Load either through ownership of, or contractual rights to receive Energy from, the relevant Generating Units, or a contract to take ownership of power at the relevant source, such as a Trading Hub or a Scheduling Point. For the second, third and fourth quarters of calendar year 2008 for CRR Year One, in conducting its source verification the CAISO will use data for the period beginning April 1, 2006 and ending December 31, 2006. For the first quarter of calendar year 2009 for CRR Year One, the CAISO will use data for the period beginning January 1, 2007 and ending March 31, 2007 as the basis for verification. Such demonstrations shall be provided by the requesting LSE to the CAISO through the submission of a written sworn declaration by an executive employee authorized to represent the LSE and attest to the accuracy of the data demonstration. As necessary, the CAISO may request, and such LSE must produce in a timely manner, documents in support of such declaration.

**36.8.3.4.2 Source Verification for Qualified OCALSEs.**

All CRR nominations by Qualified OCALSEs must be source verified. A Qualified OCALSE's source verification will be based on its legitimate need showing as specified in Section 36.9.1 of this Appendix.

**36.8.3.4.3 Calculation of Verified CRR Source Quantity.**

The Verified CRR Source Quantity associated with each verified CRR Source for a particular LSE or Qualified OCALSE will be: (i) for an owned generation resource the PMax of the unit multiplied by the LSE's or Qualified OCALSE's ownership share; (ii) for a contract with a generation resource, the hourly MWh of Energy specified in the contract averaged over all hours of the relevant time of use period, but no greater than the PMax of the unit; or (iii) for a contract that delivers Energy to a Trading Hub or Scheduling Point, the hourly MWh of energy specified in the contract for delivery from the supplier to the LSE or Qualified OCALSE at the Trading Hub or Scheduling Point, averaged over all hours of the relevant time of use period. Energy contracts submitted by an LSE to demonstrate that the LSE can submit Bids, including Self-Schedules and Inter-SC Trades, for Energy from the nominated CRR Sources to serve its Load must be at least one month in duration. Energy contracts submitted by a Qualified OCALSE to demonstrate that the Qualified OCALSE can submit Bids, including Self-Schedules and Inter-SC Trades, for Energy from the nominated CRR Sources to serve its Load must be at least one month in duration to support nominations of Monthly and Seasonal CRRs, and at least ten (10) years in duration to support nominations of Long Tem CRRs. Nominations of CRRs for which the CRR Source is a Scheduling Point must be source verified in accordance with Section 36.8.4.2 of this Appendix.

LSE or Qualified OCALSE wishes to nominate source-verified CRRs, the CAISO will calculate an Adjusted Verified CRR Source Quantity, which equals the Verified CRR Source Quantity times the ratio of the number of days covered by the contract for a particular month or season to the total number of days in that month or season, consistent with the time of use period of the CRRs being nominated. Contracts submitted by a Qualified OCALSE to support nomination of Long Term CRRs must be at least ten (10) years in duration and cover the entire season of the Long Term CRR being nominated, and therefore the Adjusted Verified CRR Source Quantity calculation does not apply to such nominations.

### **36.8.3.5 Annual CRR Allocation Beyond CRR Year One.**

The annual CRR Allocation for years beyond CRR Year One consists of a sequence of four (4) tiers for each season and time of use period (on-peak and off-peak). Allocations of CRRs in each tier are considered final once they are provided by the CAISO to the respective LSEs or Qualified OCALSEs. After each tier, LSEs or Qualified OCALSEs will have an amount of time as specified in the Business Practice Manual after their receipt of the results of each tier to submit their nominations for the next tier, if there is one. The annual CRR Allocation will allow LSEs or Qualified OCALSEs to submit nominations up to their Seasonal CRR Eligible Quantities minus the quantity of previously allocated Long Term CRRs for each season of the relevant year, each time of use period and each CRR Sink at which they serve Load. Annual CRR Allocations for years beyond CRR Year One will be conducted in the following sequence of tiers:

#### **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 of this Appendix, nominations by a Qualified OCALSE in the PNP are subject to source verification. In all annual CRR Allocations after CRR Year One, an LSE or a Qualified OCALSE 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

**36.8.6 Load Forecasts Used to Calculate CRR MW Eligibility.**

The CAISO will work closely with appropriate state and Local Regulatory Authorities and agencies to ensure that historical Load data and load forecasts used to establish Seasonal and Monthly CRR Eligible Quantities as provided in Section 36.8.2 of this Appendix are consistent with the Load data and load forecasts used to establish resource adequacy requirements.

**36.13.2 Responsibilities of the CAISO Prior to Each CRR Auction.**

The CAISO shall publish on the CAISO Website a notice of upcoming CRR Auctions at least seven (7) days prior to the CRR Auction. The CAISO will also provide additional information needed by CRR Auction participants in accordance with the provisions of Section 6.5.1 of this Appendix.

**36.13.3 CRR Holder Creditworthiness.**

All Market Participants are eligible to acquire CRRs by participating in the CRR Auction, provided that the Market Participant has met all the CRR Holder requirements described in Section 36.5, the creditworthiness provisions in Section 12 of the CAISO Tariff and Section 12.6 of this Appendix and the relevant Business Practice Manual.

**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.

#### **36.13.5 Eligible Sources and Sinks for CRR Auction.**

Allowable CRR Sources for CRRs acquired in the CRR Auction will be PNodes, Scheduling Points, Trading Hubs, LAPs, MSS-LAPs and Sub-LAPs. Allowable CRR Sinks for CRRs acquired in the CRR Auction will be PNodes, Scheduling Points, Trading Hubs, LAPs, MSS-LAPs and Sub-LAPs.

#### **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

**PART M. CRR MONITORING AND AFFILIATE DISCLOSURE REQUIREMENTS**

**39.9 CRR Monitoring and Affiliate Disclosure Requirements.**

The CAISO will monitor the CRR holdings and CAISO Markets activity for anomalous market behavior, gaming, or exercise of market power resulting from CRR ownership concentrations that are not aligned with actual transmission usage as a result of secondary market auction outcomes. If the CAISO identifies such behavior it may seek FERC approval to impose position limits on the total number or MW quantity of CRRs that may be held by any single entity and its Affiliates. Each CRR Holder or Candidate CRR Holder must notify the CAISO of all entities that are Affiliates or become Affiliates of the CRR Holder or Candidate CRR Holder.

**Attachment B – Blacklines**

**Congestion Revenue Rights Credit and Enhancements Amendment Filing**

**Currently Effective ISO Tariff**

**May 30, 2008**

\* \* \*

### **12.1.1.1 Qualitative and Quantitative Credit Strength Indicators.**

In determining a Market Participant's or FTR Bidder's Unsecured Credit Limit, the ISO may rely on information gathered from financial reporting agencies, the general/financial/energy press, and provided by the Market Participant or FTR Bidder to assess its overall financial health and its ability to meet its financial obligations. Information considered by the ISO in this process may include the following qualitative factors:

- a) Applicant's history;
- b) Nature of organization and operating environment;
- c) Management;
- d) Contractual obligations;
- e) Governance policies;
- f) Financial and accounting policies;
- g) Risk management and credit policies;
- h) Market risk including price exposures, credit exposures and operational exposures;
- i) Event risk; ~~and~~
- j) The state or local regulatory environment; and
- k) Affiliate disclosure information provided pursuant to Section 39.9 of Part M of Appendix BB.

Material negative information in these areas may result in a reduction of up to 100% in the Unsecured Credit Limit that would otherwise be granted based on the eight-step process described in Section 12.1.1A. A Market Participant or FTR Bidder, upon request, will be provided a written analysis as to how the provisions in Section 12.1.1A and this section were applied in setting its Unsecured Credit Limit.

\* \* \*

## **12.6 Credit Obligations Applicable to CRRs.**

### **12.6.1 Credit Requirements for CRR Allocations.**

Subject to applicable requirements of Section 36.9.2 of Appendix BB concerning the prepayment of Wheeling Access Charges, Load-Serving Entities eligible to participate in any CRR Allocation are not required to provide additional Financial Security in advance of a CRR Allocation.

### **12.6.2 Credit Requirements for CRR Auctions.**

To establish available credit for participating in any CRR Auction, each CRR Holder or Candidate CRR Holder must have an Unsecured Credit Limit or have provided Financial Security in a form consistent with Section 12.1.2 of ~~this ISO Tariff~~. Each CRR Holder or Candidate CRR Holder may choose to designate a portion of its Unsecured Credit Limit and/or posted Financial Security specifically for the CRR Auction by notifying the ISO of the CRR Holder's or Candidate CRR Holder's intent. Alternatively, the CRR Holder or Candidate CRR Holder may choose to post additional Financial Security to cover its participation in the CRR Auction, and shall notify the ISO of the portion of its total Financial Security to be assigned as its CRR Auction bidding limit. Each CRR Holder or Candidate CRR Holder that participates in a CRR Auction shall ensure that its Aggregate Credit Limit in excess of its Estimated Aggregate Liability is the greater of \$500,000 or the sum equal to the sum of the absolute values of all of its bids for CRRs submitted in the relevant CRR Auction plus the sum of the Credit Margins for all of the CRRs for which the Candidate CRR Holder submits bids in the relevant CRR Auction. A CRR Holder or Candidate CRR Holder that fails to satisfy this requirement shall not be permitted to participate in the relevant CRR Auction, or shall have bids exceeding its Available Credit Limit for participation in the CRR Auction, in accordance with the above formula, rejected by the ISO on a last-in, first-out basis.

### **12.6.3 Credit Requirements for the Holding of CRRs.**

#### **12.6.3.1 Credit Requirements Generally.**

- (a) Each CRR Holder, whether it obtains CRRs through a CRR Allocation or a CRR Auction, must maintain an Aggregate Credit Limit in excess of its Estimated Aggregate Liability including the credit requirement of the CRR portfolio determined as described in this Section 12.6.3. CRR Holders obtaining CRRs in the initial CRR Allocation will be required to comply with the credit requirements associated with such CRRs as determined by the ISO after completion of the initial CRR Auction. The ISO shall issue a market notice after completion of the initial CRR Auction to

announce that CRR Holders obtaining CRRs in the initial CRR Allocation must comply with such credit requirements.

- (b) Each CRR Holder shall be required to ensure that its Aggregate Credit Limit is sufficient to satisfy the credit requirements described in this Section 12.6.3. Except as provided in this paragraph, CRRs are evaluated on a portfolio basis as follows. If a CRR Holder owns more than one CRR, such CRR Holder shall be subject to an overall credit requirement that is equal to the sum of the individual credit requirements applicable to each of the CRRs held by such CRR Holder, which is calculated after the MW associated with any Offsetting CRRs are netted out. If this sum is positive, the amount will be added to the CRR Holder's Estimated Aggregate Liability. However, if the sum is negative, the CRR Holder's Estimated Aggregate Liability shall not be reduced. If a CRR Holder holds one or more CRRs obtained through a CRR Allocation and also holds one or more CRRs obtained through a CRR Auction, the individual credit requirements applicable to any of the CRRs obtained through a CRR Allocation may not be netted against the individual credit requirements applicable to any of the CRRs obtained through a CRR Auction in determining such CRR Holder's Estimated Aggregate Liability.
- (c) The ISO shall reevaluate the credit requirements for holding CRRs, and shall adjust the credit requirements accordingly, not less than monthly. The ISO may adjust the credit requirements for holding CRRs with terms of one year or less ~~more frequently than monthly~~ at the ISO's discretion to account for changes in the monthly auction prices for CRRs and changes in the Historical Expected Values for CRRs, or more frequently than monthly if necessary if the ISO finds that actual or anticipated market conditions indicate that CRR credit requirements may be inadequate to cover the financial risk of the CRRs. The ISO may also adjust the credit requirements for holding Long Term CRRs annually ~~to reflect the number of years remaining in the term of any Long Term CRR,~~ to reflect the changes in auction prices of one-year CRRs in annual auctions, and to reflect updates to Credit Margins based on actual Locational Marginal Price data derived from market operations.

(d) In cases where the ownership of a CRR is to be transferred through either the Secondary Registration System or through ~~Load~~ Migration, the ISO shall evaluate and adjust the credit requirements for both the current owner of the CRR and the prospective owner of the CRR as appropriate prior to the transfer. If additional Financial Security is required from either the current or prospective owner, the transfer will not be completed until such Financial Security has been provided to and accepted by the ISO. CRRs transferred through the Secondary Registration System will be treated like auctioned CRRs for the purpose of calculating the credit requirements for holding the CRRs, regardless of whether the CRRs were originally allocated or purchased at auction or acquired through the Secondary Registration System. CRRs assigned to Load-gaining or Load-losing Load-Serving Entities as a result of Load Migration will be treated like allocated CRRs for the purpose of calculating the credit requirements for holding the CRRs.

**12.6.3.2 Calculation of the Credit Amount Required to Hold a CRR With a Term of One Year or Less.**

Each CRR Holder that holds a CRR with a term of one year or less shall be subject to a credit requirement (\$/MW) equal to the negative of the most recent CRR Auction Price of such CRR or the Historical Expected Value of such CRR, whichever is lower, plus the Credit Margin for such CRR. The CRR Auction Price will be used until twelve (12) months of historical market operations data are available.

\* \* \*

**12.6.4 Credit Requirements for Sales of Allocated CRRs.**

Each Load-Serving Entity that sells a CRR obtained through a CRR Allocation shall, as a prerequisite to the sale of any such CRR, have an Aggregate Credit Limit with a sufficient margin to cover the credit requirement for holding the Offsetting CRR that the Load-Serving Entity would be responsible for assuming in the event of Load Migration from the Load-Serving Entity to another Load-Serving Entity pursuant to Section 36.8.5.3 of Appendix BB. The credit requirement for holding the Offsetting CRR will be included in the Estimated Aggregate Liability of the Load-Serving Entity upon the transfer of the allocated CRR.

\* \* \*

## Master Definition Supplement

\* \* \*

**Historical Expected Value**     The expected value of a CRR, as calculated by the ISO, based on monthly historical market operation data for the applicable month. Such values will be established based on at least one (1) year and up to three (3) years of historical market operations data.

\* \* \*

## ISO TARIFF APPENDIX BB

\* \* \*

### PART D.     CANDIDATE CRR HOLDER AND CRR HOLDER REQUIREMENTS

\* \* \*

#### 4.10.1.5.1     Information Requirements.

The Candidate CRR Holder applicant must submit with its application:

- (a)     the proposed date for commencement of the CRR Allocation, CRR Auction or Secondary Registration System in which the applicant intends to qualify to participate, which may not be less than sixty (60) days after the date the application was filed, unless waived by the CAISO;
- (b)     Financial Security information as set forth in Sections 12.1 and 12.6 of the ISO Tariff and ~~Section 12.6 of this Appendix~~;
- (c)     proof of completion of CRR training or expected completion of CRR training; and
- (d)     the prescribed non-refundable application fee.

\* \* \*

#### 4.10.1.9.1     Notice of Completed Registration and Qualification of Candidate CRR Holder.

Once the CAISO has accepted a Candidate CRR Holder applicant's application, the CAISO will provide the Candidate CRR Holder applicant with a final written notice to certify that a Candidate CRR Holder

applicant has become a Candidate CRR Holder. The CAISO shall issue such final written notice of full registration and qualification as a Candidate CRR Holder after the CAISO has determined that the Candidate CRR Holder applicant has fully satisfied all the following requirements:

- (a) fully executed a CRR Entity Agreement with the CAISO;
- (b) provided its bank account information and arranged for Fed-Wire transfers;
- (c) met the Financial Security requirements of Sections 12.1 and 12.6 of the ISO Tariff and ~~Section 12.6 of this Appendix~~;
- (d) certified that it has attended required CRR training; and
- (e) obtained and installed any necessary software for communication with the CAISO as necessary.

\* \* \*

#### **4.10.3.1 Prior Notice Requirements.**

- (a) A CRR Entity Agreement may be terminated by the CAISO on written notice to the Candidate CRR Holder or CRR Holder that is a party to the CRR Entity Agreement in accordance with the terms of the CRR Entity Agreement:
  - (i) if the Candidate CRR Holder or CRR Holder no longer meets the requirements for eligibility set out in Section 4.10 of this Appendix and fails to remedy the default within a period of seven (7) days after the CAISO has given written notice of the default;
  - (ii) if the Candidate CRR Holder or CRR Holder fails to pay any sum under this CAISO Tariff and fails to remedy the default within a period of five (5) Business Days after the CAISO has given written notice of the default; or

- (iii) if the Candidate CRR Holder or CRR Holder commits any other default under this CAISO Tariff or any of the Business Practice Manuals which, if capable of being remedied, is not remedied within thirty (30) days after the CAISO has given it written notice of the default.
- (b) The Candidate CRR Holder or CRR Holder may terminate its CRR Entity Agreement in accordance with the provisions of that agreement.
- (c) Upon termination of the CRR Entity Agreement, Candidate CRR Holders or CRR Holders shall continue to be liable for any outstanding financial or other obligations incurred under the CAISO Tariff as a result of their status as a Candidate CRR Holder or CRR Holder.
- (d) The CAISO shall, following termination of a CRR Entity Agreement and within thirty (30) days of being satisfied that no sums remain owing by the Candidate CRR Holder or CRR Holder under the CAISO Tariff, return or release to the Candidate CRR Holder or CRR Holder, as appropriate, any Financial Security support provided by such Candidate CRR Holder or CRR Holder to the CAISO under Sections 12.1 and 12.6 of the CAISO Tariff and Section 12.6 of this Appendix.

\* \* \*

**PART G. DEFINITIONS**

\* \* \*

**CRR Year Four**                    ~~The fourth period of time for which the CAISO conducts an annual CRR Allocation, as defined in the Business Practice Manual~~ Second, third and fourth quarters of calendar year 2011 and first quarter of calendar year 2012.

\* \* \*

**CRR Year One**                    ~~The first period of time for which the CAISO conducts an annual CRR Allocation, as defined in the Business Practice Manuals~~ Second, third and fourth quarters of calendar year 2008 and first quarter of calendar year 2009.

\* \* \*

**CRR Year Three**                    ~~The third period of time for which the CAISO conducts an annual~~

CRR Allocation, as defined in the Business Practice Manual Second, third and fourth quarters of calendar year 2010 and first quarter of calendar year 2011.

\* \* \*

**CRR Year Two**

The second period of time for which the CAISO conducts an annual CRR Allocation, as defined in the Business Practice Manual Second, third and fourth quarters of calendar year 2009 and first quarter of calendar year 2010.

\* \* \*

**Monthly CRR Load Metric**

The MW level of Load on an Load Serving Entity's load-duration curve that is exceeded only 0.5% of the time in the relevant month based on Load forecast data The load metric used for determining eligibility for CRR Allocation as provided in Section 36.8.2.2 of this Appendix BB.

\* \* \*

**PART H. CONGESTION REVENUE RIGHTS**

\* \* \*

**36.3 CRR Specifications.**

**36.3.1 Quantity.**

CRRs are distributed and settled in no less than one ~~ten~~thousandth of a MW denomination.

\* \* \*

**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 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 of this Appendix, (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 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.

\* \* \*

**36.4.3 Scheduling Requirements for Outages that May Have a Significant Effect on CRR Revenue Adequacy.**

As provided in Section 9.3.6.3.2 of the MRTU Tariff, Outages that may have a significant effect upon CRR revenue adequacy must be submitted for approval no less than thirty (30) days in advance of the first day of the month in which the Outage is proposed to begin. Outages that may have a significant effect upon CRR revenue adequacy are defined in terms of the type of facility and the planned duration of the Outage. Outages of the types of transmission facilities described below that extend beyond a twenty-four (24) hour period must be submitted for CAISO approval consistent with this 30-day advance submittal requirement. The types of transmission facilities on the CAISO Controlled Grid to which this 30-day advance submittal and approval requirement applies consist of transmission facilities that:

- (a) are rated above 200 kV; or
- (b) are part of any defined flow limit as described in a CAISO Operating Procedure;  
or
- (c) were out of service in the last three (3) years and for which the CAISO determined a special flow limit was needed for real-time operation.

A list of the transmission facilities that satisfy criteria (b) and (c) above is provided in the Operating Procedures. The list will be reviewed by the CAISO on an annual basis and revised as appropriate. The following types of Outages need not be submitted for approval within this thirty-day time frame and will not be designated as Forced Outages if they otherwise comply with the requirements in Section 9.3.6 of the MRTU Tariff: (1) Outages previously approved by CAISO that are moved within the same calendar month either by the CAISO or by request of the Participating TO; and (2) Outages associated with CAISO-approved allowable transmission maintenance activities during restricted maintenance operations as covered in CAISO Operating Procedures.

\* \* \*

### **36.7.1 Transfer of CRRs.**

#### **36.7.1.1 General Provisions of CRR Transfers.**

A CRR Holder may sell or otherwise transfer CRRs in increments of at least ~~a tenth~~ one-thousandth of a MW. Sales or other such transfers must be for at least a full day term consistent with the on-peak or off-peak specification of the CRR. The transferee may be any entity that is a Candidate CRR Holder or a CRR Holder consistent with the CAISO Tariff and the applicable Business Practice Manuals. All CRRs that are so sold or otherwise transferred by the CRR Holder continue to be subject to the relevant terms and conditions set forth in the CAISO Tariff and the applicable Business Practice Manuals.

\* \* \*

#### **36.8.2.2 Monthly CRR Eligible Quantity.**

##### **36.8.2.2.1 Based on Load Forecast.**

Each month, LSEs whose load forecasts are verifiable in accordance with Section 36.8.6 of this Appendix will submit hourly load forecast data for the relevant month. Each month the CAISO will use the LSE's submitted hourly load forecast data for the relevant month to calculate two load duration curves (one on-peak and one off-peak load duration curve for the applicable month) to form the basis for monthly allocations for each CRR Sink in which the LSE serves Load. Each LSE's submitted hourly forecast data should reflect any Load growth that is not due to Load Migration as well as the effect of net Load

Migration for that LSE. The Monthly CRR Load Metric for such Load is the MW level of Load that is exceeded only in 0.5% of the hours based on the LSE's submitted load forecast. The CAISO will calculate an LSE's Monthly CRR Eligible Quantity by subtracting from that LSE's Monthly CRR Load Metric the quantity of Load served by its TORs, ETCs, and Converted Rights. In addition, the CAISO will adjust the LSE's Monthly CRR Eligible Quantity, if such an adjustment is determined to be necessary pursuant to Section 36.8.6 of this Appendix.

#### **36.8.2.2.2 Based on Historical Load Data.**

An LSE that serves Load that is eligible for CRRs but for which its load forecast is not verifiable in accordance with Section 36.8.6 of this Appendix shall, each month, submit to the CAISO five (5) years of prior hourly historical load data for that Load for the same applicable month. Such LSE may submit fewer years of historical data for that Load if granted a waiver by the CAISO because five (5) years of such load data does not exist. Each month the CAISO will use the LSE's submitted hourly historical load data for the relevant month to calculate two (2) load duration curves for each year of historical load data (one on-peak and one off-peak load duration curve for the applicable month) for each CRR Sink in which such Load is located. For each load duration curve, the CAISO will calculate the MW level of Load that is exceeded only in 0.5% of the hours. The CAISO will calculate an LSE's Monthly CRR Eligible Quantity for each on-peak and off-peak period for such Load by averaging the 0.5% exceeded values for all years of submitted historical data, and then subtracting the quantity of Load served by its TORs, ETCs, and Converted Rights.

\*\*\*

**36.8.3.2.2 Tier 2.** In tier 2 of the monthly CRR Allocations, an LSE or a Qualified OCALSE may nominate and the CAISO will allocate to the LSE or Qualified OCALSE Monthly CRRs up to one hundred percent (100%) of the difference between its CRR Eligible Quantity and the quantity of Seasonal CRRs and previously allocated Long Term CRRs that apply to that month and time of use period, minus the quantity of CRRs the entity was allocated in tier 1 of the CRR Year One monthly CRR Allocation. An LSE or a Qualified OCALSE can nominate Monthly CRRs sourced at Trading Hubs. In running the SFT the CAISO shall disaggregate the Monthly CRR nominations sourced at Trading Hubs as described in Section 36.8.4.1 of this Appendix. In tier 2 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. A Qualified OCALSE can only nominate CRRs from its verified CRR Sources as provided in Section 36.8.3.4.2 of this Appendix.

\* \* \*

#### **36.8.3.4.1 CRR Year One Source Verification for LSEs.**

In CRR Year One, nominations for tier 1 and tier 2 of the annual CRR Allocation and tier 1 of the monthly CRR Allocations must be source verified for all LSEs. The CAISO will make available, prior to the beginning of the allocation process, a list of allowable CRR Sources to be used in the allocation. An LSE must demonstrate that it could actually submit Bids, including Self-Schedules and Inter-SC Trades, for Energy from the locations to be nominated as CRR Sources to serve its Load either through ownership of, or contractual rights to receive Energy from, the relevant Generating Units, or a contract to take ownership of power at the relevant source, such as a Trading Hub or a Scheduling Point. For the second, third and fourth quarters of calendar year 2008 for CRR Year One, in conducting its source verification the CAISO will use data for the period beginning ~~January~~ April 1, 2006 and ending December 31, 2006 as the basis for verification. For the first quarter of calendar year 2009 for CRR Year One, the CAISO will use data for the period beginning January 1, 2007 and ending March 31, 2007 as the basis for verification. Such demonstrations shall be provided by the requesting LSE to the CAISO through the submission of a written sworn declaration by an executive employee authorized to represent the LSE and attest to the accuracy of the data demonstration. As necessary, the CAISO may request, and such LSE must produce in a timely manner, documents in support of such declaration.

\* \* \*

#### **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~~year~~. As provided in Section 36.8.3.4.2 of this Appendix, nominations by a Qualified OCALSE in the PNP are subject to source verification. In all annual CRR Allocations after CRR Year One, an LSE or a Qualified OCALSE 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 of this Appendix. In addition, an LSE's or Qualified OCALSE's nomination of any particular CRR Source-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 OCALSE was allocated in the previous annual 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 of this Appendix. An LSE or a Qualified OCALSE may not nominate CRRs sourced at 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 of this Appendix. That is, with the exception of transfers to reflect Load Migration: (i) an LSE or a Qualified OCALSE 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 OCALSE 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 OCALSE 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.

\* \* \*

### **36.8.6 Load Forecasts Used to Calculate CRR MW Eligibility.**

The CAISO will work closely with appropriate state and Local Regulatory Authorities and agencies to ensure that historical Load data and load forecasts used to establish Seasonal and Monthly CRR Eligible Quantities as provided in Section 36.8.2 of this Appendix are consistent with the Load data and load forecasts used to establish resource adequacy requirements.

\* \* \*

#### **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 tenths 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 tenths thousandths of a MW) and prices (\$/MW);
- g) For each CRR Sink, a monotonically non-increasing piecewise linear bid curve in quantities (denominated in tenths thousandths of a MW) and prices (\$/MW).

Bid prices in all CRR bids may be negative.

\* \* \*

**PART M. CRR MONITORING AND AFFILIATE DISCLOSURE REQUIREMENTS**

**39.9 CRR Monitoring and Affiliate Disclosure Requirements.**

The CAISO will monitor the CRR holdings and CAISO Markets activity for anomalous market behavior, gaming, or exercise of market power resulting from CRR ownership concentrations that are not aligned with actual transmission usage as a result of secondary market auction outcomes. If the CAISO identifies such behavior it may seek FERC approval to impose position limits on the total number or MW quantity of CRRs that may be held by any single entity and its Affiliates. Each CRR Holder or Candidate CRR Holder must notify the CAISO of all entities that are Affiliates or become Affiliates of the CRR Holder or Candidate CRR Holder.

\* \* \*

**Attachment C – Clean Sheets**

**Congestion Revenue Rights Credit and Enhancements Amendment Filing**

**4<sup>th</sup> Replacement CAISO Tariff (MRTU)**

**May 30, 2008**

**12.1.1.2 Qualitative and Quantitative Credit Strength Indicators.**

In determining a Market Participant's Unsecured Credit Limit, the CAISO may rely on information gathered from financial reporting agencies, the general/financial/energy press, and provided by the Market Participant to assess its overall financial health and its ability to meet its financial obligations.

Information considered by the CAISO in this process may include the following qualitative factors:

- (a) Applicant's history;
- (b) Nature of organization and operating environment;
- (c) Management;
- (d) Contractual obligations;
- (e) Governance policies;
- (f) Financial and accounting policies;
- (g) Risk management and credit policies;
- (h) Market risk including price exposures, credit exposures and operational exposures;
- (i) Event risk;
- (j) The state or local regulatory environment; and
- (k) Affiliate disclosure information provided pursuant to Section 39.9.

Material negative information in these areas may result in a reduction of up to one hundred percent (100%) in the Unsecured Credit Limit that would otherwise be granted based on the eight-step process described in Section 12.1.1.1. A Market Participant, upon request, will be provided a written analysis as to how the provisions in Section 12.1.1.1 and this section were applied in setting its Unsecured Credit Limit.

**12.6 Credit Obligations Applicable to CRRs.**

**12.6.1 Credit Requirements for CRR Allocations.**

Subject to applicable requirements of Section 36.9.2 concerning the prepayment of Wheeling Access Charges, Load Serving Entities eligible to participate in any CRR Allocation are not required to provide additional Financial Security in advance of a CRR Allocation.

**12.6.2 Credit Requirements for CRR Auctions.**

To establish available credit for participating in any CRR Auction, each CRR Holder or Candidate CRR Holder must have an Unsecured Credit Limit or have provided Financial Security in a form consistent with Section 12.1.2. Each CRR Holder or Candidate CRR Holder may choose to designate a portion of its Unsecured Credit Limit and/or posted Financial Security specifically for the CRR Auction by notifying the CAISO of the CRR Holder's or Candidate CRR Holder's intent. Alternatively, the CRR Holder or Candidate CRR Holder may choose to post additional Financial Security to cover its participation in the CRR Auction, and shall notify the CAISO of the portion of its total Financial Security to be assigned as its CRR Auction bidding limit. Each CRR Holder or Candidate CRR Holder that participates in a CRR Auction shall ensure that its Aggregate Credit Limit in excess of its Estimated Aggregate Liability is the greater of \$500,000 or the sum equal to the sum of the absolute values of all of its bids for CRRs submitted in the relevant CRR Auction plus the sum of the Credit Margins for all of the CRRs for which the Candidate CRR Holder submits bids in the relevant CRR Auction. A CRR Holder or Candidate CRR Holder that fails to satisfy this requirement shall not be permitted to participate in the relevant CRR Auction, or shall have bids exceeding its Available Credit Limit for participation in the CRR Auction, in accordance with the above formula, rejected by the CAISO on a last-in, first-out basis.

**12.6.3 Credit Requirements for the Holding of CRRs.**

**12.6.3.1 Credit Requirements Generally.**

- (a) Each CRR Holder, whether it obtains CRRs through a CRR Allocation or a CRR Auction, must maintain an Aggregate Credit Limit in excess of its Estimated Aggregate Liability including the credit requirement of the CRR portfolio determined as described in this Section 12.6.3. CRR Holders obtaining CRRs in the initial CRR Allocation will be required to comply with the credit requirements associated with such CRRs as determined by the CAISO after completion of the initial CRR Auction. The CAISO shall issue a Market Notice after completion of the initial CRR Auction to announce that CRR Holders obtaining CRRs in the initial CRR Allocation must comply with such credit requirements.
- (b) Each CRR Holder shall be required to ensure that its Aggregate Credit Limit is sufficient to satisfy the credit requirements described in this Section 12.6.3. Except as provided in this paragraph, CRRs are evaluated on a portfolio basis as follows. If a CRR Holder owns more than one CRR, such CRR Holder shall be subject to an overall credit requirement that is equal to the sum of the individual credit requirements applicable to each of the CRRs held by such CRR Holder, which is calculated after the MW associated with any Offsetting CRRs are netted out. If this sum is positive, the amount will be added to the CRR Holder's Estimated Aggregate Liability. However, if the sum is negative, the CRR Holder's Estimated Aggregate Liability shall not be reduced. If a CRR Holder holds one or more CRRs obtained through a CRR Allocation and also holds one or more CRRs obtained through a CRR Auction, the individual credit requirements applicable to any of the CRRs obtained through a CRR Allocation may not be netted against the individual credit requirements applicable to any of the CRRs obtained through a CRR Auction in determining such CRR Holder's Estimated Aggregate Liability.

- (c) The CAISO shall reevaluate the credit requirements for holding CRRs, and shall adjust the credit requirements accordingly, not less than monthly. The CAISO may adjust the credit requirements for holding CRRs with terms of one year or less at the CAISO's discretion to account for changes in the monthly auction prices for CRRs and changes in the Historical Expected Values for CRRs, or more frequently than monthly if necessary if the CAISO finds that actual or anticipated market conditions indicate that CRR credit requirements may be inadequate to cover the financial risk of the CRRs. The CAISO may also adjust the credit requirements for holding Long Term CRRs annually to reflect the changes in auction prices of one-year CRRs in annual auctions, and to reflect updates to Credit Margins based on actual Locational Marginal Price data derived from market operations.
- (d) In cases where the ownership of a CRR is to be transferred through either the Secondary Registration System or through Load Migration, the CAISO shall evaluate and adjust the credit requirements for both the current owner of the CRR and the prospective owner of the CRR as appropriate prior to the transfer. If additional Financial Security is required from either the current or prospective owner, the transfer will not be completed until such Financial Security has been provided to and accepted by the CAISO. CRRs transferred through the Secondary Registration System will be treated like auctioned CRRs for the purpose of calculating the credit requirements for holding the CRRs, regardless of whether the CRRs were originally allocated or purchased at auction or acquired through the Secondary Registration System. CRRs assigned to Load-gaining or Load-losing Load Serving Entities as a result of Load Migration will be treated like allocated CRRs for the purpose of calculating the credit requirements for holding the CRRs.

**12.6.3.2 Calculation of the Credit Amount Required to Hold a CRR With a Term of One Year or Less.**

Each CRR Holder that holds a CRR with a term of one year or less shall be subject to a credit requirement (\$/MW) equal to the negative of the most recent CRR Auction Price of such CRR or the Historical Expected Value of such CRR, whichever is lower, plus the Credit Margin for such CRR. The CRR Auction Price will be used until twelve (12) months of historical market operations data are available.

**12.6.3.3 Calculation of the Credit Amount Required to Hold a Long Term CRR.**

Each CRR Holder that holds a Long Term CRR shall be subject to a credit requirement (\$/MW) equal to (i) the negative of the most recent CRR Auction Price of a CRR with the same CRR Source and CRR Sink as the Long Term CRR but with only a one-year term, plus (ii) the Credit Margin calculated for the one-year CRR. If there is less than one year remaining in the term of a Long Term CRR, the credit requirement shall be determined pursuant to Section 12.6.3.2.

**12.6.3.4 Calculation of Credit Margin.**

The Credit Margin (\$/MW) for a CRR is equal to (i) the Expected Congestion Revenue minus (ii) the Fifth Percentile Congestion Revenue of such CRR. Both values will be based on the probability distribution of Congestion revenue of such CRR calculated using historical Locational Marginal Price data, when available, and proxy values, including data taken from Locational Marginal Price studies conducted by the CAISO, until such time as historical Locational Marginal Price data is available, with the details of such calculation published in a Business Practice Manual. The CAISO may reassess its determinations regarding the Credit Margin determination at any time and shall require additional Financial Security if the reassessment results in an increase in a CRR Holder's Estimated Aggregate Liability that is not covered by a CRR Holder's Aggregate Credit Limit (consisting of the CRR Holder's Unsecured Credit Limit and/or Financial Security).

**12.6.4 Credit Requirements for Sales of Allocated CRRs.**

Each Load Serving Entity that sells a CRR obtained through a CRR Allocation shall, as a prerequisite to the sale of any such CRR, have an Aggregate Credit Limit with a sufficient margin to cover the credit requirement for holding the Offsetting CRR that the Load Serving Entity would be responsible for assuming in the event of Load Migration from the Load Serving Entity to another Load Serving Entity pursuant to Section 36.8.5.3. The credit requirement for holding the Offsetting CRR will be included in the Estimated Aggregate Liability of the Load Serving Entity upon the transfer of the allocated CRR.

**12.7 Credit Obligation for New Responsible Utilities for RMR Costs.**

If a Responsible Utility first executed the TCA after April 1, 1998 (a New Responsible Utility) and if:

- (i) the senior unsecured debt of the New Responsible Utility is rated or becomes rated at less than A- from Standard & Poor's ("S&P") or A3 from Moody's Investment Services ("Moody's"), and
- (ii) Such ratings do not improve to A- or better from S&P or A3 or better from Moody's within 60 days,

of the ten-year term and represent binding ten-year commitments by the CRR Holders that hold Long Term CRRs. Long Term CRRs are nominated and allocated to LSEs in Tier LT that is one tier in the sequence of tiers in the annual CRR Allocation process. Long Term CRRs are not available through the CRR Auction.

**36.2.8 Full Funding of CRRs.**

All CRRs will be fully funded; provided however, that full funding of CRRs will be suspended if a System Emergency as described in Section 7.7.4, an Uncontrollable Force as described in Section 14, or a Participating TO's withdrawal of facilities or Entitlements from the CAISO Controlled Grid as described in Section 36.8.7 leaves the CAISO with inadequate revenues.

**36.3 CRR Specifications.**

**36.3.1 Quantity.**

CRRs are distributed and settled in no less than one-thousandth of a MW denomination.

**36.3.2 Term.**

CRRs are Monthly CRRs, Seasonal CRRs, Long Term CRRs or Merchant Transmission CRRs. For CRR purposes, the applicable seasons are conventional calendar quarters as defined in the Business Practice Manual.

**36.3.3 On-Peak and Off-Peak Specifications.**

CRRs are defined either for on-peak or off-peak hours as specified by the CAISO in the applicable Business Practice Manuals consistent with the WECC standards at the time of the relevant CRR Allocation or CRR Auction.

**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 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 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.

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.

**36.4.3 Scheduling Requirements for Outages that May Have a Significant Effect on CRR Revenue Adequacy.**

As provided in Section 9.3.6.3.2, Outages that may have a significant effect upon CRR revenue adequacy must be submitted for approval no less than thirty (30) days in advance of the first day of the month in which the Outage is proposed to begin. Outages that may have a significant effect upon CRR revenue adequacy are defined in terms of the type of facility and the planned duration of the Outage. Outages of the types of transmission facilities described below that extend beyond a twenty-four (24) hour period must be submitted for CAISO approval consistent with this 30-day advance submittal requirement. The types of transmission facilities on the CAISO Controlled Grid to which this 30-day advance submittal and approval requirement applies consist of transmission facilities that:

- (a) are rated above 200 kV; or
- (b) are part of any defined flow limit as described in a CAISO Operating Procedure;  
or
- (c) were out of service in the last three (3) years and for which the CAISO determined a special flow limit was needed for real-time operation.

A list of the transmission facilities that satisfy criteria (b) and (c) above is provided in the Operating Procedures. The list will be reviewed by the CAISO on an annual basis and revised as appropriate. The following types of Outages need not be submitted for approval within this thirty-day time frame and will not be designated as Forced Outages if they otherwise comply with the requirements in Section 9.3.6: (1) Outages previously approved by CAISO that are moved within the same calendar month either by the CAISO or by request of the Participating TO; and (2) Outages associated with CAISO-approved allowable transmission maintenance activities during restricted maintenance operations as covered in CAISO Operating Procedures.

**36.5 Candidate CRR Holder and CRR Holder Requirements.**

Any entity that holds or intends to hold CRRs must register and qualify with the CAISO and comply with the other terms of this Section, regardless of whether they acquire CRRs by CRR Allocation, CRR Auction, the Secondary Registration System, or are assigned CRRs for Load Migration.

**36.5.1 Creditworthiness Requirements.**

All CRR Holders and Candidate CRR Holders must comply fully with all creditworthiness requirements as provided in Section 12 and Section 12.6 and as further developed in the applicable Business Practice Manuals. The amount of available credit for participating in a CRR Auction cannot exceed the entity's Aggregate Credit Limit as provided in Section 12.

**36.5.2 Required Training.**

CRR Holders and Candidate CRR Holders must attend a training class at least once prior to participating in the CRR Allocations or CRR Auctions. The CAISO may update training requirements annually or on an as-needed basis. Unless granted a waiver by the CAISO, Candidate CRR Holders and CRR Holders shall at all times have in their employment a person that has attended the CAISO's CRR training class and shall notify the CAISO as soon as practicable of a change in such status.

**36.6 [NOT USED]**

**36.7 Bilateral CRR Transactions.**

**36.7.1 Transfer of CRRs.**

**36.7.1.1 General Provisions of CRR Transfers.**

A CRR Holder may sell or otherwise transfer CRRs in increments of at least one-thousandth of a MW. Sales or other such transfers must be for at least a full day term consistent with the on-peak or off-peak specification of the CRR. The transferee may be any entity that is a Candidate CRR Holder or a CRR Holder consistent with the CAISO Tariff and the applicable Business Practice Manuals. All CRRs that are so sold or otherwise transferred by the CRR Holder continue to be subject to the relevant terms and conditions set forth in the CAISO Tariff and the applicable Business Practice Manuals.

**36.8.2.1 Seasonal CRR Eligible Quantity.**

The CAISO constructs Load duration curves by season and time of use periods for the annual CRR Allocation process for each LSE based on the LSE's submission to the CAISO of its historical hourly Load data for the prior year, for each LAP within which the LSE serves Load. An LSE's Seasonal CRR Load Metric for each season and time of use period is the MW level of Load that is exceeded only in 0.5% of the hours based on the LSE's historical Load data. In the event that the LSE has lost or gained net Load through Load Migration during the course of the prior year, the historical Load data will be adjusted to reflect the loss or gain in accordance with the applicable BPM. The CAISO calculates an LSE's Seasonal CRR Eligible Quantity by first subtracting from that LSE's Seasonal CRR Load Metric the quantity of Load served by its TORs, ETCs, and Converted Rights to form the LSE's Adjusted Load Metric, and then multiplying the result by 0.75.

**36.8.2.2 Monthly CRR Eligible Quantity.**

**36.8.2.2.1 Based on Load Forecast.**

Each month, LSEs whose Load forecasts are verifiable in accordance with Section 36.8.6 will submit hourly Load forecast data for the relevant month. Each month the CAISO will use the LSE's submitted hourly Load forecast data for the relevant month to calculate two Load duration curves (one on-peak and one off-peak Load duration curve for the applicable month) to form the basis for monthly allocations for each CRR Sink in which the LSE serves Load. Each LSE's submitted hourly forecast data should reflect any Load growth that is not due to Load Migration as well as the effect of net Load Migration for that LSE. The Monthly CRR Load Metric for such Load is the MW level of Load that is exceeded only in 0.5% of the hours based on the LSE's submitted Load forecast. The CAISO will calculate an LSE's Monthly CRR Eligible Quantity by subtracting from that LSE's Monthly CRR Load Metric the quantity of Load served by its TORs, ETCs, and Converted Rights. In addition the CAISO will adjust the LSE's Monthly CRR Eligible Quantity, if such an adjustment is determined to be necessary pursuant to Section 36.8.6.

**36.8.2.2.2 Based on Historical Load Data.**

An LSE that serves Load that is eligible for CRRs but for which its Load forecast is not verifiable in accordance with Section 36.8.6 shall, each month, submit to the CAISO five (5) years of prior hourly historical Load data for that Load for the same applicable month. Such LSE may submit fewer years of historical data for that Load if granted a waiver by the CAISO because five (5) years of such Load data does not exist. Each month the CAISO will use the LSE's submitted hourly historical Load data for the relevant month to calculate two (2) Load duration curves for each year of historical Load data (one on-peak and one off-peak Load duration curve for the applicable month) for each CRR Sink in which such Load is located. For each Load duration curve, the CAISO will calculate the MW level of Load that is exceeded only in 0.5% of the hours. The CAISO will calculate an LSE's Monthly CRR Eligible Quantity for each on-peak and off-peak period for such Load by averaging the 0.5% exceeded values for all years of submitted historical data, and then subtracting the quantity of Load served by its TORs, ETCs, and Converted Rights.

**36.8.3.4.1 CRR Year One Source Verification for LSEs.**

In CRR Year One, nominations for tier 1 and tier 2 of the annual CRR Allocation and tier 1 of the monthly CRR Allocations must be source verified for all LSEs. The CAISO will make available, prior to the beginning of the allocation process, a list of allowable CRR Sources to be used in the allocation. An LSE must demonstrate that it could actually submit Bids, including Self-Schedules and Inter-SC Trades, for Energy from the locations to be nominated as CRR Sources to serve its Load either through ownership of, or contractual rights to receive Energy from, the relevant Generating Units, or a contract to take ownership of power at the relevant source, such as a Trading Hub or a Scheduling Point. For the second, third and fourth quarters of calendar year 2008 for CRR Year One, in conducting its source verification the CAISO will use data for the period beginning April 1, 2006 and ending December 31, 2006. For the first quarter of calendar year 2009 for CRR Year One, the CAISO will use data for the period beginning January 1, 2007 and ending March 31, 2007 as the basis for verification. Such demonstrations shall be provided by the requesting LSE to the CAISO through the submission of a written sworn declaration by an executive employee authorized to represent the LSE and attest to the accuracy of the data demonstration. As necessary, the CAISO may request, and such LSE must produce in a timely manner, documents in support of such declaration.

**36.8.3.4.2 Source Verification for Qualified OBAALSEs.**

All CRR nominations by Qualified OBAALSEs must be source verified. A Qualified OBAALSE's source verification will be based on its legitimate need showing as specified in Section 36.9.1.

**36.8.3.4.3 Calculation of Verified CRR Source Quantity.**

The Verified CRR Source Quantity associated with each verified CRR Source for a particular LSE or Qualified OBAALSE will be: (i) for an owned generation resource the PMax of the unit multiplied by the LSE's or Qualified OBAALSE's ownership share; (ii) for a contract with a generation resource, the hourly MWh of Energy specified in the contract averaged over all hours of the relevant time of use period, but no greater than the PMax of the unit; or (iii) for a contract that delivers Energy to a Trading Hub or Scheduling Point, the hourly MWh of energy specified in the contract for delivery from the supplier to the LSE or Qualified OBAALSE at the Trading Hub or Scheduling Point, averaged over all hours of the

**36.8.3.5 Annual CRR Allocation Beyond CRR Year One.**

The annual CRR Allocation for years beyond CRR Year One consists of a sequence of four (4) tiers for each season and time of use period (on-peak and off-peak). Allocations of CRRs in each tier are considered final once they are provided by the CAISO to the respective LSEs or Qualified OBAALSEs. After each tier, LSEs or Qualified OBAALSEs will have an amount of time as specified in the Business Practice Manual after their receipt of the results of each tier to submit their nominations for the next tier, if there is one. The annual CRR Allocation will allow LSEs or Qualified OBAALSEs to submit nominations up to their Seasonal CRR Eligible Quantities minus the quantity of previously allocated Long Term CRRs for each season of the relevant year, each time of use period and each CRR Sink at which they serve Load. Annual CRR Allocations for years beyond CRR Year One will be conducted in the following sequence of tiers:

**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,

**36.8.6 Load Forecasts Used to Calculate CRR MW Eligibility.**

The CAISO will work closely with appropriate state and Local Regulatory Authorities and agencies to ensure that historical Load data and Load forecasts used to establish Seasonal CRR Eligible Quantities and Monthly CRR Eligible Quantities as provided in Section 36.8.2 are consistent with the Load data and Load forecasts used to establish resource adequacy requirements.

**36.8.7 Long Term CRRs and Participating TO Withdrawals from the CAISO Controlled Grid.**

In the event a Participating TO gives the required notice and withdraws facilities or Entitlements from the CAISO Controlled Grid, the CAISO will reconfigure Long Term CRRs as necessary to reflect the CAISO Controlled Grid after the withdrawal. After reconfiguration, the CAISO will run SFTs on the reconfigured Long Term CRRs and, if necessary, reduce some of the reconfigured Long Term CRRs to ensure their feasibility. If the CRR Source and CRR Sink for an allocated Long Term CRR both are located within a departing Participating TO Service Territory, the Long Term CRR would expire on the effective date of the Participating TO's withdrawal.

**36.9 CRR Allocation to OBAALSEs.**

OBAALSEs who wish to nominate and be allocated CRR Obligations in the same annual and monthly CRR Allocation processes described in Section 36.8 may do so subject to the provisions of this Section 36.9 and if such OBAALSEs are qualified and registered as Candidate CRR Holders or CRR Holders. An OBAALSE may participate in the CRR Allocation processes and be allocated CRRs to the extent that: (1) such OBAALSE makes a showing of legitimate need for the CRRs nominated as provided by Section 36.9.1;

**36.13.2 Responsibilities of the CAISO Prior to Each CRR Auction.**

The CAISO shall publish on the CAISO Website a notice of upcoming CRR Auctions at least seven (7) days prior to the CRR Auction. The CAISO will also provide additional information needed by CRR Auction participants in accordance with the provisions of Section 6.5.1.

**36.13.3 CRR Holder Creditworthiness.**

All Market Participants are eligible to acquire CRRs by participating in the CRR Auction, provided that the Market Participant has met all the CRR Holder requirements described in Section 36.5, the creditworthiness provisions in Section 12 and Section 12.6 and the relevant Business Practice Manual.

**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.

**36.13.5 Eligible Sources and Sinks for CRR Auction.**

Allowable CRR Sources for CRRs acquired in the CRR Auction will be PNodes, Scheduling Points, Trading Hubs, LAPs, MSS-LAPs and Sub-LAPs. Allowable CRR Sinks for CRRs acquired in the CRR Auction will be PNodes, Scheduling Points, Trading Hubs, LAPs, MSS-LAPs and Sub-LAPs.

**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

**39.9 CRR Monitoring and Affiliate Disclosure Requirements.**

The CAISO will monitor the CRR holdings and CAISO Markets activity for anomalous market behavior, gaming, or exercise of market power resulting from CRR ownership concentrations that are not aligned with actual transmission usage as a result of secondary market auction outcomes. If the CAISO identifies such behavior it may seek FERC approval to impose position limits on the total number or MW quantity of CRRs that may be held by any single entity and its Affiliates. Each CRR Holder or Candidate CRR Holder must notify the CAISO of all entities that are Affiliates or become Affiliates of the CRR Holder or Candidate CRR Holder.

<b>CRR Payment</b>	A payment from the CAISO to a CRR Holder as specified in Section 11.2.4.
<b>CRR Sink</b>	A PNode or a Trading Hub specified as the point of withdrawal for a Congestion Revenue Right.
<b>CRR Source</b>	A PNode or a Trading Hub specified as the point of receipt for a Congestion Revenue Right.
<b>CRR Term</b>	Set of hours for which a given CRR is effective, based on the CRR specifications in Section 36.3, which is either the season multiplied by the time of use specifications or the month multiplied by the time of use specifications.
<b>CRR Year Four</b>	Second, third and fourth quarters of calendar year 2011 and first quarter of calendar year 2012.
<b>CRR Year One</b>	Second, third and fourth quarters of calendar year 2008 and first quarter of calendar year 2009.
<b>CRR Year Three</b>	Second, third and fourth quarters of calendar year 2010 and first quarter of calendar year 2011.
<b>CRR Year Two</b>	Second, third and fourth quarters of calendar year 2009 and first quarter of calendar year 2010.
<b>Curtable Demand</b>	Demand from a Participating Load or Aggregated Participating Load that can be curtailed at the direction of the CAISO in the Real-Time Dispatch of the CAISO Controlled Grid. Scheduling Coordinators with Curtable Demand may offer it to the CAISO to meet Non-Spinning Reserve or Imbalance Energy.
<b>Custom Load Aggregation Point (Custom LAP)</b>	An aggregation of Load PNodes created by the CAISO based on a set of custom LDFs submitted by a Scheduling Coordinator, at which such Scheduling Coordinator may submit a single Bid and settle Demand consistent with the CAISO Tariff rules, and for which the Scheduling Coordinator is required to submit to the CAISO Meter Data for the nodal Load represented in such aggregation.
<b>DAM</b>	Day-Ahead Market

**High Voltage  
Transmission Facility**

A transmission facility that is owned by a Participating TO or to which a Participating TO has an Entitlement that is represented by a Converted Right, that is under the CAISO Operational Control, and that operates at a voltage at or above 200 kilovolts, and supporting facilities, and the costs of which are not directly assigned to one or more specific customers, provided that the High Voltage Transmission Facilities of a Participating TO shall include any Location Constrained Resource Interconnection Facility of that Participating TO that has been turned over to the CAISO's Operational Control.

**High Voltage  
Transmission Revenue  
Requirement (HVTRR)**

The portion of a Participating TO's Transmission Revenue Requirement associated with and allocable to the Participating TO's High Voltage Transmission Facilities and Converted Rights associated with High Voltage Transmission Facilities that are under the CAISO Operational Control.

**High Voltage Utility  
Specific Rate**

A Participating TO's High Voltage Transmission Revenue Requirement divided by such Participating TO's forecasted Gross Load.

**High Voltage Wheeling  
Access Charge**

The Wheeling Access Charge associated with the recovery of a Participating TO's High Voltage Transmission Revenue Requirements in accordance with Section 26.1.

**Historical Expected Value**

The expected value of a CRR, as calculated by the CAISO, based on monthly historical market operation data for the applicable month. Such values will be established based on at least one (1) year and up to three (3) years of historical market operations data.

**Host Balancing Authority  
Host Balancing Authority  
Area**

The Balancing Authority for a Host Balancing Authority Area.

The Balancing Authority Area in which a System Resource subject to this CAISO Tariff is connected to the electric grid. The Host Balancing Authority Area may, or may not, be directly interconnected with the CAISO Balancing Authority Area.

<b>Minimum Operating Limit (MOL<sub>min</sub>)</b>	The greater of the Minimum Load or the lower bound of the Regulating Range if the resource offers Regulation service.
<b>Minimum Run Time</b>	The minimum amount of time that a Generating Unit must stay on-line after being started-up prior to being Shut-Down, due to physical operating constraints.
<b>Mitigation Frequency</b>	The percent of the Generating Unit's run hours where the unit had one or more Bid segments mitigated under the CAISO Local Market Power Mitigation.
<b>Mitigation Measures</b>	The CAISO market power mitigation measures under the CAISO Tariff.
<b>MKMV Default Probability</b>	A calculated result of Moody's KMV CreditEdge or RiskCalc software products.
<b>MNDC</b>	Maximum Net Dependable Capacity
<b>Modified Reserve Sharing LSE</b>	A Load Serving Entity whose Scheduling Coordinator has informed the CAISO in accordance with Section 40.1 of its election to be a Modified Reserve Sharing LSE.
<b>MOL<sub>max</sub></b>	Maximum Operating Limit
<b>MOL<sub>min</sub></b>	Minimum Operating Limit
<b>Monthly Available CRR Capacity</b>	The upper limit of network capacity that will be used in the monthly CRR Allocation and monthly CRR Auctions calculated by using OTC adjusted for Outages, derates, and Transmission Ownership Rights for the relevant month in accordance with Section 36.4.
<b>Monthly CRR</b>	A Congestion Revenue Right whose term is one calendar month in length and distributed in the monthly CRR Allocation and monthly CRR Auction.
<b>Monthly CRR Eligible Quantity</b>	The MW quantity of CRRs a CRR Holder or Candidate CRR Holder is eligible to nominate for the relevant month in a monthly CRR Allocation.
<b>Monthly CRR Load Metric</b>	The load metric used for determining eligibility for CRR Allocation as provided in Section 36.8.2.2.
<b>MORC</b>	Minimum Operating Reliability Criteria

**Attachment D – Blacklines**

**Congestion Revenue Rights Credit and Enhancements Amendment Filing**

**4<sup>th</sup> Replacement CAISO Tariff (MRTU)**

**May 30, 2008**

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### **12.1.1.2 Qualitative and Quantitative Credit Strength Indicators.**

In determining a Market Participant's Unsecured Credit Limit, the CAISO may rely on information gathered from financial reporting agencies, the general/financial/energy press, and provided by the Market Participant to assess its overall financial health and its ability to meet its financial obligations. Information considered by the CAISO in this process may include the following qualitative factors:

- (a) Applicant's history;
- (b) Nature of organization and operating environment;
- (c) Management;
- (d) Contractual obligations;
- (e) Governance policies;
- (f) Financial and accounting policies;
- (g) Risk management and credit policies;
- (h) Market risk including price exposures, credit exposures and operational exposures;
- (i) Event risk; ~~and~~
- (j) The state or local regulatory environment; and
- (k) Affiliate disclosure information provided pursuant to Section 39.9.

Material negative information in these areas may result in a reduction of up to one hundred percent (100%) in the Unsecured Credit Limit that would otherwise be granted based on the eight-step process described in Section 12.1.1.1. A Market Participant, upon request, will be provided a written analysis as to how the provisions in Section 12.1.1.1 and this section were applied in setting its Unsecured Credit Limit.

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### **12.6 Credit Obligations Applicable to CRRs.**

\* \* \*

## **12.6.2 Credit Requirements for CRR Auctions.**

To establish available credit for participating in any CRR Auction, each CRR Holder or Candidate CRR Holder must have an Unsecured Credit Limit or have provided Financial Security in a form consistent with Section 12.1.2. Each CRR Holder or Candidate CRR Holder may choose to designate a portion of its Unsecured Credit Limit and/or posted Financial Security specifically for the CRR Auction by notifying the CAISO of the CRR Holder's or Candidate CRR Holder's intent. Alternatively, the CRR Holder or Candidate CRR Holder may choose to post additional Financial Security ~~solely~~ to cover its participation in the CRR Auction, and shall by notifying the CAISO of the portion of its total purpose for the additional Financial Security to be assigned as its CRR Auction bidding limit. Each CRR Holder or Candidate CRR Holder that participates in a CRR Auction shall ensure that its Aggregate Credit Limit in excess of its Estimated Aggregate Liability is the greater of \$500,000 or the sum equal to the sum of the absolute values of all of its bids for CRRs submitted in the relevant CRR Auction plus the sum of the Credit Margins for all of the CRRs for which the Candidate CRR Holder submits bids in the relevant CRR Auction. A CRR Holder or Candidate CRR Holder that fails to satisfy this requirement shall not be permitted to participate in the relevant CRR Auction, or shall have bids exceeding its Available Credit Limit for participation in the CRR Auction, in accordance with the above formula, rejected by the CAISO on a last-in, first-out basis.

## **12.6.3 Credit Requirements for the Holding of CRRs.**

### **12.6.3.1 Credit Requirements Generally.**

- (a) Each CRR Holder, whether it obtains CRRs through a CRR Allocation or a CRR Auction, must maintain an Aggregate Credit Limit in excess of its Estimated Aggregate Liability including the credit requirement of the CRR portfolio determined as described in this Section 12.6.3. CRR Holders obtaining CRRs in the initial CRR Allocation will be required to comply with the credit requirements associated with such CRRs as determined by the CAISO after completion of the initial CRR Auction. The CAISO shall issue a Market Notice after completion of

the initial CRR Auction to announce that CRR Holders obtaining CRRs in the initial CRR Allocation must comply with such credit requirements.

- (b) Each CRR Holder shall be required to ensure that its Aggregate Credit Limit is sufficient to satisfy the credit requirements described in this Section 12.6.3. Except as provided in this paragraph, CRRs are evaluated on a portfolio basis as follows. If a CRR Holder owns more than one CRR, such CRR Holder shall be subject to an overall credit requirement that is equal to the sum of the individual credit requirements applicable to each of the CRRs held by such CRR Holder, which is calculated after the MW associated with any Offsetting CRRs are netted out. If this sum is positive, the amount will be added to the CRR Holder's Estimated Aggregate Liability. However, if the sum is negative, the CRR Holder's Estimated Aggregate Liability shall not be reduced. If a CRR Holder holds one or more CRRs obtained through a CRR Allocation and also holds one or more CRRs obtained through a CRR Auction, the individual credit requirements applicable to any of the CRRs obtained through a CRR Allocation may not be netted against the individual credit requirements applicable to any of the CRRs obtained through a CRR Auction in determining such CRR Holder's Estimated Aggregate Liability.
- (c) The CAISO shall reevaluate the credit requirements for holding CRRs, and shall adjust the credit requirements accordingly, not less than monthly. The CAISO may adjust the credit requirements for holding CRRs with terms of one year or less ~~more frequently than monthly~~ at the CAISO's discretion to account for changes in the monthly auction prices for CRRs and changes in the Historical Expected Values for CRRs, or more frequently than monthly if necessary if the CAISO finds that actual or anticipated market conditions indicate that CRR credit requirements may be inadequate to cover the financial risk of the CRRs. The CAISO may also adjust the credit requirements for holding Long Term CRRs annually, to reflect the changes in auction prices of one-year CRRs in annual

auctions, and to reflect updates to Credit Margins based on actual Locational Marginal Price data derived from market operations.

- (d) In cases where the ownership of a CRR is to be transferred through either the Secondary Registration System or through Load Migration, the CAISO shall evaluate and adjust the credit requirements for both the current owner of the CRR and the prospective owner of the CRR as appropriate prior to the transfer. If additional Financial Security is required from either the current or prospective owner, the transfer will not be completed until such Financial Security has been provided to and accepted by the CAISO. CRRs transferred through the Secondary Registration System will be treated like auctioned CRRs for the purpose of calculating the credit requirements for holding the CRRs, regardless of whether the CRRs were originally allocated or purchased at auction or acquired through the Secondary Registration System. CRRs assigned to Load-gaining or Load-losing Load Serving Entities as a result of Load Migration will be treated like allocated CRRs for the purpose of calculating the credit requirements for holding the CRRs.

#### **12.6.3.2 Calculation of the Credit Amount Required to Hold a CRR With a Term of One Year or Less.**

Each CRR Holder that holds a CRR with a term of one year or less shall be subject to a credit requirement (\$/MW) equal to the negative of the most recent CRR Auction Price of such CRR or the Historical Expected Value of such CRR, whichever is lower, plus the Credit Margin for such CRR. The CRR Auction Price will be used until twelve (12) months of historical market operations data are available.

\* \* \*

#### **12.6.4 Credit Requirements for Sales of Allocated CRRs.**

Each Load Serving Entity that sells a CRR obtained through a CRR Allocation shall, as a prerequisite to the sale of any such CRR, have an Aggregate Credit Limit with a sufficient margin to cover the credit requirement for holding the Offsetting CRR that the Load Serving Entity would be responsible for

assuming in the event of Load Migration from the Load Serving Entity to another Load Serving Entity pursuant to Section 36.8.5.3. The credit requirement for holding the Offsetting CRR will be included in the Estimated Aggregate Liability of the Load Serving Entity upon the transfer of the allocated CRR.

\* \* \*

### **36.3 CRR Specifications.**

#### **36.3.1 Quantity.**

CRRs are distributed and settled in no less than ~~one-tenth~~ one-thousandth of a MW denomination.

\* \* \*

### **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 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 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.

\* \* \*

### **36.4.3 Scheduling Requirements for Outages that May Have a Significant Effect on CRR Revenue Adequacy.**

As provided in Section 9.3.6.3.2, Outages that may have a significant effect upon CRR revenue adequacy must be submitted for approval no less than thirty (30) days in advance of the first day of the month in which the Outage is proposed to begin. Outages that may have a significant effect upon CRR revenue adequacy are defined in terms of the type of facility and the planned duration of the Outage. Outages of the types of transmission facilities described below that extend beyond a twenty-four (24) hour period must be submitted for CAISO approval consistent with this 30-day advance submittal requirement. The types of transmission facilities on the CAISO Controlled Grid to which this 30-day advance submittal and approval requirement applies consist of transmission facilities that:

- (a) are rated above 200 kV; or
- (b) are part of any defined flow limit as described in a CAISO Operating Procedure;
- or
- (c) were out of service in the last three (3) years and for which the CAISO determined a special flow limit was needed for real-time operation.

A list of the transmission facilities that satisfy criteria (b) and (c) above is provided in the Operating Procedures. The list will be reviewed by the CAISO on an annual basis and revised as appropriate. The following types of Outages need not be submitted for approval within this thirty-day time frame and will not be designated as Forced Outages if they otherwise comply with the requirements in Section 9.3.6: (1) Outages previously approved by CAISO that are moved within the same calendar month either by the CAISO or by request of the Participating TO; and (2) Outages associated with CAISO-approved allowable transmission maintenance activities during restricted maintenance operations as covered in CAISO Operating Procedures.

\* \* \*

### **36.7.1 Transfer of CRRs.**

### **36.7.1.1 General Provisions of CRR Transfers.**

A CRR Holder may sell or otherwise transfer CRRs in increments of at least one-thousandth (1) tenth of a MW. Sales or other such transfers must be for at least a full day term consistent with the on-peak or off-peak specification of the CRR. The transferee may be any entity that is a Candidate CRR Holder or a CRR Holder consistent with the CAISO Tariff and the applicable Business Practice Manuals. All CRRs that are so sold or otherwise transferred by the CRR Holder continue to be subject to the relevant terms and conditions set forth in the CAISO Tariff and the applicable Business Practice Manuals.

\* \* \*

### **36.8.2.2 Monthly CRR Eligible Quantity.**

#### **36.8.2.2.1 Based on Load Forecast.**

Each month, LSEs whose Load forecasts are verifiable in accordance with Section 36.8.6 will submit hourly Load forecast data for the relevant month. Each month the CAISO will use the LSE's submitted hourly Load forecast data for the relevant month to calculate two Load duration curves (one on-peak and one off-peak Load duration curve for the applicable month) to form the basis for monthly allocations for each CRR Sink in which the LSE serves Load. Each LSE's submitted hourly forecast data should reflect any Load growth that is not due to Load Migration as well as the effect of net Load Migration for that LSE. The Monthly CRR Load Metric for such Load is the MW level of Load that is exceeded only in 0.5% of the hours based on the LSE's submitted Load forecast. The CAISO will calculate an LSE's Monthly CRR Eligible Quantity by subtracting from that LSE's Monthly CRR Load Metric the quantity of Load served by its TORs, ETCs, and Converted Rights. In addition the CAISO will adjust the LSE's Monthly CRR Eligible Quantity, if such an adjustment is determined to be necessary pursuant to Section 36.8.6.

#### **36.8.2.2.2 Based on Historical Load Data.**

An LSE that serves Load that is eligible for CRRs but for which its Load forecast is not verifiable in accordance with Section 36.8.6 shall, each month, submit to the CAISO five (5) years of prior hourly historical Load data for that Load for the same applicable month. Such LSE may submit fewer years of historical data for that Load if granted a waiver by the CAISO because five (5) years of such Load data does not exist. Each month the CAISO will use the LSE's submitted hourly historical Load data for the relevant month to calculate two (2) Load duration curves for each year of historical Load data (one on-

peak and one off-peak Load duration curve for the applicable month) for each CRR Sink in which such Load is located. For each Load duration curve, the CAISO will calculate the MW level of Load that is exceeded only in 0.5% of the hours. The CAISO will calculate an LSE's Monthly CRR Eligible Quantity for each on-peak and off-peak period for such Load by averaging the 0.5% exceeded values for all years of submitted historical data, and then subtracting the quantity of Load served by its TORs, ETCs, and Converted Rights.

\* \* \*

#### **36.8.3.4.1 CRR Year One Source Verification for LSEs.**

In CRR Year One, nominations for tier 1 and tier 2 of the annual CRR Allocation and tier 1 of the monthly CRR Allocations must be source verified for all LSEs. The CAISO will make available, prior to the beginning of the allocation process, a list of allowable CRR Sources to be used in the allocation. An LSE must demonstrate that it could actually submit Bids, including Self-Schedules and Inter-SC Trades, for Energy from the locations to be nominated as CRR Sources to serve its Load either through ownership of, or contractual rights to receive Energy from, the relevant Generating Units, or a contract to take ownership of power at the relevant source, such as a Trading Hub or a Scheduling Point. For the second, third and fourth quarters of calendar year 2008 for CRR Year One, in conducting its source verification the CAISO will use data for the period beginning JanuaryApril 1, 2006 and ending December 31, 2006 as the basis for verification. For the first quarter of calendar year 2009 for CRR Year One, the CAISO will use data for the period beginning January 1, 2007 and ending March 31, 2007 as the basis for verification. Such demonstrations shall be provided by the requesting LSE to the CAISO through the submission of a written sworn declaration by an executive employee authorized to represent the LSE and attest to the accuracy of the data demonstration. As necessary, the CAISO may request, and such LSE must produce in a timely manner, documents in support of such declaration.

\* \* \*

#### **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 processyear. 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 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 sourced at 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.

\* \* \*

### **36.8.6 Load Forecasts Used to Calculate CRR MW Eligibility.**

The CAISO will work closely with appropriate state and Local Regulatory Authorities and agencies to ensure that historical Load data and Load forecasts used to establish Seasonal CRR Eligible Quantities and Monthly CRR Eligible Quantities as provided in Section 36.8.2 are consistent with the Load data and Load forecasts used to establish resource adequacy requirements.

\* \* \*

### **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 ~~tenths~~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 ~~tenths~~thousandths of a MW) and prices (\$/MW);
- g) For each CRR Sink, a monotonically non-increasing piecewise linear bid curve in quantities (denominated in ~~tenths~~thousandths of a MW) and prices (\$/MW).

Bid prices in all CRR bids may be negative.

\* \* \*

**39.9 CRR Monitoring and Affiliate Disclosure Requirements.**

The CAISO will monitor the CRR holdings and CAISO Markets activity for anomalous market behavior, gaming, or exercise of market power resulting from CRR ownership concentrations that are not aligned with actual transmission usage as a result of secondary market auction outcomes. If the CAISO identifies such behavior it may seek FERC approval to impose position limits on the total number or MW quantity of CRRs that may be held by any single entity and its Affiliates. Each CRR Holders or Candidate CRR Holder must notify the CAISO of all entities that are Affiliates or become Affiliates of with which the CRR Holder or Candidate CRR Holder is affiliated that are CRR Holders or Market Participants.

\* \* \*

**CAISO Tariff Appendix A**

**Master Definitions Supplement**

\* \* \*

**CRR Year Four**

~~The fourth period of time for which the CAISO conducts an annual CRR Allocation, as defined in the Business Practice Manual~~  
Second, third and fourth quarters of calendar year 2011 and first quarter of calendar year 2012.

\* \* \*

**CRR Year One**

~~The first period of time for which the CAISO conducts an annual CRR Allocation, as defined in the Business Practice Manuals~~  
Second, third and fourth quarters of calendar year 2008 and first quarter of calendar year 2009.

\* \* \*

**CRR Year Three**

~~The third period of time for which the CAISO conducts an annual CRR Allocation, as defined in the Business Practice Manual~~  
Second, third and fourth quarters of calendar year 2010 and first quarter of calendar year 2011.

\* \* \*

**CRR Year Two**

~~The second period of time for which the CAISO conducts an annual CRR Allocation, as defined in the Business Practice Manual~~  
Second, third and fourth quarters of calendar year 2009 and first quarter of calendar year 2010.

\* \* \*

**Historical Expected Value**

The expected value of a CRR, as calculated by the CAISO, based on

monthly historical market operation data for the applicable month. Such values will be established based on at least one (1) year and up to three (3) years of historical market operations data.

\* \* \*

**Monthly CRR Load Metric**

~~The MW level of Load on a Load Serving Entity's load duration curve that is exceeded only 0.5% of the time in the relevant month based on Demand Forecast data~~  
The load metric used for determining eligibility for CRR Allocation as provided in Section 36.8.2.2.

\* \* \*

**ATTACHMENT E**



**California ISO**  
Your Link to Power

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**Final Proposal on**

**Congestion Revenue  
Rights Enhancements**

**May 16, 2008**

# Final Proposal on CRR Enhancements

*Prepared for Discussion at the May 21 meeting of the CAISO Board of Governors*

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## 1 Executive Summary

The CAISO has worked with stakeholders to develop the following policies:

- 1) **The CRR Year 2 Allocation:** This policy sets the basis for new tariff language related to the conduct of the annual CRR release process for Year 2 (i.e., calendar 2009) in light of the delay in MRTU start-up. This CRR Year 2 process will begin in summer 2008 so that the annual allocation and auction will be completed before these CRRs become effective starting on January 1, 2009.<sup>1</sup>

For this second annual allocation process (for 2009) the CAISO proposes:

- A. Season 1 CRRs should be subject to source verification using 2007 Quarter 1.
- B. Seasons 2 and 3 CRRs should be treated as "Year 2" seasons that are eligible for renewal nomination in the Priority Nomination Process.
- C. Season 4 CRRs also would be treated as a "Year 2" season for which the Priority Nomination Process could be utilized.
- D. Long-Term CRRs for Quarter 1 would be treated under the CRR Year One rules while LT-CRRs for Quarters 2-4 would be treated under the CRR Year 2 rules.

### 2) Enhancing the Fairness of the CRR Release Process

- A. The MW granularity for CRR release and tracking should be the 0.001 MW level.
- B. The "30-day Rule" for submitting transmission outage requests that may impact CRR revenue adequacy.
  - i. The "30-day Rule" should be modified so that outages initiated and completed within a 24-hour period are exempt.
  - ii. The exemption provisions to the 30-day requirement which are based on shift factor and flow impacts should be eliminated in the next *BPM* revision.
  - iii. The effectiveness of the 30-day Rule exemption provisions will be assessed during the first year of operation for consideration of modifications after twelve months of observing market outcomes.

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<sup>1</sup> The MRTU Tariff defines CRR Year One to be "The first period of time for which the CAISO conducts an annual CRR Allocation ...", which was the period April through December 2008 based on the expectation that MRTU start-up would occur on April 1, 2008.

Similarly, CRR Year Two is defined to be: "The second period of time for which the CAISO conducts an annual CRR Allocation ...", which will be calendar 2009 consistent with the end-state CRR process design of releasing Seasonal and Long Term CRRs on a calendar year basis.

At the same time, Section 36.8.1 of the MRTU Tariff establishes several distinctions for the CRR Year One allocation, compared to the allocation process for subsequent years. Therefore, in order to conform CRR Year 2 to calendar 2009, the CAISO proposes to allocate CRRs for a portion of 2009 under the "CRR Year One" rules and for the remainder of 2009 under the "Beyond CRR Year One" rules per Section 36.8.3.5.

- C. The monthly CRR eligibility for certain LSEs who don't have available load forecasts should be based on their historical load of the same month from the previous five years.

**3) Strengthening CRR Credit Policy**

- A. Tighten credit requirements to reduce risks associated with the transfer of CRRs between LSEs to reflect load migration.
  - i. Disallow netting between allocated CRRs and auctioned CRRs in calculating the holding credit requirement.
  - ii. Require LSEs selling allocated CRRs to maintain sufficient credit coverage to cover the counter-flow CRRs that offset the CRRs being sold.
- B. Consider both the historical expected value and the auction prices as the basis for determining the collateral needed for entities to hold short-term CRRs.
  - i. This enhancement will be fully implemented one year after the startup of MRTU when seasonal operation data becomes available.
- C. Require auction participants to post a Credit Margin as a prerequisite for bidding in a CRR auction.
- D. Extend the existing Affiliate disclosure requirement to Candidate CRR Holders, not just CRR Holders, and expand the set of affiliates that must be disclosed to include all affiliates, not just CRR Holders and CAISO Market Participants.

Although a definite start-up date has not been determined yet, the Final Proposals explained in this document should accommodate whatever month in 2008 the LMP markets begin and CRRs become effective. In the unlikely event that MRTU start-up does not occur in 2008, the CAISO proposes to initiate a new stakeholder meeting to determine the best course to follow for CRRs.

## 2 Review of Timeline for this Stakeholder Process

March 25	CAISO posts <i>Issues Papers</i>
April 1	Initial Stakeholder Meeting (10:00 am-5:00 pm @ CAISO's North and South Lake Tahoe Room)
April 8	Initial Stakeholder written comments due to <a href="mailto:CRRComments@caiso.com">CRRComments@caiso.com</a>
April 14	CAISO posts Straw Proposals for policy changes
April 21	Stakeholder Conference Call
April 28	Stakeholder written comments submitted
May 5	CAISO posts Draft Final Proposal for policy changes
May 12	Final Stakeholder Conference Call
May 16	CAISO posts Final Proposal
May 21-22, 2008	Presentation to CAISO Board of Governors
Late May	Filing to FERC on CRR Issues

The CAISO proposes the following additional dates for stakeholder review of draft tariff changes that will be filed at the conclusion of this stakeholder process, assuming approval by the CAISO Board of Governors.

- May 13: draft Tariff Language posted
- May 20: Stakeholder written comments due to [MRTUTariff@caiso.com](mailto:MRTUTariff@caiso.com)
- May 23: Stakeholder conference call to review draft Tariff Language (10:00 am – 1:00 pm)
- May 30: Filing to FERC on CRR Issues

### 3 Proposed Key Dates for the CRR Year 2 Release Process

The CAISO's CRR team has posted these key dates for the series of interactions between the CAISO and market participants involved in the next annual release of CRRs. This process would allocate and auction seasonal and LT-CRRs that would be effective in the four seasons of calendar 2009.

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#### 2009 Annual CRR Allocation Source Verification Schedule

The 2009 Annual CRR Allocation begins on August 8, 2008 and ends on October 31, 2008.

Prior to the Historical Load Submittal Window, the CAISO must collect and verify Load Serving Entities (LSEs) submitted sources for Season 1 (January to March 2009) based on a historic reference period of 2007. The CAISO must also collect and verify Out of Balancing Authority Area Load Serving Entities (OBAALSEs) submitted sources for Season 1 through 4 (January to December 2009) based on a forward looking reference period of 2009.

The following is a **tentative** source submittal and verification schedule:

- The process of collecting the 2009 Source Data Templates and Declarations will begin on July 1, 2008 and end on COB July 14, 2008.
- The process of verifying 2009 source submittals will begin on July 15, 2008 and end on COB August 4, 2008.
- Source Upper Bounds (including PNP information) will be provided to allocation participants on August 21, 2008 via the CRR Market User Interface.

*Please note that this schedule is based on the current proposal of performing source verification for LSEs for season 1 only.*

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#### 2009 Annual CRR Allocation and Auction Schedule

The 2009 Annual CRR Allocation begins on August 8, 2008 and ends on October 31, 2008.

The annual allocation consists of five parts:

- Historical Load Submittal Window opens at 0100 on August 8, 2008 and closes at 1700 on August 14, 2008.

**California ISO**

- The Priority Nomination Tier<sup>2</sup> nomination window (for quarters 2, 3, and 4) opens at 0100 on September 3, 2008 and closes at 1700 on September 5, 2008. Results of the Priority Nomination Tier will be posted by 1700 on September 12, 2008.
- The Tier 2 nomination window opens at 0100 on September 18, 2008 and closes at 1700 on September 22, 2008. Results of Tier 2 will be posted by 1700 on September 29, 2008.
- The Tier Long Term nomination<sup>3</sup> window opens at 0100 on October 7, 2008 and closes at 1700 on October 10, 2008. Results of Tier Long Term will be posted by 1700 on October 17, 2008.
- The Tier 3 nomination window opens at 0100 on October 22, 2008 and closes at 1700 on October 24, 2008. Results of Tier 3 will be posted by 1700 on October 31, 2008.

The 2009 Annual CRR Auction begins on November 7, 2008 and ends on November 19, 2008:

- The auction bidding window opens at 0100 on November 7, 2008 and closes at 1700 on November 12, 2008. The results of the annual auction will be posted by 1700 on November 19, 2008.

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<sup>2</sup> Tier 1 (for Quarter 1)

<sup>3</sup> LT-CRR nominations must come from Tier 1 or the PNP for Quarters 2-4. LT-CRR nominations can come from Tier 1 or Tier 2 for Quarter 1.)

#### 4 FINAL PROPOSAL: The CRR Year 2 Release Process

*The CAISO anticipates that Items A and B discussed in this section will require Board approval and Tariff changes.*

##### A. CRR Source Verification for Quarter 1 (Winter Season) 2009

**Use Season 1 2007 as the historical reference period for source verification regarding the allocation of CRRs that will be effective in Season 1 2009.**

The current MRTU tariff provides for CRR source verification in conjunction with CRR allocation to LSEs serving internal load only for CRR Year One. When the CAISO conducted the first annual CRR release process (for 2008), it was assumed that MRTU would start on April 1, 2008. The CAISO therefore released CRRs only for Seasons 2, 3 and 4, and indicated to participants that in the second annual allocation process (for 2009) Season 1 would be treated as a "Year One" season and would be subject to source verification.

The reference period for verification of sources during Seasons 2, 3 and 4 of CRR Year One was the calendar year 2006. A key objective of this stakeholder process was to determine the appropriate historical reference period for CRR source verification for Season 1 of 2009. With stakeholder review and discussion, the CAISO proposes to use Quarter 1 of 2007 (i.e., the winter season, January through March 2007) for this purpose.

The written stakeholder comments submitted on this issue supported the use of Quarter 1 for source verification for 2009 quarter 1 CRRs. Opinions were divided on the choice of historical reference year, however; some stakeholders supported 2007 Quarter 1 while others preferred 2008 Quarter 1 or 2006 Quarter 1.

With regard to 2008 Quarter 1, the CAISO recognizes that it would be desirable to use a reference period that is as recent as possible. It must be noted however that market participants were informed by summer 2007 – well in advance of 2008 Quarter 1 – that there would be a need to perform source verification in conjunction with the release of CRRs for 2009 Quarter 1 and a need to specify an historical reference period for that purpose. The CAISO therefore believes that using 2008 Quarter 1 for source verification would not be immune to the possibility that parties have entered specific contractual arrangements with the anticipation of using such arrangements as the basis for source-verified 2009 Quarter 1 CRR allocation. Using 2007 Quarter 1 avoids this possibility.

With regard to 2006 Quarter 1, the CAISO recognizes that there is additional administrative effort involved in submitting source verification information for any period other than 2006, for which the information was already submitted for the CRR release conducted in 2007. The CAISO believes this additional effort is outweighed by the benefits of using the more recent 2007 source verification information.

Other than the specification of this historical reference period the CAISO proposes no changes to the source verification procedures and rules that were followed for the annual CRR release process conducted during 2007.

**B. Re-do Source Verification versus Renewal for Quarters 2 and 3 in 2009<sup>4</sup>**

**The CAISO proposes to treat Seasons 2 and 3 as CRR Year 2 seasons, and on that basis to conduct Tier 1 of the CRR Allocation process for those seasons in accordance with the rules for the Priority Nomination Process (PNP).** A further consequence of this proposal is that Tier Long Term (Tier LT) for Seasons 2 and 3 will follow the rules for CRR Year 2 that pertain to the release of Long Term CRRs (see Item D below).

A second key objective of this stakeholder process is to determine whether to treat Seasons 2 and 3 of 2009 as "Year 1" or "Year 2" seasons. This question arises because CRRs were released for Seasons 2, 3 and 4 of 2008, and if we assume for the moment that MRTU will start-up on October 1, then the CRRs for Seasons 2 and 3 will not have been in effect during actual MRTU market operation. This raises the question in the CRR release for 2009 whether to treat Seasons 2 and 3 as "Year 2" seasons and allow the CRRs for 2008 to be nominated for renewal in the PNP, or to treat these seasons as "Year 1" seasons and require source verification. If the latter option is selected, it will also be necessary to specify the historical reference period for the source verification.

While there appears to be considerable stakeholder support for the CAISO's proposal, some parties did argue for two other approaches: (a) starting over with source verification for Quarters 2 and 3, which was the principal alternative the CAISO had identified in the March 25, 2008 CRR Issues Paper, and (b) simply carrying over all allocated CRRs for Quarters 2 and 3 into 2009 without conducting a new allocation process for these quarters. For reasons discussed below, the CAISO believes that neither of the proposed alternatives would be preferable to its proposed approach.

Key considerations leading to the CAISO's proposal to utilize the PNP for Quarters 2 and 3 were the facts that this approach avoids both a potential unintended consequence related to the previous release of Long Term CRRs, and the need to perform the source verification process for these quarters. With regard to Long Term CRRs, it is important to recall that LSEs were limited to the set of their allocated one-year Seasonal CRRs from the source-verified tiers (Tiers 1 and 2) in nominating CRRs in Tier LT. Therefore if the CAISO declares the previous round of source verification to be null and void, this would necessitate nullifying the allocated Long Term CRRs as well as the one-year Seasonal CRRs for 2008 Quarters 2 and 3. The CAISO believes that this would be an undesirable unintended consequence, as it would undermine the long-term certainty that many parties argued for and that provided the impetus to develop the Long Term CRR design in 2006 and incorporate the release of Long Term CRRs into the CAISO's first annual CRR Allocation process. The CAISO does not believe it would be straightforward or logical to overturn the allocated one-year Seasonal CRRs for 2008 Quarters 2 and 3 and not simultaneously overturn the Long Term CRRs allocated for those seasons. Secondly, utilizing the PNP process for Quarters 2 and 3 avoids the administrative effort of having to obtain new source verification information from all eligible LSEs for these seasons.

To be clear, the CAISO does not oppose conducting the source verification process for Quarters 2 and 3 provided that there are sufficient benefits to be realized. The benefits identified in the submitted comments focused on two matters. First, the ability of parties to take maximum advantage of the greater granularity of CRR tracking that will be put in place for the next annual CRR release process (discussed elsewhere in this paper). It was not clear from the arguments, however, why the benefits of greater granularity should depend on redoing the source

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<sup>4</sup> For discussion purposes this sub-section assumes that the MRTU markets will start up on October 1, 2008. As of the date of this Issues Paper, however, the CAISO has not yet determined the actual MRTU start-up date.

verification process for Quarters 2 and 3. Second, the ability of parties to revise decisions they made last year under the CRR credit requirements established at that time in light of the proposed changes to the CRR credit requirements being considered in the present stakeholder process (also discussed elsewhere in this paper). On the latter point, the CAISO notes that some of the CRR credit requirements originally considered for revision in the March 25, 2008 CRR Issues Paper are now being proposed for deferral to a later process, so it would be helpful for parties who share this concern to describe their concerns in terms of the specific credit policy changes that are still on the table at this time.

Finally, for at least two reasons the CAISO does not believe it would be appropriate simply to renew or carry over all allocated CRRs for Quarters 2 and 3 to 2009. First, this approach would not be consistent with either the PNP process or the source verification process, and as such would be dramatically different to any course of action parties might have expected. Several parties noted in their arguments in favor of the PNP approach that this approach is fully consistent with what parties expected at the time they made their nominations in the first annual CRR allocation process, and that it is important now to minimize alterations to that expected course of events unless there are compelling reasons to alter that course. The CAISO agrees with this perspective. Second, the ability of eligible parties to exercise choice in the annual renewal of one-year Seasonal CRRs has been a key principle in the design of the entire CRR allocation process. The CAISO sees no benefit that would justify eliminating that flexibility for the parties.

#### **C. Priority Nomination Process (PNP) available for Quarter 4 in 2009**

Under the assumption of this sub-section that MRTU starts up in the last quarter of 2008, Season 4 CRRs that were previously source-verified will become effective for all or part of their three-month duration. The CAISO thus confirms that the Priority Nomination Process (PNP) would be available in CRR Year 2 for the Q4 seasonal CRRs that were awarded in Year 1.

#### **D. Treatment of Long-Term CRRs**

LT-CRRs that were awarded in the Year One process may be impacted by the unwinding of previously released seasonal CRRs (e.g., for Q2 and Q3 under the working assumption of an October 1 start-up of the MRTU markets). There are a couple issues to consider.

First, because these Q2 and Q3 LT-CRRs would not be effective during 2008 under an October 1 start-up, the total duration of these LT-CRRs would be reduced to nine rather than ten years. The CAISO does not propose any new provisions to address this matter, and points out that LT-CRRs with a full ten-year duration will be available in the Year 2 process.

Second, the staggered increase in Long Term CRR availability (see MRTU Tariff sections 36.8.3.1.3.1 and 36.8.3.5.2.1) would apply differently to the four seasons of 2009, with Q1 treated under the CRR Year One rules and Q2-Q4 likely being treated under the Beyond CRR Year One rules. On this matter also the CAISO does see any problem with following the previously-approved tariff provisions and treating each of the seasons appropriately. Moreover this approach is appropriate to maintain consistency with the proposal to treat Seasons 2 and 3 as CRR Year Two seasons, as discussed in Item B above.

## 5 FINAL PROPOSAL: Increased MW Granularity of CRR Tracking

*The CAISO anticipates that this item will require Board approval and a Tariff change.*

**Increase the granularity from 0.1 MW to a 0.001 MW level for tracking CRRs.**

As a result of the CRR design process leading up to the CAISO's February 2006 MRTU Tariff filing, it was decided to establish 0.1 MW as the minimum denomination of CRRs to be tracked in the CRR system. The CRR software systems were developed and configured to reflect this decision. The 0.1 MW threshold does not affect the CRR optimization algorithm, which carries sufficient decimal places to ensure accuracy in performing its calculations, but it does mean that any CRR quantities less than 0.05 MW that result from the optimization will be rounded to zero for purposes of recording and tracking CRR holdings by CRR Holders (and quantities less than 0.1 MW but not less than 0.05 MW will be rounded to 0.1 MW).

Subsequent to the MRTU Tariff filing, the CAISO and stakeholders discussed further details related to (1) CRR transfers for load migration and (2) disaggregation of CRR nominations sourced at Trading Hubs into their constituent PNodes for purposes of CRR allocation. In those discussions it was recognized that these two processes could result in substantial quantities of small denomination CRRs that would be rounded to zero, and that the problem would be more severe the smaller the initial MW denomination.

Thus, for example, a 10 MW CRR nomination sourced at a Trading Hub would have a larger proportional share rounded to zero as a result of the disaggregation process than would a 100 MW CRR nomination. By this time, however, it was too late to revise the 0.1 MW CRR granularity threshold in the CRR systems in time to start the CRR Year 1 release process, so the CAISO agreed to increase the granularity of CRR tracking in time for the CRR Year 2 annual release process for 2009, which will start in summer 2008.

The March 25, 2008 CRR Issues Paper stated that there is no question that the CRR granularity threshold will be reduced in time for the summer 2008 CRR process. The only open question was to determine the value of the CRR granularity threshold to be implemented by summer. The CAISO proposes to set the new level of granularity of 0.001 MW (i.e., 1 kW). Based on the CAISO's assessment to date, adopting this level of granularity does not present implementation issues for the CAISO. Indeed, the CRR software vendor is making the threshold value configurable, so that the value selected for the summer 2008 CRR process could even be modified again at a later time if necessary. At the same time, the CAISO believes that this level of granularity will be sufficient to minimize the impact of rounding small CRR denominations down to zero on smaller LSEs, who are more likely to be managing smaller CRR quantities.

The CAISO believes, based on the submitted comments, that parties generally support adopting the 0.001 MW level, but notes that there was some preference for less granularity (e.g., 0.01 MW). The CAISO believes that the 0.001 level achieves the best trade-off between minimizing impact on holders of small CRR denominations versus minimizing administrative complexity.

### **Supporting analysis**

In the recent Issue Paper, the CAISO presented a "worst case" example as an illustration of the rounding problem. In this instance a 15 MW CRR was allocated with source at the NP15 Trading Hub and sink at one of the Default LAPs. The example may be considered "worst case" both because the NP15 has the highest degree of disaggregation (largest quantity of constituent PNodes) and because the 15 MW quantity is relatively small, and therefore would suffer a large loss due to rounding to zero.

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The results were:

Granularity Level (MW)	Allocated CRR (MW)	Nominated CRR (MW)	%
0.1	7.2	15	48.0%
0.01	13.73	15	91.5%
0.001	14.99	15	99.9%

In the recent stakeholder meeting, some parties requested additional analysis of this issue, which the CAISO performed and has summarized in the following tables.

**Disaggregated Nomination MWs**

Granularity (MW)	Trading Hub Nomination (MW)			
	10	100	1000	2000
0.1	4.1	87.2	984.8	1984.4
0.01	8.72	98.48	998.37	1998.39
0.001	9.848	99.837	999.846	1999.842
0.0001	9.9837	99.9846	999.9831	1999.9837
0.00001	9.99846	99.99831	999.99853	1999.9986
0.000001	9.999831	99.999853	999.999973	1999.999971

**Disaggregated Nomination % of Trading Hub Nomination**

Granularity (MW)	Trading Hub Nomination (MW)			
	10	100	1000	2000
0.1	41.00%	87.20%	98.48%	99.22%
0.01	87.20%	98.48%	99.84%	99.92%
0.001	98.48%	99.84%	99.98%	99.99%
0.0001	99.84%	99.98%	100.00%	100.00%
0.00001	99.98%	100.00%	100.00%	100.00%
0.000001	100.00%	100.00%	100.00%	100.00%

**Number of Non-Zero Disaggregated CRR awards**

Granularity (MW)	Trading Hub Nomination (MW)			
	10	100	1000	2000
0.1	16	157	276	295
0.01	157	276	315	317
0.001	276	315	322	323
0.0001	315	322	325	326
0.00001	322	325	327	327

0.000001	325	327	327	327
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Note: Total 327 generator PNodes belong to this Trading Hub

**Non-Zero Disaggregated CRR Awards % of Total Number of PNodes**

Granularity (MW)	Trading Hub Nomination (MW)			
	10	100	1000	2000
0.1	4.89%	48.01%	84.40%	90.21%
0.01	48.01%	84.40%	96.33%	96.94%
0.001	84.40%	96.33%	98.47%	98.78%
0.0001	96.33%	98.47%	99.39%	99.69%
0.00001	98.47%	99.39%	100.00%	100.00%
0.000001	99.39%	100.00%	100.00%	100.00%

Note: Total 327 units belong to this Trading Hub

## 6 FINAL PROPOSAL: The “30-day Rule” for Scheduling Transmission Outages

*Items A and B discussed in this section will require Tariff language to comply with FERC’s March 20 order.*

The CAISO will review and seek stakeholder input on a proposed change to the requirement for PTOs to notify the CAISO about planned outages of Significant Facilities at least 30 days prior to the start of the calendar month for which the outage is planned to begin. This rule is intended to provide the CAISO good data on planned outages far enough in advance to allow the CAISO to reflect them in the network model used for releasing Monthly CRRs and thereby minimize impacts to the revenue adequacy of CRRs. This section also discusses the process by which PTOs may request and receive CAISO approval for exemptions of specific facilities from the 30-day rule, and the process by which the CAISO will evaluate the potential need for any changes to the 30-day rule based on actual operating experience under LMP.

### A. Proposed modification to the 30-day rule outage scheduling requirements

The 30-day rule outage scheduling requirements as described in Section 4.2.1.1 of the *Business Practice Manual for Outage Management*<sup>5</sup> lists three criteria characterizing the significant facilities for which planned outages must be scheduled with the CAISO at least 30-days prior to the month in which they are planned to occur. The BPM also indicates, however, that outages to such facilities that are planned to be initiated and completed within a single calendar day are exempt from the 30-day requirement.

<sup>5</sup> Version 3 of the *BPM for Outage Management* was last revised November 15, 2007.

After careful consideration of a modification to the latter provision proposed by the Participating Transmission Owners, the CAISO believes it is appropriate to modify the provision such that outages to such facilities that are planned to be initiated and completed within a 24-hour period are exempt from the 30-day requirement. This allows planned outages that are scheduled to begin, for example, in the evening of one day and be completed by the morning of the next day, as long as the total duration of the outage is no greater than 24 hours, to be exempt from the 30-day scheduling requirement.

The CAISO believes that this change should have no adverse impact on CRR revenue adequacy, because the total duration of an exempt outage is not allowed to be any greater under the revised provision than it could be under the original provision. At the same time, the revised provision will allow greater flexibility to PTOs to reduce the number of planned outages that must be scheduled under the 30-day rule.

Finding no opposition to the proposed change in the latest stakeholder comments, the CAISO now intends to implement the change in the next revision of the ***BPM for Congestion Revenue Rights***.

#### **B. Process for requesting exemptions from the 30-day requirement**

Section 10.3.1 of the ***BPM for Congestion Revenue Rights*** provides additional criteria by which significant facilities in the categories covered by the 30-day rule may be granted exemptions. This BPM section requires the PTO requesting the exemption to demonstrate that the nominated facilities satisfy the exemption criteria. Some of the PTOs have argued that the exemption criteria (1) are conservative, i.e., would allow very few nominated facilities to be granted exemptions, (2) rely on the theoretical basis of revenue adequacy rather than empirical assessment, and (3) would require technical analysis that the PTOs are not able to perform.

The CAISO now proposes to eliminate these exemption provisions in the next revision of the ***BPM for Congestion Revenue Rights***. This proposal is based on the compelling rationale for starting MRTU operation with conservative exemption criteria in order to protect CRR revenue adequacy (as discussed in the previous Issue Paper), plus parties' stated objections to the current exemption provisions based on the revenue adequacy theorem, plus the lack of any reliable empirical basis to evaluate candidate exemptions in the absence of actual operating data from the new LMP markets.

One stakeholder proposed that the CAISO adopt an economic approach to evaluate candidate exemptions of facilities based on the magnitude of their associated auction prices in the CRR Auctions. The CAISO does not believe this is a satisfactory approach, however, because a transmission facility with a large amount of transfer capacity could have a very small or even zero value in the auction, while at the same time supporting the feasibility of a large volume of CRRs which could in turn result in a significant unfunded CRR payout requirement when the facility is taken out of service.

As discussed throughout this stakeholder process, (and retained as section C below) the CAISO reiterates its commitment to evaluate its approach to outage modeling in the monthly CRR process, including the effectiveness of the 30-day rule provisions, as actual LMP market experience unfolds.

### C. Approach for assessing potential changes to the 30-day requirements

Given the need to use a conservative, theoretical basis for exemption criteria for MRTU start-up, the CAISO has committed to assessing the effectiveness of both the 30-day requirements and its approach to modeling outages in the Monthly CRR process as actual experience with the LMP markets is gained.

The CRR Balancing Account will be cleared at the end of each month, and thus will provide a simple indicator of CRR revenue adequacy on a monthly basis. If the end-of-month balance (net of CRR Auction revenues) is negative, it indicates CRR revenue inadequacy on average over the hours of the month, whereas if the balance is positive, it indicates that more CRRs could have been released without adversely impacting CRR revenue adequacy.

In addition, actual LMP values will be generated for each hour in the IFM and each RT dispatch interval, and these LMP values will reflect the actual grid conditions for those hours and RT intervals. These LMPs and the corresponding grid conditions and patterns of load and generation will provide a data base for estimating the impact of different transmission outages on revenue adequacy.

Although the CAISO is not prepared at this time to describe a methodological approach in any greater detail, the CAISO reaffirms its commitment to determine, after assessing twelve months of market data and consulting with stakeholders, whether revisions to the 30-day requirements for scheduling transmission outages are appropriate. The CAISO will develop and document a more detailed proposed methodology for conducting the required analysis for discussion with stakeholders at a later date.

## 7 FINAL PROPOSAL: Monthly CRR Eligibility for LSEs Without Verifiable Load Forecasts

*The CAISO anticipates that this item will require Board approval and a Tariff change.*

The MRTU Tariff requires LSEs that are eligible for allocation of Monthly CRRs to provide monthly load forecast data to the CAISO as the basis for determining the maximum quantity each such LSE may be allocated.

The Tariff further provides that the CAISO will use load forecast data which these LSEs have provided to the California Energy Commission (CEC) for Resource Adequacy purposes as a basis to validate and if necessary adjust their CRR eligibility for consistency (see tariff sections 36.8.2.2 and 36.8.6).

The established CAISO monthly process for CRRs (explained in Section 7.2.2 of the **BPM for Congestion Revenue Rights**) only considers scenarios where eligible entities submit independent load forecast which can be verified against CEC load data. The CAISO has identified situations where certain load served by an LSE may be eligible for Monthly CRR allocation but is not included in the load forecast the LSE provides to the CEC for Resource Adequacy purposes, thus preventing the CAISO from performing the validation required by the Tariff provisions noted above. The CAISO therefore proposes the following new provisions to determine the Monthly CRR eligibility for otherwise CRR-eligible loads without verifiable load forecast:

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- For Loads that are eligible for CRRs but for which the LSE cannot provide a load forecast which the CAISO would be able to validate against comparable data provided to the CEC for resource adequacy purposes, the CAISO will use five years of historical hourly load data for the same month (or as many years as are available in the event that five years of data do not exist) for purposes of determining the LSE's eligibility for Monthly CRRs for that Load.

For each time-of-use period and eligible sink location, a load metric for each of the five relevant months will be computed. The load metric is the MW level of demand that is exceeded only 0.5% of the hours based on the LSE's historical load of each relevant month. The final CRR Load Metric to be used for determining CRR eligibility for the relevant Load will be the simple average of the five load metrics.

LSEs that serve Load in this category will submit their historical load data following the same procedures and timeline already in place for the monthly processes.

Also, these provisions apply only for the monthly CRR allocation processes and thus there is no change in provisions for the annual CRR allocation processes.

Finally, in order to provide a fair and equitable treatment, the CAISO will use the above described approach for all eligible Loads in this category.

## 8 CRR Credit Policy Enhancements

*The CAISO anticipates that the items discussed in Sections 8.1 through 8.5 will require Board approval and Tariff changes.*

### 8.1 Overview

The CAISO proposes the following Final Proposals:

#### **A. Credit policy enhancements related to CRR transfers associated with load migration;**

Pursuant to existing tariff provisions, when load migrates from one LSE to another, the CAISO will create and allocate new CRRs to the load gaining LSE and will assign counter-flow CRRs to the load losing LSE to offset the CRRs to be transferred with load. If the load losing LSE has already sold the allocated CRRs prior to load migration or the LSE has procured offsetting counter-flow CRRs through the auction, there is a potential risk that the load losing LSE may not have enough credit coverage to cover the counter-flow CRRs, and may be unable to provide it. To prevent this from occurring, the CAISO proposes the following:

- i. Disallow netting between allocated CRRs and auctioned CRRs in the holding credit requirement calculation. This will prevent a LSE from cashing out its allocated CRRs and eliminating ongoing credit requirements for holding the allocated CRRs, and
- ii. Require LSEs selling allocated CRRs to maintain sufficient credit coverage to cover the counter-flow CRRs that offset the CRRs being sold.

The CAISO recognizes that the proposed enhancement may increase credit requirements for holding CRRs for some market participants. The CAISO nevertheless believes the risk that a LSE may not be able to take on a future counter-flow CRR in the event of load migration, should be mitigated and that the alternative—prohibiting sales of allocated CRRs—would be more onerous to LSEs than requiring credit coverage at the time of sale.

#### **B. Enhancement to the holding credit requirement calculation for Short-Term CRRs**

To reduce the risk of auction prices potentially undervaluing short-term CRRs, i.e., CRRs with a term of one year or less, the CAISO proposes, in the determination of holding credit requirements, to consider both the historical expected value and the auction prices. This enhancement will not be enacted until one year after the startup of MRTU when seasonal market operation data becomes available.

#### **C. Pre-Auction Credit Margin Requirement**

To date, the CAISO has not required auction participants to establish credit coverage for both auction prices and the Credit Margin for their bids in advance of the auction. The Credit Margin is currently a component of the credit requirements for holding CRRs. Currently, the MRTU tariff provides that holding requirements are calculated after the completion of the auction. However, there is a risk that the total amount of available auction credit/collateral is lower than

the credit requirements for holding the CRRs. It is possible that a CRR auction participant could successfully win a portfolio of CRRs, but subsequently not be able to provide sufficient credit coverage for the portfolio.

To mitigate this risk, the CAISO proposes to require auction participants to cover the Credit Margin as part of their credit requirements for participating in the auction.

#### **D. Enhanced Affiliate Disclosure Requirement**

As discussed below, the CAISO is deferring discussion of the proposal that corporate parent guaranties cover the aggregate liabilities of all Affiliates in the CAISO's markets. Nevertheless, the CAISO believes it is necessary to enhance existing Affiliate disclosure requirements set forth in Section 39.9 to address gaps. The CAISO recently became aware of the gap when a Candidate CRR Holder failed to disclose that it was affiliated with another Candidate CRR Holder. Accordingly, the CAISO proposes to extend the disclosure requirement to Candidate CRR Holders, not just CRR Holders. In addition, the CAISO also proposes to extend the category of affiliates that must be disclosed to include all Affiliates, not just Affiliates that are also Market Participants.

## **8.2 FINAL PROPOSAL: Credit Policy Enhancements Related to CRR Transfers Associated with Load Migration**

LSEs receive allocated CRRs free of charge through the allocation process based on the load that they serve. When load migrates from one LSE to another, the CRRs associated with the migrated load must be transferred to the load gaining LSE. According to the current CAISO MRTU Tariff, the CAISO will create new CRRs identical to the CRRs being transferred with load and allocate the new CRRs to the load gaining LSE. The load losing LSE will be assigned counter-flow CRRs to offset the CRRs to be transferred with load.

Specifically, MRTU Tariff Section 36.8.5.3 states that, upon load migration, the CAISO "will perform the adjustments by creating and allocating equal and opposite sets of new CRRs for each pair of LSEs affected by Load Migration. The net Load gaining LSE of the pair will receive a set of new CRRs that match the CRR Sources and CRR Sinks of all the Seasonal CRRs and Long Term CRRs previously allocated to the net Load losing LSE of the pair, in MW quantities proportional to the net amount of the net Load losing LSE's Load that migrated to the net Load gaining LSE of the pair within each LAP in which the LSEs serve Load. The net Load losing LSE of the pair will receive a set of new Offsetting CRRs."

A potential credit risk exists in the situation when the original owner does not have financial capability to meet the credit requirements for holding the counter-flow CRRs upon load migration. This could occur in either one of the following circumstances:

- 1) The load losing LSE has already sold the allocated CRRs prior to load migration; or
- 2) The LSE has procured offsetting counter-flow CRRs through a subsequent auction.

In either case, prior to the load migration, according to the current CRR credit policy, the LSE may need to maintain little or no credit coverage for the CRRs due to portfolio netting and the ability to purchase counter-flow CRRs. Therefore, once load migration occurs, there is a risk that the load losing LSE would be unable to meet the financial requirements of taking on the counter-flow CRRs.

In fact, the CAISO has observed in the first CRR allocation and auction process that some LSEs with allocated CRRs bought negatively-valued near exact counter-flow CRRs from the auction (i.e. were paid by the CAISO to take on such CRRs). At present, the allocated CRRs offset the counter-flow CRRs in the holding credit requirement calculation.<sup>6</sup> To mitigate the associated credit risk and based on stakeholder feedback, the CAISO proposes the following:

- 1) Disallow netting between allocated CRRs and auctioned CRRs in the holding credit requirement calculation, and
- 2) Require LSEs selling allocated CRRs to maintain sufficient credit coverage (through an unsecured credit limit or posted collateral) to cover the counter-flow CRRs that offset the CRRs being sold.

As a result, LSEs that have acquired offsetting counter-flow CRRs in the auction or have sold allocated CRRs will need to have sufficient collateral to cover the offsetting counter-flow CRRs. This enhancement will prevent a LSE from cashing out its allocated CRRs, thus eliminating ongoing credit requirements for the auctioned offsetting CRRs.

### 8.3 FINAL PROPOSAL: Enhancement to Short-Term CRR Holding Credit Requirement Calculation

The current MRTU Tariff (Section 12.6.3.2) defines the credit requirement for holding a Short-Term CRR (with a term of one year or less) as the following:

$$\text{Credit Requirement} = -\text{CRR Auction Price} + \text{Credit Margin}$$

That is, the credit requirement for holding a CRR is calculated based on its auction price plus a credit margin. The credit margin is calculated based on the distribution of historical values of the CRR.<sup>7</sup> In this formula, the auction price is used as a proxy for the expected value of the underlying CRR.

Looking beyond the startup of MRTU, the CAISO has reviewed the existing CRR credit policy and has evaluated approaches to improve the accuracy of the CRR holding credit requirement calculation after market operation data becomes available.

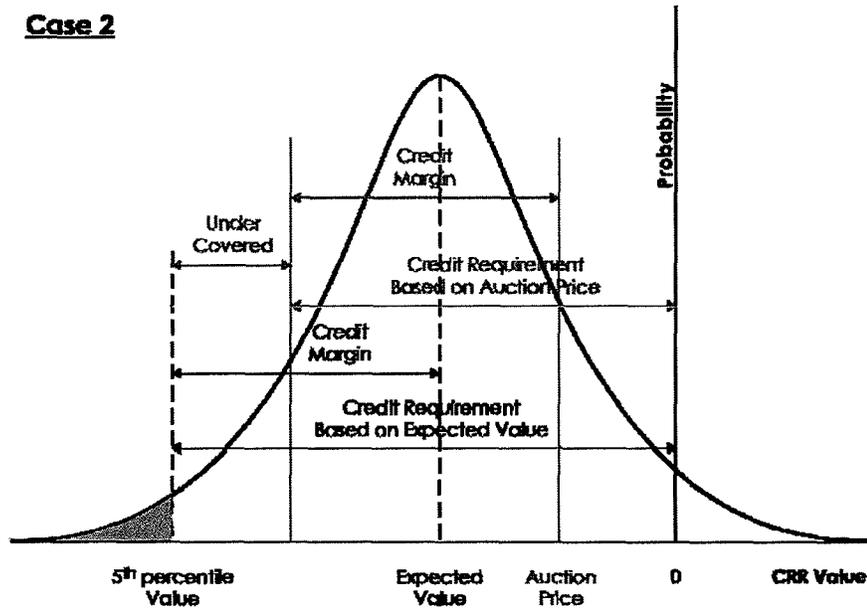
The CAISO has examined various scenarios that could happen for both positively-valued and negatively-valued rights. The analysis shows that in most scenarios the current credit policy provides sufficient coverage for the financial risks associated with CRRs. However, under one specific scenario the credit requirement calculated based on auction price would be insufficient.

<sup>6</sup> As defined in MRTU Tariff Section 12.6.3.1 (b), "If a CRR Holder owns more than one CRR, such CRR Holder shall be subject to an overall credit requirement that is equal to the sum of the individual credit requirements applicable to each of the CRRs held by such CRR Holder."

<sup>7</sup> The methodology of credit margin calculation is documented in a technical bulletin posted to the CAISO website at: <http://www.caiso.com/1bb4/1bb4745611d10.html#1c20b49260210>

Figure 1 demonstrates the scenario of a negatively-valued CRR, for which the auction price is higher (less negative) than the historical expected value. In this case, the credit requirement based on the auction price would be less than that based on the historical expected value. When this occurs, the CAISO may not have sufficient credit coverage to protect against a default. In this circumstance, the CAISO believes that it should use the historical expected value rather than the auction price to establish the credit requirements for holding the CRR.

Figure 1. Scenario of Insufficient Credit Requirement



To address this issue, the CAISO proposes to include the historical expected values of CRRs in determining credit requirements for holding CRRs. Specifically, the CAISO proposes to modify the formula for calculating the credit requirement for holding a Short-Term CRR as defined in Tariff Section 12.6.3.2

$$\textit{Credit Requirement} = -\textit{CRR Auction Price} + \textit{Credit Margin}$$

to

$$\begin{aligned} \textit{Credit Requirement} = & -\min(\textit{CRR Auction Price}, \textit{Historical Expected Value}) \\ & + \textit{Credit Margin} \end{aligned}$$

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With this enhancement, when historical market data suggest that the auction prices are undervalued, the credit requirement will be determined based on the historical expected value of the CRR. This will provide additional assurance that CRR holders have sufficient credit coverage to meet CRR payment obligations.

The CAISO proposes to calculate historical expected values in a manner consistent with the credit margin calculation, i.e. at a daily level (\$/MW-Day) for each month and for both peak, off-peak, and Sunday. The calculation of both historical expected value and credit margin of a specific month will be based on the same historical market operation data of the same month of the most recent years (minimum of one year and up to 3 years).

This enhancement will not be enacted until one year after the startup of MRTU when actual operational data for each season is available.

### **Whether to Use LMP Study Data to Calculate Historical Expected Value for MRTU Year 1**

The CAISO proposes to file tariff language for revision of the formula with the express understanding that the historical expected value will not be available until one year after the start-up of MRTU when seasonal market operation data becomes available.<sup>8</sup>

Some stakeholders have suggested using the LMP Study data to calculate historical expected values as an interim solution for MRTU Year 1. Due to the following reasons, the CAISO does not propose to use LMP study data to establish CRR expected values for MRTU Year 1.

The LMP study data are simulated prices based on zonal market prices from the pre-MRTU supplemental energy market prior to May 2005, which has different rules than the MRTU nodal market. Other assumptions made in the LMP studies may not necessarily reflect the actual market conditions under MRTU.

In addition, bidding behavior may also change under MRTU. In the 2007 CRR credit policy stakeholder process, the CAISO concluded that the variations in congestion patterns revealed by the LMP study data would provide usable information for calculating credit margin, but it would not be appropriate to use this data to determine the expected values of the CRRs due to reasons mentioned above.<sup>9</sup> Finally, using CRR proxy expected values derived from LMP study data could potentially have dramatic impact on credit requirements for certain CRRs that is difficult to justify in the absence of any actual market operation data.

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<sup>8</sup> Due to the seasonal pattern of power flows CRR values may change significantly from one season to another. Therefore historical expected values and credit margins should be calculated based on seasonal historical data.

<sup>9</sup> The Credit Margin is calculated as the difference between the mean and the 5 percentile value of the distribution of the congestion price differences between source and sink for each CRR based on LMP study data, and will be updated once actual market operation data becomes available under MRTU.

## 8.4 FINAL PROPOSAL: Pre-Auction Credit Margin Requirement

The current CAISO Tariff specifies the credit requirement for participating in the CRR auction as the greater of \$500,000 or the sum of the absolute values of the bids.<sup>10</sup> The purpose of this requirement is to ensure that auction participants bidding for positively-priced CRRs have sufficient credit to cover the bid price and to ensure that auction participants bidding for negatively-valued CRRs have sufficient available credit (through Unsecured Credit and/or posted collateral) to take on such negatively valued CRRs.

However, this requirement is not intended to provide coverage for potential losses due to the volatility of the underlying value of the rights. For example, if an auction participant only bids for zero-priced CRRs, the submitted bids would be zero, and the only credit support posted would be \$500,000, which may be insufficient to cover the default risk associated with these rights if these rights turn out to be negative. While the participant would be required to post collateral sufficient to cover the auction price and the Credit Margin subsequent to the auction, a market participant may be unable or unwilling to do so for a number of reasons.

Both NYISO and MISO have also recently recognized the default risks associated with negative, zero, and low-positive priced CRRs. For example, based on a study conducted by the NYISO, low-positive transmission rights run a disproportionately greater risk of reversing, thereby becoming negative and requiring the customer to make payments.<sup>11</sup> Both NYISO and MISO have recently filed enhancements to their credit policies by requiring minimum dollar-per-MW credit posting requirements for submitting bids in auctions. The minimum posting requirements help to address the risk associated with a market participant who obtains a significant number of negative, zero-priced, or low-positive transmission rights during an auction but is unable to satisfy the credit requirements for holding those rights following the close of the auction. The CAISO understands that both NYISO and MISO will be making further enhancements to their credit policies to ensure that holding requirements are also similarly adjusted.

The CAISO's credit policies do address this risk as part of the CRR holding requirements. That is, the CAISO requires the CRR Holder to post a Credit Margin in addition to any credit requirements derived from the auction price (and/or historical expected value, as proposed elsewhere in this paper for a Tariff amendment.) To date, the CAISO has not required that auction participants establish credit coverage for the Credit Margin related to their bids during the auction.

Accordingly, there is a risk that an auction participant could win CRRs that have a holding credit requirement in excess of their available credit during the auction, and they would be unable to post additional collateral.

Most stakeholders who submitted written comments on April 8th support the inclusion of the full Credit Margin in the bidding requirement, and the CAISO agrees that this is the preferred approach. This would provide coverage commensurate with the risk of the CRRs, in that more volatile CRRs would need higher coverage and less volatile rights would require lower coverage. Any excess collateral coverage posted for auction participation in excess of holding requirements can be released to the Market Participants after the close of the auction.

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<sup>10</sup> Specifically, Tariff Section 12.6.2 states that "Each Candidate CRR Holder that participates in a CRR Auction shall ensure that its Aggregate Credit Limit in excess of its Estimated Aggregate Liability is the greater of \$500,000 or the sum of the absolute values of all of its bids for CRRs submitted in the relevant CRR Auction."

<sup>11</sup> The NYISO study was conducted based on TCC auction data through 2006.

It is noteworthy that there are two aspects of the current policy that may, in some cases, already provide some excess collateral coverage that could be used to meet the subsequent holding requirement including the credit margin. These include the \$500,000 minimum credit required to participate in the auction, and the fact that a participant is unlikely to be the winning bidder for all CRRs that they bid on. However, these may not provide sufficient coverage in all cases to ensure that the market participant is able to meet the subsequent CRR holding requirement established by the CAISO after the close of the auction. While the CAISO does have the ability to "repossess" CRRs and resell them in a subsequent auction if a participant does not meet a collateral call, this is an imperfect solution, as the CAISO may not be able to sell the CRRs that were defaulted upon and prices of other CRRs may have been affected by the bids of the defaulting party. Adding the Credit Margin requirement would help to reduce this risk.

With the inclusion of the full Credit Margin, the credit requirement for participating in the CRR auction would be the greater of \$500,000 or the sum of the absolute values of the bids plus the amount contributed by Credit Margin.

*Pre – Auction Credit Requirement*

$$= \max[\$500,000, \sum_{CRR_i} (|bid\ price_i| + Credit\ Margin_i \times MW_i)]$$

## 8.5 Final PROPOSAL: Enhanced Affiliate Disclosure Requirements

Section 39.9 of the MRTU Tariff requires CRR Holders to disclose to the CAISO the identity of any Affiliates that are also CRR Holders or Market Participants. The CAISO has identified two gaps that it believes should be addressed in the Tariff filing following the May Board decision on these CRR Enhancements. First, the CAISO believes the disclosure requirement must also apply to Candidate CRR Holders. Second, the CAISO believes that the disclosure requirement should require the disclosure of all Affiliates, not just Affiliates participating in the CAISO's Markets. These gaps recently came to the CAISO's attention when a Candidate CRR Holder failed to disclose its relationship with another Candidate CRR Holder. Accordingly the CAISO proposes the following changes to the relevant portion of Section 39.9:

Each CRR Holders or Candidate CRR Holder must notify the CAISO of all entities that are Affiliates or become Affiliates of with which the CRR Holder or Candidate CRR Holder.

In addition, the CAISO proposes to amend Section 12.1.1 to indicate that a Market Participant's compliance with and the information provided pursuant to Section 39.9 will be considered in determining a Market Participant's Unsecured Credit Limit.

The CAISO recognizes that this proposal was added into the present stakeholder process only with the posting of the "Draft Final Proposal" on May 5 and the ensuing stakeholder discussion on May 12. Nevertheless, the CAISO believes this proposed change is needed urgently to fill in a gap in existing policy and should be included within the FERC filing on these CRR Enhancements that is targeted for May 30<sup>th</sup>. The CAISO may consider future changes to this conservative disclosure requirement as experience in the LMP markets unfold.

## 8.6 Other CRR Credit Policy Enhancement Issues to Be Addressed In Future Stakeholder Processes

Based on stakeholder feedback, the CAISO will consider the following issues in future stakeholder processes and will not be asking for Board approval of these issues at the May 2008 CAISO Board meeting.

### A. Reassessment of Credit Requirement for Long-Term CRRs

The CAISO conducted a stakeholder process in summer 2007 and obtained the CAISO Board of Governors' approval for full-term credit coverage for LT-CRRs. The CAISO filed this proposal with FERC. FERC instead approved only a one year credit requirement for LT-CRRs, finding that "multiplying by ten (or by the remaining number of years in the long-term CRR's term) the auction price of a one-year CRR does not accurately forecast the expected value of a long-term CRR for the duration of its term."<sup>12</sup>

Based on this concern, FERC found it was "reasonable under the circumstances to choose lower barriers to entry over the risk of potentially burdensome over-collateralization. Nevertheless, we encourage the CAISO to develop an appropriate method for estimating the value of allocated long-term CRRs that is representative of the financial risk associated with the long-term CRR, and takes into account all years covered by the long-term CRR."<sup>13</sup>

In the March 25, 2008 "CRR Credit Policy Enhancement Issue Paper," the CAISO discussed its intent to re-file the full-term credit coverage for LT-CRRs with a modified credit requirement calculation formula to include the "one year historical expected value" of the LT-CRR.<sup>14</sup> Most stakeholders submitting comments on April 8th supported enhancing the credit requirement for LT-CRRs, but several commentators suggested the proposal would benefit from additional stakeholder discussion and some empirical evidence that might more directly indicate the value of LT-CRRs. Thus, to allow more time to develop an appropriate methodology to assess the credit requirement for LT-CRRs, the CAISO will defer this issue to a future stakeholder process.

### B. Requirement for Corporate Parent Credit Backing of Affiliated Market Participants Aggregated Liability

In the March 25 Issue Paper, the CAISO suggested entities might be required to provide corporate guaranties to multiple affiliated market participants in order to provide a single guarantee backing the aggregate liabilities of the affiliated entities in the event of a default by any covered market participant.

Most stakeholders who submitted written comments on April 8th suggested additional time to understand the potential legal and regulatory consequences of this proposal. Several commentators recommended this issue be decoupled from the current stakeholder process. Thus, the CAISO will address this issue within the upcoming stakeholder process for other general credit policy issues later this year.

<sup>12</sup> "Order Conditionally Accepting in Part and Rejecting in Part Tariff Revisions." 120 FERC ¶ 61,192 at P 45 (2007)

<sup>13</sup> *Id.*

<sup>14</sup> The March 25, 2008 "CRR Credit Policy Enhancement Issue Paper" and stakeholder comments are posted to the CAISO website at: <http://www.aiso.com/1b8c/1b8cdf25138a0.html>

**C. Develop methodology to increase credit requirements for CRRs due to extraordinary circumstances**

Extraordinary circumstances such as extended transmission outage or other abnormal grid conditions could dramatically increase the payment obligations for a CRR. Although, over time, the CAISO will be able to incorporate historical outage information in the calculations of historical expected value, that calculation is necessarily historical and may not adequately cover near-term anticipated prospective obligations associated with extended transmission outages or, possibly, other events that could dramatically change the risk profile of a CRR.

Accordingly, in the March 25 Issue Paper, the CAISO suggested it might clarify its tariff authority so that the CAISO could impose additional credit requirements if it finds that neither the auction value nor historical expected values adequately cover the anticipated exposure of the CRR.

Most stakeholders submitting written comments on April 8th favored the concept for adjusting CRR holding credit requirements due to extraordinary circumstances, but several commentators also recommended that the CAISO clearly establish in advance the methodology it would use to calculate the increased credit requirements.

As previously stated, the CAISO believes that it has the authority to request additional security in the event it finds that existing credit coverage is not sufficient to cover the prospective liabilities. Nevertheless, the CAISO agrees that it is reasonable and appropriate to engage in additional discussions with stakeholders in the future stakeholder process to develop a methodology for calculating credit requirement under such circumstances.

**D. Additional Future Enhancement to Pre-Auction Bidding Requirement**

For negatively-valued CRRs, when bid prices are close to zero and significantly less negative than the historical expected value, the auction credit requirement based on bid prices could be under-estimated. This could potentially cause bidding requirements to fall short of the holding requirements. To mitigate the risk of insufficient coverage due to low bid prices, CAISO proposes to explore with stakeholders an additional enhancement to consider the greater of the absolute value of the bids or the negative of the historical expected value, i.e.,

$$\text{Pre - Auction Credit Requirement} = \max\{\$500,000, \sum_{CRR\ i} [\max(|bid\ price_i|, -Historical\ Expected\ Value_i) + Credit\ Margin_i \times MW_i]\}$$

The CAISO believes that historical expected value should be considered in determining the CRR auction credit requirements. Since the historical expected values will not be available until one year after MRTU, the CAISO proposes to discuss this possible enhancement in a future stakeholder engagement.

**E. Other Business Process Related Issues**

Some stakeholders suggest the CAISO develop rules and processes to mark CRR contracts to market based on actual congestion costs, and perform regular credit checks on all CRRs using actual congestion values. As CAISO staff has emphasized in stakeholder discussions, the CAISO intends to monitor CRR values and conduct regular updates based on the most recent

auction prices and historical expected values. In fact, the current credit policy requires updating holding credit requirements monthly based on the most recent auction prices and historical expected values with the proposed enhancement in Section 8.3 of this paper, or more frequently if necessary. This conceptual process is similar to the mark-to-market approach that has been suggested by some stakeholders. The CAISO will continue to discuss further refinements on this approach with stakeholders in future stakeholder processes beginning this summer.

## **9 Next Steps**

Assuming approval by the CAISO Board of Governors of the policy proposals described in this document, which are summarized in a May 13 memorandum to the Board, the CAISO intends to submit a filing to FERC on or about May 30, 2008. The proposed FERC filing will include changes to the MRTU Tariff to reflect the Board-approved policies, as well as the compliance item discussed above in Section 6.

The CAISO has posted draft tariff language and will conduct a conference call with stakeholders on May 23, 2008 to receive input on this draft tariff language.

**ATTACHMENT F**



# Memorandum

**To:** ISO Board of Governors  
**From:** David Withrow, Lead Market and Product Economist  
Anjali Sheffrin, Chief Economist / Director of Market and Product Development  
**Date:** May 13, 2008  
**Re:** *Decision on Congestion Revenue Rights Enhancements*

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***This memorandum requires Board action.***

## EXECUTIVE SUMMARY

In anticipation of the second annual CRR auction, which will occur this summer in advance of implementation of MRTU, CAISO Management is proposing tariff amendments designed to enhance current CRR policies and to address the delay in the MRTU planned start date. The recommended policy enhancements reinforce the value of CRRs for Load Serving Entities, improve the fairness of the CRR release process, and strengthen the CRR credit policy.

Due to the delay in MRTU, the release of "Year One" CRRs does not match the expected first year for MRTU market operations. Following stakeholder input, Management proposes to largely maintain the "Year One" rules for the seasonal CRRs to be effective for the first quarter of 2009 while treating the other three quarters of 2009 which have already established priorities for certain CRRs under the "Year 2" rules. This proposed policy is entirely consistent with the establishment of CRR priorities that was set by previous stakeholder processes and reflected within the current MRTU Tariff.

Management also worked with stakeholders to design additional modifications intended to increase availability of CRRs, expand the exemption of the "30-day Rule" on outage reporting and address CRR eligibility for LSEs that do not have a California Energy Commission (CEC) load forecast. With respect to the former, the Management recommends increasing the granularity of CRRs from 0.1 MW to 0.001. This refinement will benefit small Load Serving Entities in particular because it involves expanded capability to release CRRs from the current 0.1 MW level and will allow more CRR nominations to be awarded, especially for MW nominations under 100 MW. The second CRR-related policy clarifies the exemption to the "30-day Rule" that requires Participating Transmission Owners to report planned outages to the CAISO and consistent with FERC recent orders proposes to include this detail in the CAISO Tariff. Instead of limiting the exemption to outages that occur within a single calendar day, Management proposes to use a 24 hour rule. This will provide Participating Transmission Owners with some flexibility for reporting outages that are 24 hours or less, but occur over two calendar days. The third policy

refinement resolves to use historical data to determine eligibility for monthly CRRs that could be allocated to an LSE without a verifiable CEC load forecast for that month.

With respect to credit policy affecting CRRs, Management took the initiative, in light of the default in PJM by an under-secured firm transmission right, to review its CRR credit policies. Although the CAISO's credit policies are more robust than other independent system operators, the CAISO, working with stakeholders, developed several enhancements to further protect against default risk. The first enhancement tightens the credit requirements for Load Serving Entities that transfer allocated CRRs to another Load Serving Entity. This enhancement addresses the risk associated with potential future load migration by requiring additional security to address this possibility. The second enhancement is to use historical LMP data, once 12 months of data are available, as a component to consider when assessing the credit requirements for holding CRRs. The third credit policy enhancement increases the credit requirement for participation in the CRR Auction by requiring Candidate CRR Holders to post the calculated "Credit Margin" in addition to the absolute value of the bids before a market participant is allowed to bid for CRRs at auction. The final enhancement proposal extends the requirements to disclose to the CAISO information about business affiliates to entities that have registered to acquire CRRs, such as a CRR Candidate Holders. The CAISO anticipates implementing and enforcing these policies as soon as possible.

**MOTION**

***Moved, that the ISO Board of Governors approves the policies for Congestion Revenue Rights Policy Enhancements, as outlined in the memorandum dated May 13, 2008, and related attachments; and***

***Moved, that the ISO Board of Governors approves the policies for Congestion Revenue Rights Related Credit Enhancements, as outlined in the memorandum dated May 13, 2008, and related attachments; and***

***Moved, that the ISO Board of Governors authorizes Management to make all the necessary and appropriate filings with the Federal Energy Regulatory Commission to implement these policies.***

**BACKGROUND**

This section describes the issues and problems the stakeholder process addressed. Additional background is available in the "Final Proposal on Congestion Revenue Rights Enhancements" which is located at: <http://www.caiso.com/1b8c/1b8cdf25138a0.html>.

**I. Ensuring the Value of Allocated CRRs to Load Serving Entities**

**A. Changes Needed for the Next Annual CRR Allocation**

The FERC-approved process for releasing CRRs involves allocating CRRs to Load-Serving Entities (LSEs) based on the amount of load they serve, followed by an auction where credit-worthy entities may bid for any available CRRs. Once a year the CAISO releases seasonal CRRs that are effective for three month durations consistent with calendar quarters; thus, Season 1 CRRs are effective January through March, Season 2 CRRs are effective April through June, and so on.

In anticipation of an April 1, 2008 opening of the MRTU markets, the CAISO previously allocated and auctioned CRRs for the last three quarters of 2008.<sup>1</sup> Those CRRs for the second and third quarter of 2008 that were bought at auction and will not become effective have been unwound and the CAISO has returned money with the appropriate interest to the buyers, in accordance with a recent FERC order. CRRs for the October – December 2008 period remain held by market participants and will become effective upon MRTU start-up during that time period.

The current MRTU Tariff also specifies priority in the nomination of CRRs in the CRR allocation process that are sourced at locations at which LSEs that supply their customers directly from the CAISO grid can demonstrate ownership or contracts for energy delivery. The central concept that has been endorsed previously by most stakeholders and FERC is that LSEs with established generating sources for their energy flows should get and be able to maintain priority for their CRR nominations, especially since a key purpose for creating CRRs is to help LSEs protect consumers by minimizing and managing congestion costs.

The CAISO engaged with stakeholders to determine how to maintain this priority for certain CRR nominations within the second annual release process, which will occur prior to MRTU implementation based on the fact that LSEs did not nominate or receive any seasonal CRRs for the first quarter of 2008, and thus never had the opportunity to establish priority. Seasonal CRRs for the second and third quarter of 2008 were nominated by LSEs and, although none of the awarded CRRs for quarters 2 and 3 of 2008 will be effective during MRTU operation, many of these nominations were source-verified for the purpose of establishing priority. In addition, the CAISO engaged with stakeholders concerning whether 2006, or a more recent timeframe, should be used for source verification.

## **II. Enhancing Access and Fairness of the CRR Release Process**

### **B. Increased Granularity for CRRs**

In previous stakeholder processes leading to the CAISO's February 2006 MRTU Tariff filing, it was decided to establish 0.1 MW as the minimum level for the CAISO to track CRRs. The CRR software systems were developed and configured to reflect this decision. Subsequently, the CAISO staff and stakeholders discussed further details related to CRR transfers for load migration and the disaggregation of CRR nominations sourced at Trading Hubs into their constituent PNodes for purposes of CRR allocation. In those discussions it was recognized that these two processes could result in substantial quantities of small denomination CRRs that would be rounded to zero, and that the problem would be more severe the smaller the initial MW denomination. For example, a 10 MW CRR nomination sourced at a Trading Hub would have a larger proportional share rounded to zero as a result of the disaggregation process than would a 100 MW CRR nomination. Although the CAISO could not revise the 0.1 MW CRR granularity threshold in the CRR systems in time to start the CRR Year One release process, the CAISO has been working diligently to increase the granularity of CRR tracking in time for the CRR Year 2 annual release process for 2009, which will start in summer 2008. The CAISO engaged with stakeholders on the degree to which the granularity of CRRs should be increased.

<sup>1</sup> Management previously sought and obtained approval by the ISO Board of Governors of the CRR Contingency Plan in anticipation of the delay of MRTU. The CRR Contingency Plan provided for the unwinding of CRRs allocated and auctioned during such time that MRTU is not in effect, resettlement of the auctioned CRRs and a backstop measure to ensure that Firm Transmission Rights are available while MRTU is not in effect in 2008. See Memorandum *Decision on Congestion Revenue Rights Contingency Plan*, date January 28, 2008. The CAISO has since obtained FERC approval of this policy and has resettled the auctioned CRRs that were unwound. See *California Indep. Sys. Operator Corp.*, 122 FERC ¶ 61,296 (2008).

### **C. Notification of Planned Transmission Outages that Impact CRRs**

Management also has discussed and received stakeholder input on a proposed change to the requirement for Participating Transmission Owners to notify the CAISO about planned outages of transmission facilities that impact CRRs at least 30 days prior to the start of the calendar month for which the outage is planned to begin. This rule is intended to provide the CAISO with accurate data on planned outages far enough in advance to allow the CAISO to reflect them in the network model used for releasing Monthly CRRs and thereby minimize impacts to the revenue adequacy of CRRs. This requirement has been part of the CAISO CRR policy from the start and the FERC has previously approved this reporting requirement as already reflected in the CAISO Tariff. This rule was detailed in the Business Practice Manuals and the FERC has recently requested that the criteria for what constitutes an outage that may have significant impact on CRR revenue adequacy be included in the tariff.

Currently the criteria for what constitutes an outage that may have significant impact on revenue adequacy permits outages to such facilities that are planned to be initiated and completed within a single calendar day are exempt from the 30-day requirement. Several Participating Transmission Owners suggested the CAISO modify the provision so that outages to such facilities that are planned to be initiated and completed within a 24-hour period, rather than a single calendar day, are exempt from the 30-day requirement. The CAISO also engaged with stakeholders concerning whether additional exemptions should be recognized.

### **D. Eligibility for Monthly CRRs for LSEs without CEC Load Forecasts**

The first monthly CRRs will be allocated in late summer and will be effective upon MRTU start-up. The MRTU Tariff requires LSEs that are eligible for allocation of Monthly CRRs to provide monthly load forecast data to the CAISO as the basis for determining the maximum quantity each such LSE may be allocated. The CAISO reviewed with stakeholders how the eligibility for monthly CRR allocation will be determined in the absence of a CEC forecast data.

## **III. Enhancing the CRR Credit Policy**

### **E. Tighten Credit Requirements for Allocated CRRs to Address Risk Associated with Load Migration**

The MRTU tariff provides that when load migrates from one LSE to another, the CAISO will create and allocate new CRRs to the load-gaining LSE and will assign counter-flow (negatively valued) CRRs to the load-losing LSE to offset the CRRs to be transferred with load. If the LSE has already sold CRRs, or has purchased counter-flow CRRs, the LSE may not be creditworthy to take on the obligation for the counter-flow CRRs. Both the CAISO and stakeholders discussed ways to mitigate this risk by enhancing credit requirements on LSEs that hold allocated CRRs.

### **F. Use of Historical Price Data as a Component to Determine Credit Requirements for CRR Holders**

Under the current MRTU Tariff, the requirement for holding a CRR with a term less than one year is based on its auction price plus the calculated Credit Margin. The auction value should reflect the market value of CRRs. It may not, however, if few participants bid in an auction. When the value of the CRRs in the auction is overvalued compared to actual historical LMP data, the auction price may not reflect the true credit risk for certain CRRs. The CAISO examined with stakeholders alternative ways of utilizing historical price data to determine the appropriate credit requirement for holding short-term CRRs once that information becomes available.

## **G. Increased Credit Requirement for Bidders in CRRs Auctions**

This stakeholder process reviewed whether and how to impose additional credit requirement before an entity participates in an auction to ensure that winning bidders are able to meet the CRR Holding requirements.

## **H. Extend Affiliate Disclosure for Entities Applying to Acquire CRRs**

The CAISO recently became aware of a gap in disclosure requirements for entities who may be seeking to acquire CRRs, and this gap could impact credit risk and is proposing to close that gap.

## **POSITIONS OF THE PARTIES**

The CAISO staff conducted one day-long stakeholder meeting and two conference calls to review these issues and explain various proposals. Stakeholders reviewed an *Issue Paper* describing all of these issues and options for resolution, a *Straw Proposal* and a *draft Final Proposal* on each item. Stakeholders submitted two rounds of written comments. The most recent comments are summarized in Attachment A.

### **CRR Year Two Modifications**

The CAISO considered two modifications to the Year Two CRR process. Most stakeholders agreed with the proposed resolution for using "Year One" rules for part of the next annual CRR allocation, although some preferred the first quarter of 2008 as the historical period for verifying CRR sources because grid usage and congestion charges in 2009 would most closely match that historical period. The CAISO considered this option but chose 2007 in order to avoid creating incentives to enter into contractual arrangements in order to use those contracts as the basis for source-verified 2009 Quarter 1 CRR allocation. Management's proposal to use the first quarter of 2007 avoids this possibility, and is a more recent time period than the 2006 period used for CRR source verification in the first annual allocation process.

### **Modification to Criteria for Reporting Outages under 30-Day Reporting Requirement**

Some Participating Transmission Owners are concerned that no exemptions will be permitted to the rule requiring 30-day notification of outages that impact CRRs, at least for the first year of MRTU operations. The reason is that the CAISO has adopted a conservative approach for modeling outages that seeks to minimize the possibilities that not enough congestion revenue will be collected to make all CRR holders whole. This requires the CAISO to avoid exemptions to the notification requirement for planned outages because, in the absence of actual LMP market experience, the CAISO does not have an empirical basis to judge if certain outages have no impact on CRRs. The CAISO has committed to assessing the effectiveness of both the 30-day requirements and its approach to modeling outages in the Monthly CRR process as actual experience with the LMP markets is gained.

### **Credit Policy Enhancements Relating to CRRs**

Stakeholders participating in this process support Management's proposal for the important enhancements to the existing CRR credit policy, although some participants are concerned that these strengthened policies will not be in

place at the time of MRTU start-up. Stakeholders, along with the CAISO, recognize the need to continue stakeholder engagement on additional credit policy enhancements.

Stakeholders generally recognize that the CAISO's credit policy with respect to CRRs is in many ways more sophisticated than other ISOs and RTOs. Still, in the wake of the multimillion dollar default that occurred in PJM with respect to negatively valued firm transmission rights, the CAISO recognized that this occurrence provided an additional opportunity to scrutinize its credit policies in advance of actual MRTU operations and to see if additional enhancements are warranted. This effort has resulted in the proposed changes discussed herein and a commitment to engage in additional stakeholder discussions.

Even though they support the CRR credit policy enhancements, several stakeholders have expressed concerns. One concern relates to the CAISO's inability to commit to implement these enhancements due to the software development cycle. To address this concern, Management will be exploring manual processes to ensure implementation as soon as possible. Second, stakeholders have expressed concern that no alternative to auction prices will be available for the first 12 months while historical market data will be collected. Some have suggested that LMP study data be used during this period. Due to uncertainties about how closely the LMP study data will represent actual market outcomes, Management does not believe that it is appropriate to use LMP study data for estimating the value of CRRs and that it is better to rely on the auction price for the first 12 months. To address this concern, the CAISO will be monitoring the value of CRRs based on actual LMP prices. In addition, the CAISO, working with stakeholders, will develop triggers for determining when to make additional collateral calls based on actual LMP data. At the same time, the CAISO, working with stakeholders, will develop a methodology for assessing additional credit requirements in the event of extraordinary circumstances, such as unplanned outages, that could dramatically affect CRR values. Finally, the CAISO will also work with stakeholders to develop additional tools, such as blanket corporate guaranties to cover all Affiliates.

## **MANAGEMENT RECOMMENDATION**

Management proposes the following CRR policy enhancements:

### **Ensuring the Value of Allocated CRRs to Load Serving Entities**

#### **A. Changes Needed for the Next Annual CRR Allocation**

- Use "Season 1 2007" as the historical reference period for source verification for "Season 1 2009" CRRs rather than 2006. This modification should allow a better alignment between CRRs that are allocated and contractual entitlements of LSEs.
- Treat Season 2 and 3 under the "Year 2" rules because the previously nominated CRR sources for those two seasons were already verified. Requiring the LSEs to renominate would pose an unnecessary administrative burden.

### **Enhancing the Access to and Fairness of the CRR Release Process**

#### **B. Increased Granularity for CRRs**

- Increase the granularity from 1 MW to 0.001 MW level for tracking CRRs. This change will create significantly more CRRs that can be awarded from small nominations.

### **C. Notification of Planned Transmission Outages that Impact CRRs**

- Clarify the "30-day Rule" that requires notification of transmission outages that impact CRRs so that outages initiated and completed within a 24-hour period (in place of the current same day requirement) are exempt.
- Eliminate other exemptions to this Rule for the first year of MRTU operation so the CAISO can conservatively model outages while beginning to assess actual market outcomes as the new markets unfold.

### **D. Eligibility for Monthly CRRs for LSEs Without CEC Load Forecasts**

- Base monthly CRR eligibility on the historical load of the same month for the previous five years when necessary for such special circumstance.

### **Strengthening the CRR Credit Policy**

#### **E. Tighten Credit Requirements for Allocated CRRs**

- Disallow netting for purposes of determining credit requirements between allocated CRRs and CRRs bought at auction or via secondary market. This will prevent a party from cashing out its allocated CRRs and eliminating on-going credit requirements.
- Require LSEs selling allocated CRRs to maintain credit coverage to cover counter-flow CRRs that can offset the CRRs being sold at the time of the sale.

#### **F. Use Actual Prices to Determine the Collateral Needed for Entities to Hold CRRs**

- Use historical expected value after 12 months of MRTU market operations in addition to auction prices to determine the credit holding requirements. When the historical expected value is more negative than the auction price, the CAISO will use the historical expected value.

#### **G. New Credit Requirement Before Bidding for CRRs at Auction**

- Require auction participants to post the Credit Margin, which is currently part of the credit requirements for holding CRRs, for all their bids as an additional prerequisite for bidding in a CRR auction

#### **H. Require Affiliate Disclosure for Entities Applying to Acquire CRRs**

- Extend the existing Affiliate disclosure requirement to Candidate CRR Holders, not just CRR Holders and extend disclosure obligation to all Affiliates, not just Market Participants.

**Stakeholder Process: CRR Enhancements**

**Summary of Submitted Comments**

Stakeholders submitted two rounds of written comments to the CAISO on the following dates:

- April 8, 2008 – “*Initial Stakeholder Comments on CRR Issues*” – 15 entities submitted comments
- \*April 28, 2008 – “*Stakeholder Comments on CRR Straw Proposals*” -- 8 entities submitted comments

\*This summary includes only the most recent written comments that were submitted April 28<sup>th</sup>.

**Stakeholder comments are posted at:** <http://www.caiso.com/1b8c/1b8cdf25138a0.html>

**Other stakeholder efforts include:**

- Stakeholder Meeting – April 1, 2008
- Stakeholder Conference Call -- April 21, 2008
- Stakeholder Conference Call -- May 12, 2008

California ISO

Management Proposal	A California Public Utilities Commission Staff	B EPIC Merchant Energy	C Northern California Power Agency (NCPA)	D Pacific Gas & Electric Co. (PG&E)	Management Response
<p><b>A. CRR Year 2 Release Process</b></p> <ol style="list-style-type: none"> <li>1. Use Season 1 2007 as the historical reference period for verifying Season 1 source nominations in the next annual CRR release process.</li> </ol>	<p>No Comment</p>	<p>No Comment</p>	<p>Does Not Oppose</p>	<p>Does Not Oppose</p> <p>Using Season 1 2007 is an improvement over the default use of Season 1 2006, PG&amp;E's preferred alternative would be Season 1 2008.</p>	<p>The CAISO agrees it would be desirable to use a reference period that is as recent as possible. It must be noted however that market participants were informed by summer 2007 – well in advance of 2008 Quarter 1 – that there would be a need to perform source verification in conjunction with the release of CRRs for 2009 Quarter 1 and a need to specify an historical reference period for that purpose. The CAISO therefore believes that using 2008 Quarter 1 for source verification would not be immune to the possibility that parties have entered specific contractual arrangements with the anticipation of using such arrangements as the basis for source-verified 2009 Quarter 1 CRR allocation. Using Season 1 2007 avoids that possibility.</p>
<ol style="list-style-type: none"> <li>2. Treating CRR Seasons 2 and 3 as “Year 2” seasons that are eligible for the Priority Nomination Process in the next annual CRR release process.</li> </ol>	<p>Support</p>	<p>No Comment</p>	<p>Oppose</p> <p>CRR Seasons 2 and 3 should be treated as “Year One” seasons to realize the full benefits of increasing CRR MW granularity to the 0.001 MW level within the next annual CRR release process. Re-doing source verification for these Seasons may improve market participants’ ability to clear smaller CRR quantities at the Trading Hubs.</p>	<p>Support</p>	<p>The CAISO believes the burden of re-doing source verification for three quarters AND unwinding LT-CRRs that have already been allocated is greater than the overall benefits that might be realized. Moreover, parties knew the granularity of CRRs when they submitted nominations during the first annual allocation; this technical improvement is not reason by itself to re-do the results of the previous allocation.</p>
<ol style="list-style-type: none"> <li>3. Confirming that</li> </ol>	<p>Support</p>	<p>No Comment</p>	<p>Oppose</p>	<p>Support</p>	<p>The CAISO believes the burden of re-doing source verification for three quarters AND unwinding LT-</p>

California ISO

Management Proposal	A California Public Utilities Commission Staff	B EPIC Merchant Energy	C Northern California Power Agency (NCPA)	D Pacific Gas & Electric Co. (PG&E)	Management Response
<p>Season 4 CRRs will be eligible for the Priority Nomination Process in the next annual CRR release process..</p>			<p>Season 4 CRRs should be revisited to realize the full benefits of increasing CRR MW granularity to the 0.001 MW level within the next annual CRR release process.</p>		<p>CRRs that have already been allocated is greater than the overall benefits that might be realized. Moreover, parties knew the granularity of CRRs when they submitted nominations during the first annual allocation; this technical improvement is not reason by itself to re-do the results of the previous allocation.</p>
<p>4. Confirming that Q1 LT-CRRs should be treated under the "Year 1" nomination limit, and Q2-4 LT-CRRs should be treated under the "Year 2" nomination limit in the next annual CRR release process.</p>	<p>Support</p>	<p>No Comment</p>	<p>Oppose</p> <p>To the extent that previously awarded Seasonal CRRs are retracted and treated under the "Year One" rules in the next annual CRR release, then LT-CRRs previously released should be retracted and market participants should be able to convert a proportionate share of their newly acquired CRRs into LT-CRRs.</p>	<p>Support</p>	<p>The CAISO believes the burden of re-doing source verification for three quarters AND unwinding LT-CRRs that have already been allocated is greater than the overall benefits that might be realized. Moreover, parties knew the granularity of CRRs when they submitted nominations during the first annual allocation; this technical improvement is not reason by itself to re-do the results of the previous allocation.</p>
<p>B. CRR MW Granularity</p> <p>5. Adopt the 0.0001 MW level (1kW) for the next annual CRR release.</p>	<p>No Comment</p>	<p>No Comment</p>	<p>Support</p> <p>This additional granularity should be implemented for CRRs that were previously allocated.</p>	<p>Support</p> <p>All aspects of the CRR process, including allocations, auctions, migration reassignments and transactions tracked through the secondary registration process should use consistent granularities.</p>	<p>The CAISO agrees to use the 0.001 MW level for the CRR allocation and auction.</p>

**California ISO**

Management Proposal	<b>A</b> California Public Utilities Commission Staff	<b>B</b> EPIC Merchant Energy	<b>C</b> Northern California Power Agency (NCPA)	<b>D</b> Pacific Gas & Electric Co. (PG&E)	Management Response
<p><b>C. 30-Day Rule on Outage Scheduling</b></p> <p>6. Modify the 30-Day Rule so that outages initiated and completed within a 24-hour period are exempt (instead of one day.)</p>	Support	No Comment	No Comment	Support	
<p>7. Eliminating the exemption criteria that are detailed in Section 10.3.1 of the BPM for CRRs until actual LMP market experience unfolds.</p>	No Comment	No Comment	No Comment	<p>Oppose</p> <p>CAISO should quickly develop and implement 30-day exemption criteria for those outages that are expected to have limited or acceptable impacts on congestion and CRR revenue adequacy, in coordination with the Transmission Maintenance Coordination Committee (TMCC).</p>	<p>The CAISO has committed to assessing the effectiveness of both the 30-day requirements and its approach to modeling outages in the Monthly CRR process as actual experience with the LMP markets is gained.</p>
<p>8. Developing an analytical methodology for assessing the impacts of outages on CRR revenue adequacy, and assessing with stakeholders whether revisions to</p>	No Comment	No Comment	No Comment	Support	

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Management Proposal	<b>A</b> California Public Utilities Commission Staff	<b>B</b> EPIC Merchant Energy	<b>C</b> Northern California Power Agency (NCPA)	<b>D</b> Pacific Gas & Electric Co. (PG&E)	Management Response
the 30-day rule exemption policy are appropriate.					
<b>D. Monthly CRR Eligibility for LSEs Without Verifiable Load Forecasts</b>  9. In the absence of a verifiable load forecast, using the historical load of the same month from the previous five years.	No Comment	No Comment	No Comment	Support	
<b>E. CRR Credit Enhancements</b>  10. a) Disallow netting between allocated CRRs and auctioned CRRs in the credit holding requirement calculation.	Support	No Comment	No Comment	Support	
10. b) Require LSEs selling allocated CRRs to maintain sufficient credit coverage to cover the counterflow CRRs that offset the CRRs	Strongly support  CPUC staff previously suggested this enhancement to credit policy and believes this proposal will	No Comment	No Comment	Support	

**California ISO**

Management Proposal	<b>A</b> California Public Utilities Commission Staff	<b>B</b> EPIC Merchant Energy	<b>C</b> Northern California Power Agency (NCPA)	<b>D</b> Pacific Gas & Electric Co. (PG&E)	Management Response
being sold.	protect ratepayers from CRR income deficiencies.				
11. Including historical LMPs (a year after MRTU start-up) to improve the credit requirement for holding short-term CRRs.	Support	<p>Conditionally support.</p> <p>The CAISO is moving in the right direction by including Historical Expected Value in the formula. However, this approach should allow reducing the credit requirement where an entity is over collateralized.</p> <p>The CAISO should reconsider using simulation prices to compute the credit margin.</p> <p>Changes to the CRR credit holding requirement should only apply to CRR positions acquired after the changes are made effective.</p>	Support	<p>Support</p> <p>Recommend enhancement using the most significant of either the Historical Expected Value or the Auction Price results. CAISO should consider implementing this requirement as soon as possible using LMP Study results as a proxy for the historical expected value for the first year.</p>	
12. Adding a full credit margin to the bidding requirement for participation in CRR auctions.	No Comment	Oppose Using the absolute value of the bid price may reduce the	Support	Support	

**California ISO**

Management Proposal	A California Public Utilities Commission Staff	B EPIC Merchant Energy	C Northern California Power Agency (NCPA)	D Pacific Gas & Electric Co. (PG&E)	Management Response
<p><b>F. Other CRR Issues</b></p> <p><b>13.</b> Further comments on CRR issues.</p>	<p>No Comment</p>	<p>required credit requirement for negative bids, even though the risk presented by the bid increases.</p> <p>Providing real life examples demonstrating how the CRR credit policy would work would be very beneficial.</p> <p>To be consistent, the holding requirement should be allowed to exceed the bidding requirement.</p>	<p>No Comment</p>	<p>The three CRR credit policy enhancements should be implemented prior to the start of the next CRR release process.</p> <p>The CAISO should quickly initiate further stakeholder processes on credit coverage for LT-CRRs, CRR credit requirements for Extraordinary Circumstances and Corporate Credit Backing of Affiliates and other credit issues.</p> <p>The CAISO should post the schedule for source verification within the next annual CRR release process.</p> <p>The CAISO should commit to a date for releasing the Full Network Model (FNM) prior to the start of the</p>	<p>The CAISO will continue to work with stakeholders on the implementation of the CRR credit policy enhancements.</p> <p>The CAISO included the schedule for the collection and verification of CRR source nominations in the "draft Final Proposal on CRR Enhancements."</p> <p>The CAISO intends to release the Full Network Model four to six weeks prior to the beginning of the next allocation process. A specific date for this release will be posted as soon as possible.</p>

**California ISO**

Management Proposal	<p><b>A</b> California Public Utilities Commission Staff</p>	<p><b>B</b> EPIC Merchant Energy</p>	<p><b>C</b> Northern California Power Agency (NCPA)</p>	<p><b>D</b> Pacific Gas &amp; Electric Co. (PG&amp;E)  next CRR allocation.</p>	Management Response
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California ISO

Management Proposal	<u>E</u> Powerex Corp.	<u>F</u> Southern California Edison	<u>G</u> San Diego Gas & Electric Co.	<u>H</u> State Water Project (SWP)	Management Response
<p><b>A. CRR Year 2 Release Process</b></p> <ol style="list-style-type: none"> <li>1. Use Season 1 2007 as the historical reference period for verifying Season 1 source nominations in the next annual CRR release process.</li> </ol>	<p>No Comment</p>	<p>Does Not Oppose</p> <p>SCE prefers utilizing the most recent Q1 historical values from 2008.</p>	<p>Conditional</p> <p>The use of 2007 instead of 2006 as the source verification period does little to overcome the deficiencies in the allocation process. CAISO should move to implementation of a full CRR auction as soon as possible.</p> <p>Trading Hub weighting factors should be updated as well to reflect Q1 2007 data.</p>	<p>Support</p>	<p>Trading Hub weighting factors are updated concurrently with the CRR allocation process.</p>
<ol style="list-style-type: none"> <li>2. Treating CRR Seasons 2 and 3 as "Year 2" seasons that are eligible for the Priority Nomination Process in the next annual CRR release process.</li> </ol>	<p>No Comment</p>	<p>Support</p>	<p>Does not oppose.</p> <p>Trading Hub weighting factors should be updated as well to reflect 2007 data.</p>	<p>Opposes</p> <p>Source verification for Seasons 2 and 3 should be re-done to better match the likely energy flows and transactions in 2009 and to gain benefits from the increased MW granularity of CRRs.</p>	<p>The CAISO agrees it would be desirable to use a reference period that is as recent as possible. It must be noted however that market participants were informed by summer 2007 – well in advance of 2008 Quarter 1 – that there would be a need to perform source verification in conjunction with the release of CRRs for 2009 Quarter 1 and a need to specify an historical reference period for that purpose. The CAISO therefore believes that using 2008 Quarter 1 for source verification would not be immune to the possibility that parties have entered specific contractual arrangements with the anticipation of using such arrangements as the basis for source-verified 2009 Quarter 1 CRR allocation. Using Season 1 2007 avoids that possibility.</p>
<ol style="list-style-type: none"> <li>3. Confirming that Season 4 CRRs will be eligible for the Priority Nomination</li> </ol>	<p>No Comment</p>	<p>Support</p>	<p>Does not oppose.</p> <p>Trading Hub weighting factors should be updated as well to</p>	<p>Support</p>	

**California ISO**

<b>Management Proposal</b>	<b><u>E</u> Powerex Corp.</b>	<b><u>F</u> Southern California Edison</b>	<b><u>G</u> San Diego Gas &amp; Electric Co.</b>	<b><u>H</u> State Water Project (SWP)</b>	<b>Management Response</b>
Process in the next annual CRR release process..			reflect 2007 data. CAISO should include provisions for MRTU launch dates other than Oct. 1 in the Season 4 rules.		
4. Confirming that Q1 LT-CRRs should be treated under the "Year 1" nomination limit, and Q2-4 LT-CRRs should be treated under the "Year 2" nomination limit in the next annual CRR release process.	Support	Support	Does no oppose	Oppose	
<b>B. CRR MW Granularity</b> 5. Adopt the 0.0001 MW level (1kW) for the next annual CRR release.	Oppose Does not support the administrative burden associated with this proposal.	Does not oppose. SCE prefers the 0.001 MW granularity level.	Does not oppose The need to adopt to 0.001 MW level is an example of the complexity that could be avoided by utilizing a full auction or allocating Auction Revenue Rights as done in other LMP markets.	Support	
<b>C. 30-Day Rule on Outage Scheduling</b> 6. Modify the 30-Day Rule so that outages initiated and completed within a	Support	Support SCE seeks clarification whether this change will be incorporated	Does not oppose	Support	

**California ISO**

Management Proposal	<b>E</b> Powerex Corp.	<b>F</b> Southern California Edison within the CRR BPM or the BPM on Outage Management.	<b>G</b> San Diego Gas & Electric Co.	<b>H</b> State Water Project (SWP)	Management Response
24-hour period are exempt (instead of one day.)					
7. Eliminating the exemption criteria that are detailed in Section 10.3.1 of the BPM for CRRs until actual LMP market experience unfolds.	No Comment	No Comment	Does not oppose	No Comment	
8. Developing an analytical methodology for assessing the impacts of outages on CRR revenue adequacy, and assessing with stakeholders whether revisions to the 30-day rule exemption policy are appropriate.	Support	No Comment	Does not oppose	No Comment	
D. Monthly CRR Eligibility for LSEs Without Verifiable Load Forecasts 9. In the absence of a verifiable load forecast, using the historical load of the same month from the previous five years.	Support	No Comment	Does not oppose This rule should remain permanent.	No Comment	

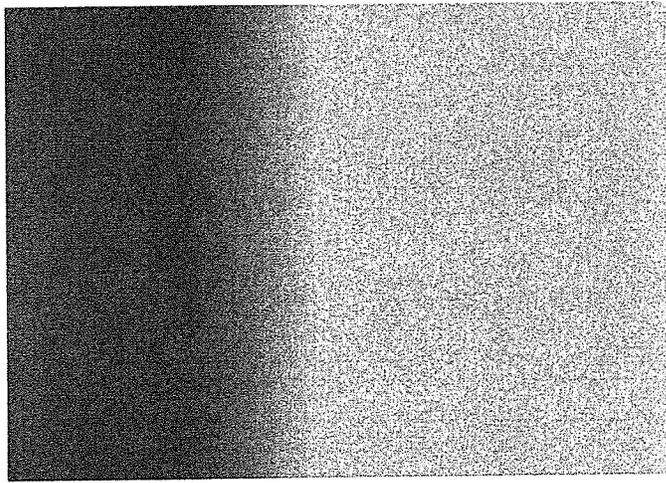
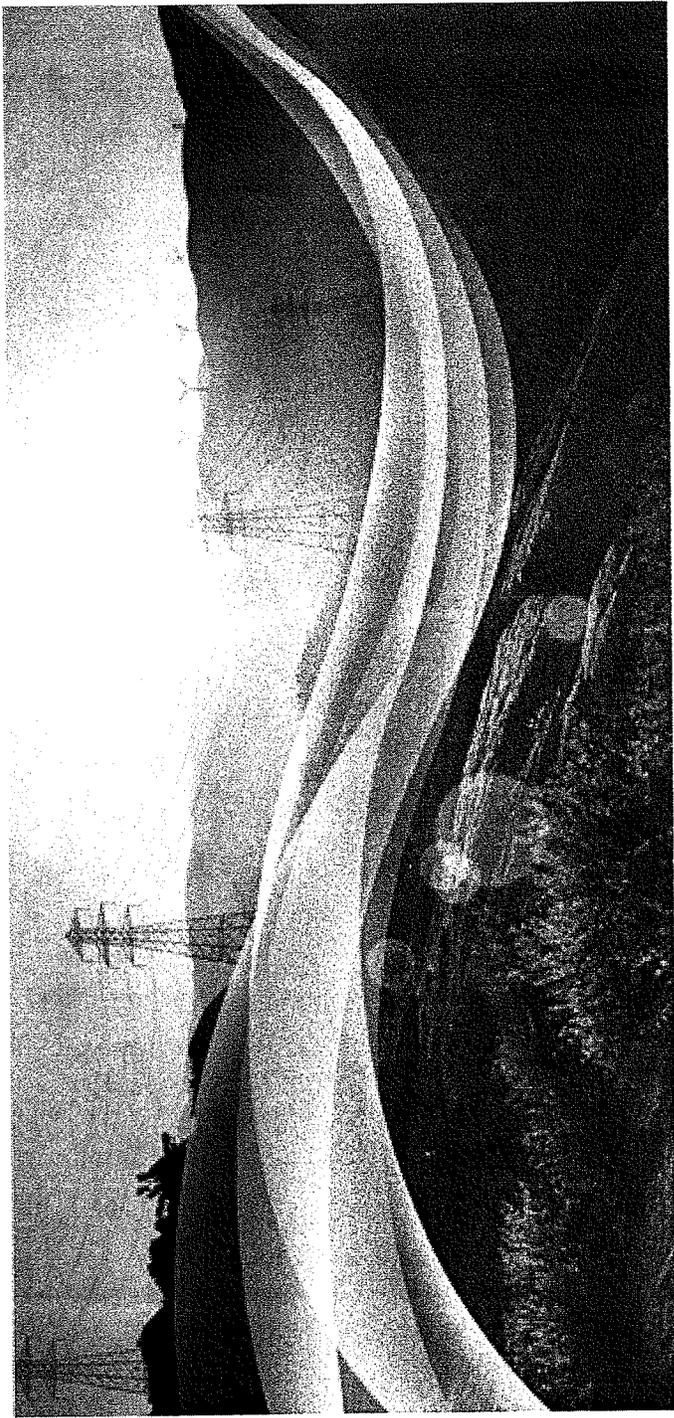
**California ISO**

Management Proposal	<u>E</u> Powerex Corp.	<u>F</u> Southern California Edison	<u>G</u> San Diego Gas & Electric Co.	<u>H</u> State Water Project (SWP)	Management Response
<p><b>E. CRR Credit Enhancements</b></p> <p><b>10. a)</b> Disallow netting between allocated CRRs and auctioned CRRs in the credit holding requirement calculation.</p>	Support	Support	<p>Oppose</p> <p>Disallowing netting against allocated and auctioned CRRs does not follow prevalent practices in clearing arrangements utilized in financial markets and could increase overall credit costs.</p> <p>CAISO should focus on creating a clearing house where initial and bilateral acquired arrangements are cleared through a central platform.</p>	No Comment	
<p><b>10. b)</b> Require LSEs selling allocated CRRs to maintain sufficient credit coverage to cover the counterflow CRRs that offset the CRRs being sold.</p>	Support	Support	<p>Oppose</p> <p>CAISO should facilitate the possibility to report transacted bilateral arrangements to a central clearing house.</p>	No Comment	
<p><b>11.</b> Including historical LMPs (a year after MRTU start-up) to improve the credit requirement for holding short-term CRRs.</p>	Support	Support	<p>Oppose</p> <p>CAISO should facilitate the possibility to report transacted bilateral arrangements to a central clearing house.</p>	No Comment	

**California ISO**

Management Proposal	<b>E</b> Powerex Corp.	<b>F</b> Southern California Edison	<b>G</b> San Diego Gas & Electric Co.	<b>H</b> State Water Project (SWP)	Management Response
12. Adding a full credit margin to the bidding requirement for participation in CRR auctions.	Support	Support	Does not oppose	No Comment	
<b>F. Other CRR Issues</b>  13. Further comments on CRR issues.	No Comment	CRR credit enhancements are a Good first step, but enhanced credit rules must be in place prior to running the next CRR release process.  SCE encourages the CAISO to further develop a CRR mark-to-market methodology.	SDG&E reiterates its support for an auction with allocation of the auction revenues to LSEs. The CAISO should initiate a process to migrate from the current allocation process to a full auction market.  The CAISO should prohibit renewal of a CRR acquired through the source verification process once the original term of the underlying commercial arrangement expires.	No Comment	

# Decision on Congestion Revenue Rights Enhancements



David Withrow, Lead Market and Product Economist

Board of Governors Meeting  
General Session  
May 21-23, 2008



**California ISO**  
Your Link to Power

## **CRRs help Market Participants manage the costs of transmission congestion.**

- CRRs entitle its holder to the stream of congestion revenue between two points over a certain time period.
  - *Monthly, seasonal (four quarters of the year) and Long Term (10 years) for peak and non-peak hours.*
- CRRs are first allocated to Load Serving Entities.
  - *Any market participant can bid at auction for CRRs up to the remaining capacity of the transmission grid.*
- CRRs to be effective in 2008 were previously allocated and auctioned.



## **Key enhancements to the existing CRR rules are needed for three purposes.**

- **Reinforce the value of CRRs for Load Serving Entities**
- **Enhance the fairness of the CRR release process**
- **Strengthen credit policy for CRRs**



# Updating the rules for allocating CRRs will reinforce their value to LSEs.

- MRTU delay caused allocation of CRRs to get out-of-sync with established rules.

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- Proposed new rules will realign CRR allocation with policies previously approved.

  - Currently different Tariff rules for “Year One” and “Year 2” CRRs.
  - 2008 CRRs will be effective only for Quarter 4.
  
  - Season 1 (Jan – March) CRRs for 2009 would be under “Year One” rules.
    - *With sources verified using 2007 historical period.*
  - Seasons 2, 3, and 4 CRRs for 2009 would be under “Year 2” rules.
    - *Sources already verified.*



## **These policy enhancements will promote fairness in the CRR release process.**

- **More precise MW granularity for CRRs:**
  - *Up to 0.001 MW CRRs allow more nominations to clear.*
- **Determines eligibility for monthly CRRs for certain LSEs:**
  - *New policy for loads that can't provide a verifiable load forecast.*

## **This proposal strengthens the CRR credit policy in four ways.**

- **Tightens credit requirements for CRRs that transfer between LSEs due to load migration.**
- **Uses actual market prices to determine credit requirements to hold CRRs.**
- **Imposes additional requirement to post collateral before bidding on CRRs at auction.**
- **Extends affiliate disclosure requirements for entities seeking CRRs.**



## **Upon Board approval, Management will:**

- **File for FERC approval on tariff language incorporating these CRR policy proposals.**
- **Begin the CRR release process this summer for CRRs effective in 2009.**



## CERTIFICATE OF SERVICE

I hereby certify that I have served the foregoing document upon each of the entities described in that document as receiving service, in accordance with the requirements of Rule 2010 of the Commission's Rules of Practice and Procedure (18 C.F.R. § 385.2010).

Dated at Folsom, California this 30<sup>th</sup> day of May, 2008.

*Sidney M. Davies* <sup>BRM</sup>  
Sidney M. Davies