



California ISO
Shaping a Renewed Future

2011 CRR Enhancements Draft Final Proposal

May 13, 2011

2011 CRR Enhancements Draft Final Proposal

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1 Introduction

Congestion Revenue Rights (CRRs) are financial instrument that enable market participants to manage the financial risks associated with the transmission usage charge in the form of the marginal cost of congestion in the locational marginal pricing (LMP) energy market structure. CRR benefits belong to electricity end users who pay for the ongoing embedded costs of the grid with LSEs acting as CRR custodians for the load they serve. For three years, the ISO has conducted an allocation process and auction to distribute the benefits of the CRR market to load through the allocation of CRRs and distribution of auction proceeds.

The ISO is proposing to create a working group to address load migration implementation issues, to establish tariff authority to allow the ISO to account for expected outages in the annual process, and resolve a variety of smaller issues that require tariff clarification.

The ISO will be commencing the 2011 Market Initiative Roadmap stakeholder process this summer which will allow stakeholders to prioritize additional CRR market changes, such as LT Auctions and Multi-Period Optimization, along with the other market design enhancements.

2 Plan for Stakeholder Engagement

Item	Date
Post Draft Final Proposal	May 13, 2011
Stakeholder Conference Call	May 20, 2011
Stakeholder Comments Due	May 27, 2011
Board Meeting	June 29-30, 2011

3 Changes from Straw Proposal

- The capacity released in the annual process will remain at 75% and no global de-rate factor will be applied in the annual process.
- The monthly allocation process will retain existing two tiers.
- The capacity released in the monthly process will remain as done under the current design. The capacity will be based upon planned outages and monthly de-rate factors.
- In the monthly process, a local de-rate factor will be used for interties and significant paths where the OTC breakeven duration curve methodology was used to set the annual capacity. A single global de-rate factor will be applied for all other paths as is done under the current design.
- The ISO proposes to make no changes to the mandatory training requirement.

4 Background

Congestion Revenue Rights (CRRs) are a financial instrument that enables market participants to manage the financial risks associated with congestion costs in the LMP energy market structure. Each CRR is defined by a source-sink pair, a MW quantity, and a term consisting of a season or a month and a time of use (on-peak or off-peak). CRRs are settled as the product of the MW quantity times the marginal cost of congestion at the sink location minus the marginal cost of congestion at the source location in the day-ahead market. Only the LMP congestion component from the day-ahead market is used to determine the settlement of CRRs. There are

two types of CRRs which have different settlement rules. For Obligation CRRs, the settlement can result in positive or negative payment based upon the direction of the congestion. Nearly all ISO CRRs are Obligation CRRs. For Option CRRs, the settlement will always be positive. Option CRRs are only available to merchant transmission owners, i.e., parties that build transmission at their own expense to be placed under ISO operational control and do not request rate based cost recovery.

CRR benefits belong to electricity end users who pay for the ongoing embedded costs of the grid with load serve entities (LSE) acting as CRR custodians for the load they serve. The electricity end users are entitled to CRR benefits commensurate with their exposure to congestion. The benefits can take two forms: allocation of actual CRRs at no cost and/or revenue resulting from the CRR auction. LSEs, under the ISO's current design, receive CRRs through the allocation at no cost and indirectly the residual value from the auction as it is applied to measured demand.

Obligation CRRs can be obtained through both annual and monthly allocations and auctions. The maximum volume of CRRs for nomination in the allocation is determined by the LSE's historical/forecast load, and the CRR paths they can nominate are restricted by a predefined set of sources and sinks. Sources can be any Pricing Node associated with one or more Generating Units, Trading Hubs and Scheduling Points. Sinks are restricted to Default Load Aggregation Points (DLAPs), Sub-LAPs, MSS LAPs, Custom LAPs and scheduling points for those LSEs (OBAALSEs) that are outside of the CAISO Balancing Authority Area.

The CRR market is organized in annual and monthly processes, which includes both allocations and auctions. CRRs are released on a seasonal basis during the annual processes. In annual allocations, participants can be entitled to both Short-Term (ST) and Long-Term (LT) CRRs, according to the rules described in the CRR Business Practice Manual and the tariff. In the annual process, up to 75 percent of the transmission capacity is released. The remaining 25 percent of the capacity is released in the monthly processes. Although two types of products can be found in the ISO's CRR market: obligations and options; only obligation CRRs are released in allocations and auctions. The allocation and auction processes release as much transmission capacity as is determined by the Simultaneous Feasibility Test (SFT) of all CRR portfolios. Even though market participants can nominate up to a certain volume of CRRs, there is no guarantee that all of their nominations can be allocated, due to the SFT constraint.

Only (candidate) CRR holders that are also LSEs or qualified Out of Balancing Authority Area Load Serving Entities (OBAALSEs) can participate and obtain CRRs through CRR allocations. The CRR eligible quantity is the starting point for calculating a LSE's nomination limits. CRR eligible quantities for the annual and monthly CRR allocations are based on the LSEs historical and forecast load, respectively. The reference period for historical load includes the most recent and full calendar year. The historical load data is then grouped by season and TOU to derive a load duration curve. The LSE's seasonal CRR load metric for each season and TOU period is the MW level of load that is exceeded only in 0.5 percent of the hours based on the LSE's historical load data. For monthly allocations, a similar approach is followed for each TOU but using forecast load instead. With the participants' nominations available, the CAISO runs a SFT to determine the maximum number of CRRs that can be allocated while enforcing all transmission constraints defined in the full network model of the transmission system.

The ISO utilizes a SFT to ensure that CRRs which are both allocated and auctioned are fully funded. All CRR holders will be settled at the CRR's full face value and not be subject to shortfalls resulting from differences between the CRR network model and actual day ahead congestion. Additionally, the overall system should be revenue adequate and not require cross

subsidization between source-sink pairs or subsidies from measured demand to balance CRR payments and congestion rents.

Since CRRs are purely a financial transaction, a CRR participant does not necessarily have to participate in the ISO energy market. Allowing a larger number of participants through the auction process creates a deeper and more liquid market resulting in more efficient pricing. Because CRR obligations can result in either a payment or a liability, the primary limit on participation in the CRR auction is that entities must be credit worthy.

5 Proposed 2011 CRR Enhancements

5.1 Load Migration Issues

The ISO, on a monthly basis, transfers CRRs from the annual and long-term allocation process as load migrates between LSEs. During the early development of the current load migration process, the basic principle was when a percentage of load migrated, the equivalent percentage value of the CRR portfolio held by the load-losing LSE should transfer to the load-gaining LSE. Value is not determined solely by MW quantity, but by the relative value of the different sources.

The ISO is establishing a working group to address implementation improvements to the expressed policy above that the CRR portfolio value should transfer with the percentage of load which has migrated. The ISO believes that load-gaining LSEs and load-losing LSEs should work together to determine how to improve the implementation of load migration. If the working group identifies potential tariff or policy changes, they will be addressed at that time.

5.2 Revenue Adequacy Issues

Experience with CRRs since the start-up of the LMP markets has shown that CRR revenue adequacy may be improved through improved modeling of transmission capacity available for CRRs so as to better account for the impact of expected transmission outages and de-rates. In particular, outages and de-rates on the interties have constituted the largest contributions to CRR revenue inadequacy since start-up. For this reason, prior to the 2011 Annual Allocation process, the ISO proposed a new methodology for determining intertie capacity for use in the SFT. The proposal was to select an Operating Transfer Capability (OTC) value for each intertie that would have resulted in revenue adequacy during the prior year. The proposed methodology would have reduced the number of CRRs allocated versus the existing method of using 100% of the rated capacity of the intertie. The proposed change was not supported by stakeholders and the ISO decided to make only an incremental change for the 2011 annual process to utilize the median OTC value using OTC data for the prior three years. This change was relatively minor with little or no impact on the OTC value used for the 2011 annual process.

Through the development of metrics to analyze CRR revenue adequacy for 2009, the ISO used a mathematical derivation¹ to compute the breakeven point for each transmission interface of the ISO market. The ISO has performed the analysis again for 2010 and the results are available in the 2010 Annual Market Performance - CRR Report².

¹ Details of the derivation, as well as the analytical results, can be found in the ISO's April 2010 study of Revenue Adequacy of Congestion Revenue Rights, which is available on the ISO website at <http://www.caiso.com/2788/2788d5f71ae60.pdf>.

² <http://www.caiso.com/2b44/2b44c6c4383b0.pdf> See page 109.

Based on historical data, the breakeven point is a value on the OTC duration curve for which a particular interface would have resulted in being revenue adequate, for a particular season and TOU period. As was noted in the CRR revenue adequacy reports referenced above revenue adequacy is typically defined on a system wide basis but due to the typically radial nature of the major transmission interfaces it is realistic to expect that revenue adequacy can be achieved by selecting the break-even point on an OTC duration curve by transmission element. If the ISO had chosen this value, for each interface, as the basis for the CRR release amounts, then for that season and TOU, there would have been CRR revenue adequacy. Based on the derivation of the breakeven points for individual transmission interfaces, the main steps of the resulting process for using the OTC duration curves is as follows:

1. As part of the generation of the Annual Market Performance CRR Report the ISO will generate the list of interfaces that contributed to revenue inadequacy.
2. Each year, around the end of April, the ISO gathers the historical hourly OTC data and the hourly CRR settlement data for the last three-year period (or the amount of data since the start of the nodal LMP market) that ends on March 31st of the current year.
3. Taking this historical data set, the ISO computes the break-even points on the OTC curve for each interface, direction, and for each season/TOU.
4. Once the various break-even points on the OTC duration curves are known, the ISO lists all interfaces, the respective break-even OTC values (if applicable) , sorted by interface, direction, season and TOU. Following the same process that is used today this data would be released to CRR NDA holders as part of the CRR FNM data release package.
5. The set-aside process and the modeling process for the 30-day monthly outages will not be impacted by the methodology for selecting the OTC values.

To address changes in grid topology, the ISO proposes to apply the historical OTC breakeven point duration curve to the Total Transfer Capability (TTC). For example if the historical OTC breakeven point was 75% of the historical TTC, 75% of the new TTC would be made available in the annual process. If transmission enhancements increased the TTC from 1000 MW to 1500 MW, then the capacity used for the CRR annual process would be set at 1125 MW resulting in an increase of 375 MW from using the historical OTC value. The same approach would be used in instances where the TTC is reduced from the historical level.

In the straw proposal the ISO proposed to calculate monthly capacity based upon the minimum of TTC less planned outages or the OTC breakeven duration curve point used in the annual process prior to applying the GDF. Stakeholders did not support the proposal as it may reduce capacity beyond the level necessary for revenue adequacy in a given month taking in to consideration planned outages. Stakeholders did highlight that it may be more appropriate for the ISO to consider applying a local de-rate factor for capacity which was subject to the annual OTC breakeven duration curve methodology. The ISO agrees and proposes to use a local de-rate factor on interties and other significant paths that were subject to the annual OTC breakeven duration curve capacity methodology. The single value global de-rate factor used in the monthly process would only be applied to paths not subject to the annual OTC breakeven duration curve capacity methodology.

The ISO proposes to include tariff language to clarify ISO authority to account for expected outages to determine the capacity for interties and other significant paths in the annual process. The relevant language from tariff section 36.4 FNM for CRR Allocation and CRR Auction is below:

The Seasonal Available CRR Capacity shall be based on the DC FNM, taking into consideration the following, all of which are discussed in the applicable Business Practice Manual: (i) any long-term scheduled transmission Outages, (ii) OTC adjusted for any long-

term scheduled derates, and (iii) a downward adjustment due to TOR or ETC as determined by the CAISO.

The current tariff language which authorizes the monthly global de-rate factors is sufficient to allow the use of local de-rate factors. The relevant language from tariff section 36.4 FNM for CRR Allocation and CRR Auction:

The Monthly Available CRR Capacity shall be based on the DC FNM, taking into consideration: (i) any scheduled transmission Outages known at least thirty (30) days in advance of the start of that month as submitted for approval consistent with the criteria specified in Section 36.4.3, (ii) adjustments to compensate for the expected impact of Outages that are not required to be scheduled thirty (30) days in advance, including unplanned transmission Outages, (iii) adjustments to restore Outages or derates that were applied for use in calculating Seasonal Available CRR Capacity but are not applicable for the current month, (iv) any new transmission facilities added to the CAISO Controlled Grid that were not part of the DC FNM used to determine the prior Seasonal Available CRR Capacity and that have already been placed in-service and energized at the time the CAISO starts the applicable monthly process, (v) OTC adjusted for any scheduled derates or Outages for that month, and (vi) a downward adjustment due to TOR or ETC as determined by the CAISO.

The ISO believes that these changes will adequately address ongoing concerns with revenue adequacy resulting from releasing too much capacity through the annual process. This approach will target the areas that have historically contributed to revenue inadequacy while not impacting those areas that have not had adverse effects on revenue adequacy and the benefits of this approach will be utilized to lower the value of the GDF in the monthly CRR allocation and auction.

5.3 Combination of Tier 1 and Tier 2 Monthly Allocation

In the Issue Paper, the ISO introduced potential options to simplify and streamline the allocation process. The process simplification would have increased the quantity of CRRs cleared through the auction, reduced the number of sequential steps or tiers in the annual and monthly allocation release processes, and reduced the quantity of annual CRRs subject to load migration, without compromising the long-term certainty LSEs currently desire regarding their CRR holdings. In stakeholder comments, current participants in the allocation process did not support changes to streamline the process which would have resulted in additional capacity being cleared through the auction. Stakeholder comments on the Straw Proposal did not support merging the monthly allocation tiers since the implementation of the OTC breakeven duration curve methodology for the annual process will result in more available capacity in the monthly process. The benefits of additional time in the monthly process were not greater than market participants need for two allocation rounds given the additional capacity which is anticipated to be released through the monthly process.

The ISO proposes to make no changes to the annual allocation process, monthly allocation process, or the balancing account.

5.4 Issues Requiring Tariff Clarification

Stakeholder comments generally support the tariff clarifications outlined below. A few stakeholder expressed concern on 5.4.8 Retirement Process for Disconnected PNodes which the ISO responds to below. Also, upon further reflection, the ISO is not proposing to change the mandatory requirement from CRR training. In addition, CDWR requested to add an additional item to address reimbursement for CRR revenue losses due to modeling or other errors that

occur in the CRR process. The ISO believes this item is beyond the scope of issues requiring tariff clarification and should be considered and prioritized through the Market Initiatives Roadmap process which will begin later this year.

5.4.1 Clarification of PNP Upper Bound

In October 2010, California Department of Water Resources (CDWR) highlighted an issue with the existing tariff language regarding the determination of upper bound for the Priority Nomination Process (PNP). The current tariff language from Section 36.8.3.5.1 is noted below:

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.

CDWR suggested that under criteria (1), the phrase “minus the quantity of previously allocated Long Term CRRs” could be interpreted to refer to all long term CRRs rather than only the long term CRRs awarded in the prior year. The former interpretation would count the impact of long term CRRs twice by including them in both criteria for the PNP upper bound. The ISO believes that this interpretation is contrary to the intent of that provision. The ISO’s intent was to count only the long-term CRRs from the prior year. Therefore, the ISO proposes to clarify the language so that it is clear that it will only include incremental long term CRRs awarded in the previous year’s long term allocation process in criteria (1).

5.4.2 Reconfiguration of Previously Released Annual CRRs

Currently the ISO does not have provisions for reconfiguration of outstanding annual CRRs or the next year’s PNP eligibility when grid changes take effect during the year. The tariff does, however, have provisions for reconfiguring long-term CRRs when grid changes take effect. The ISO believes the logical step is to apply the same approach to the annual CRRs and the PNP eligibility as it already has described for long-term CRRs as both reconfigurations address the same issues. Tariff section 36.8.7 Long Term CRRs and PTO Withdrawal from CAISO Controlled Grid currently provides for the reconfiguration of outstanding long-term CRRs when there are changes to the ISO grid that remove CRR source or sink locations. The tariff language is below:

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.

The ISO proposes to clarify the tariff language to clarify that it will implement a similar process for Annual CRRs (Allocation and Auction) and PNP eligibility. As is the case for reconfiguration

of long-term CRRs, after the reconfiguration, the ISO will run SFTs on the reconfigured annual CRRs remaining and if necessary, reduce some of the reconfigured annual CRRs to ensure their feasibility. If the CRR Source and CRR Sink for an annual CRR both are located within a departing Participating TO Service Territory, the annual CRR would expire on the effective date of the Participating TO's withdrawal. The PNP eligibility will be based upon the MW quantity of the annual CRRs after ensuring their feasibility.

5.4.3 Mandatory CRR training requirement

The current tariff language of Section 36.5.2 is noted below:

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, or have obtained the services of a third party or consultant, that has attended the CAISO's CRR training class and shall notify the CAISO as soon as practicable of a change in such status.

The ISO believes that this requirement continues to be reasonable to ensure that parties that participate in the CRR process are adequately informed on the process of obtaining and disposing CRR holdings and the benefits and risks associated with any CRRs obtained through the various ISO CRR release processes. Therefore, ISO proposes to retain this language in the tariff and continue to make training available to CRR Holders and Candidate CRR Holders.

5.4.4 Allow manual SRS vs existing software process

The current tariff language requires that the ISO offer a computer interface and automated process to implement the Secondary Registration System (SRS). The current language of Section 36.7.1.2 relating to the specific provisions for the transfer of Long Term CRRs is below:

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.

In Appendix A, the Secondary Registration System is defined as:

The computer interface through which CRR Holders and Candidate CRR Holders register any bilateral CRR transactions with the CAISO.

Market participants have not utilized the SRS as often as previously planned. To date, the SRS has only been used in cases where entities traded their entire CRR portfolio. Given the low use of the existing SRS, the ISO believes a manual process is sufficient to manage trades and will avoid software maintenance costs currently being incurred to support the automated system. The ISO proposes to remove from the tariff prescriptive language that assumes a software system is used to manage the process of bilateral trades.

5.4.5 Auction Clearing Price Calculation

The CRR BPM states that the CRR clearing price for each CRR is calculated as the difference between the CRR source price and CRR sink price. This equation holds true under most circumstances; however, in those circumstances in which either the CRR source or a CRR sink is disconnected from the network in a contingency case and the non disconnected source or sink has a non-zero shift factor associated with a binding constraint in the same contingency

case, the resulting price is not consistent with this general rule. In such cases, after the CRR auction is completed, the application generates the following sets of outputs: (1) CRR cleared MW and (2) the Shadow price for each binding constraint. Note that the ISO settlements system uses the correct CRRs clearing prices. In the case outlined above the simple difference between CRR source price and CRR sink price does not hold. The ISO proposes to add this clarification to the BPM and tariff.

5.4.6 Credit Requirements for Load Migration and Bilateral Trades

The ISO has identified the need for possible revisions related to Load Migration, specifically, section 36.8.5.4 Load Migration and Compliance with CAISO Credit Requirements. In reviewing section 12.6.3.1 (d) Credit Requirements for the Holding of CRRs, the ISO identified a difference between the two sections in how to treat Load Migration transfers. To date the ISO has not had to address the concern where an entity did not have sufficient collateral to take on a Load Migration transfer. The relevant tariff sections are below:

12.6.3.1 (d) Credit Requirements For The Holding Of CRRs

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.

36.8.5.4 Load Migration and Compliance with CAISO Credit Requirements

To the extent that the credit requirements of an LSE as specified in Section 12 are updated by the allocation of new CRRs to reflect Load Migration, the CAISO will do the following. For new CRRs that result in net charges to the affected LSE over a Settlement period these charges will appear on the LSE's Settlement Statement irrespective whether the LSE has met the updated credit requirement. For new CRRs that result in net payments to the affected LSE over a Settlement period and that LSE has not met the updated credit requirements affected by the allocation of new CRRs to reflect Load Migration, the CAISO shall withhold payment until those updated credit requirements are met. At the end of each Settlement period, if the LSE has not met the updated credit requirements resulting from Load Migration CRR transfers, the CAISO will add any net payments that accrued to the transferred CRRs to the CRR Balancing Account to be included in the daily clearing of the CRR Balancing Account, and those net payments will no longer be recoverable by the LSE. The CAISO may place new allocated CRRs into CRR Auctions if the non-compliance with credit or applicable Financial Security requirements is persistent.

For 12.6.3, the ISO proposes to clarify that this section only applies to CRR transfers through bilateral trades. From a CRR credit policy perspective, the concern was to prevent transfer of negatively valued CRRs to a non credit-worthy entity. Hence, no transfer should occur unless the entity covers the credit risk. CRRs that transfer due to load migration should be treated like

allocated CRRs from a credit policy standpoint. CRR holders of such CRRs are still subject to the credit policy but we don't require collateral in advance of the allocation (or transfer).

For 36.8.5.4, the ISO proposes to clarify that there will be no transfer of CRRs unless the load gaining LSE is a CRR Holder. This is consistent with the tariff, which states that only CRR Holders can hold CRRs. If load migration occurs and the load gaining LSE is not a CRR Holder, then the load migration CRRs will not be settled and will be absorbed within the balancing account until the end of the term of the CRR or the date the load gaining LSE becomes a CRR Holder

5.4.7 Portfolio of bids submitted versus individual bids

CRR auction participants submit portfolios of bids, rather than individual bids, thus tariff section 12.6.2 Credit Requirements for CRR Auctions should be revised. The tariff language is below:

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 Aggregate 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.

The ISO proposes to add clarifying language that bid portfolios will be rejected on a last-in, first-out basis, if credit requirements are not met.

5.4.8 Retirement Process for Retired PNodes

CRR participants requested to modify the way that the ISO handles the retirement process for CRR locations. Currently, when a resource is retired, the closest electrical connected PNode is used as a substitute for the retired location. At times the closest active PNode is also a biddable location but on some occasions the closest PNode is non-biddable, meaning it is only a pricing location. In those cases where the replacement PNode is non-biddable there is no longer any way for a market participant to clear that position since the counter-flow cannot be bid on. The ISO proposes to modify the process for identifying the replacement PNode for retired locations by finding the closest biddable location as the replacement PNode.

Several stakeholders expressed concerns that selecting the closest biddable location may result in revenue adequacy issues versus the current methodology. This assumes that biddable nodes will be more congested than the closest node, but this will not always be the case. The ISO believes that the benefit of enabling market participants to bid after a PNode is retired is greater than the possible risk of revenue inadequacy.

5.4.9 Implementation of Sell Feature

As part of the 2009/2010 CRR Enhancements initiative, the ISO proposed to implement a sell feature to allow market participants to liquidate its CRR holding through the auction. Previously, CRR holders could accomplish this goal through purchasing and holding a counter-flow CRR. In July 2010³, the ISO updated CRR participants on implementation discussions with the software vendor. The ISO completed a study with the vendor and results indicate that submitting a counter-flow bid into the auction will result in the exact same SFT results as submitting a sell bid. Therefore, rather than implementing significant software code changes, the ISO proposed to have participants who wish to sell a CRR to simply submit a counter-flow bid into the CRR auction and the ISO would implement an Ownership payload change to the

³ <http://www.caiso.com/27e3/27e3e3a831e50.pdf>

Settlements department that results in a single CRR holding. For example, if a CRR participant held a 100 MW Source A to Sink B CRR and wanted to sell 75 MW, the CRR participant would submit a bid for a 75 MW Source B to Sink A CRR. Assuming the CRR participant's counter-flow CRR cleared the auction, the CRR participant would now hold a 25 MW Source A to Sink B CRR and not hold the counter-flow CRR.

The ISO will be informing FERC of the current functionality for selling CRRs and will be including any necessary tariff language in support of the current CRR auction sell functionality

6 Additional Auction Functionality

The ISO requested stakeholder comments concerning whether the LT Auction, Flexible Term Length LT CRR, and other auction enhancements are still desired.

Stakeholders expressed support for Balance of Planning Period auction functionality, multi-period optimization and the LT Auction, but some also highlighted that improvements to revenue adequacy should be implemented prior to expanding CRR auction functionality. The ISO plans to prioritize the additional auction functionality items with other market enhancements in the Market Initiatives Roadmap stakeholder process set to commence this summer.

7 Next Steps

The ISO will discuss the 2011 CRR Enhancements Draft Final Proposal with stakeholders during a teleconference to be held on May 20, 2011. The ISO is seeking comments on the proposed enhancements. Stakeholders should submit written comments by May 27, 2011 to 2011CRREnhancements@caiso.com.