



California ISO
Your Link to Power

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, 2009.¹

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.

¹ 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 CRRComments@caiso.com
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
- 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.

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.

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.

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- The Priority Nomination Tier² 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 nomination³ 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.

² Tier 1 (for Quarter 1)

³ 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 2009⁴

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

⁴ 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**⁵ 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.

⁵ 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.⁶ 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:

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

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.⁷ 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.

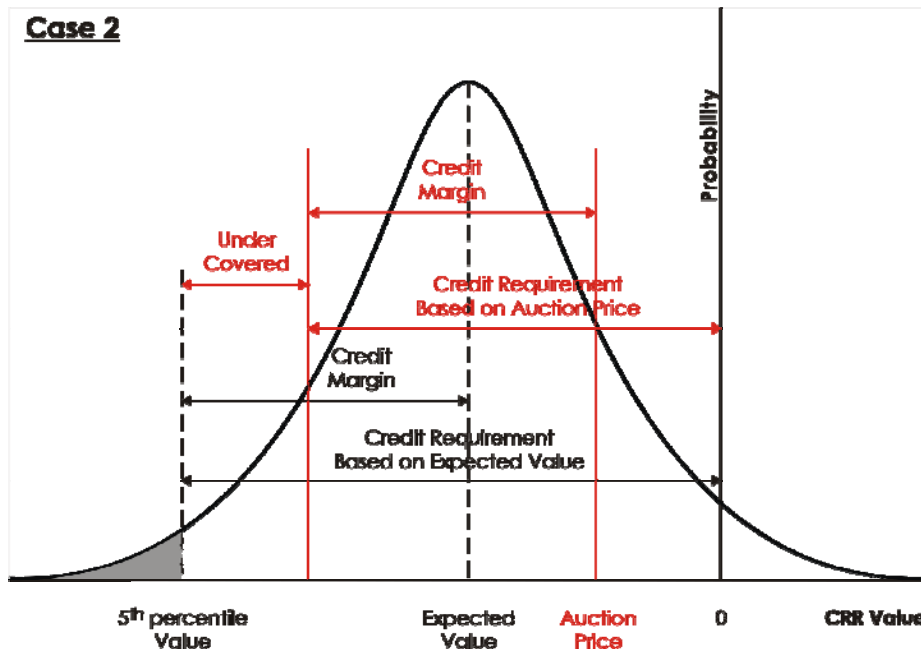
The CAISO has examined various scenarios that could happen for both positively-valued and negatively-valued rights. The analysis shows that in most scenarios the current credit policy provides sufficient coverage for the financial risks associated with CRRs. However, under one specific scenario the credit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

⁶ 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."

⁷ 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

$$Credit\ Requirement = -CRR\ Auction\ Price + Credit\ Margin$$

to

$$Credit\ Requirement = -\min(CRR\ Auction\ Price, Historical\ Expected\ Value) + Credit\ Margin$$

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.⁸

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.⁹ 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.

⁸ 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.

⁹ 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.¹⁰ 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.¹¹ 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.

¹⁰ 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."

¹¹ 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 30th. 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."¹²

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."¹³

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.¹⁴ 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.

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

¹³ *Id.*

¹⁴ The March 25, 2008 "CRR Credit Policy Enhancement Issue Paper" and stakeholder comments are posted to the CAISO website at: <http://www.caiso.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.