

Memorandum

To: ISO Board of Governors

From: Eric Hildebrandt, Executive Director, Market Monitoring

Date: March 14, 2018

Re: Department of Market Monitoring Report Comments on CRR Proposal

This memorandum does not require Board action.

EXECUTIVE SUMMARY

The Department of Market Monitoring (DMM) does not support the ISO's *Congestion Revenue Rights Auction Efficiency Track 1 Draft Final Proposal*. Under Management's proposal, the ISO would continue to auction off large volumes of CRRs – mostly to purely financial entities – which must be backed by payments from congestion revenues that should instead flow back to ratepayers who pay for the transmission system in full through the Transmission Access Charge (TAC). Ratepayers have already lost over \$750 million from the CRR auction, including over \$100 million in 2017 and over \$27 million in the first two months of 2018. Because Management's proposal does not address the fundamental market flaw underlying the CRR auction design, it will not protect transmission ratepayers from further losses from the CRR auction.

Since 2016 DMM has been strongly recommending that the ISO address this issue by modifying the CRR auction into a market for financial hedges based on clearing of bids from willing buyers and sellers. DMM recommends that the Board direct the ISO to develop an auction design based on willing buyers and sellers that addresses the fundamental auction design flaws -- such as the proposal by SCE -- as soon as possible. The approach proposed by SCE is less complex to implement than the changes being proposed by Management and directly addresses the flaw in the CRR auction design. If the ISO believes further refinements in the CRR allocation and auction process would be beneficial, these can be made after the basic flaw in the CRR auction design has been addressed.

Because the ISO plans to extend its CRR structure to the extended day-ahead market, failure to address these auction design flaws now could adversely impact the ISO's regional expansion initiatives. Extending this flawed design to other balancing authority areas will unnecessarily prevent their transmission ratepayers from receiving all congestion rents from the day-ahead market.

BACKGROUND

DMM has described the underlying problems and flaws in the CRR auction design in detail in prior reports and comments.¹ The CRR auction relies on conscripted sellers, has high transaction costs, has poorly defined property rights, and dissipates market liquidity. These are not the characteristics of a competitive market and cause the revenue from CRRs sold in the auction to be systematically lower than the payments which are made to entities purchasing CRRs from congestion revenues collected by the ISO.²

These flaws are clearly apparent in the performance of the CRR auction over the last decade in California and other ISOs. The CRR auction has cost California transmission ratepayers an average of over \$82 million per year since 2009 – representing a loss of over \$750 million.³ In 2017, these losses totaled over \$100 million. As shown in Figure 1, ratepayers receive less than \$.50 in auction revenue for each dollar paid out for CRRs from congestion revenues that would otherwise be refunded back to ratepayers.

In just the first two months of 2018, ratepayer losses from auctioned CRRs have already totaled over \$27 million (see Figure 2). Over 90 percent of these ratepayer losses continue to result from CRRs bought by purely financial entities that do not schedule load or generation in the ISO system.

For nearly two years, DMM has been recommending that the ISO modify the auction so that load serving entities are not forced to back CRRs sold in the auction with congestion revenues they should receive as the entities paying for the transmission system.⁴ Since June 2016 DMM has been strongly recommending that the ISO address this issue by assessing how to convert the CRR auction into a CRR market based on bids voluntarily submitted by various participants willing to buy or sell congestion revenue rights.

¹ For example see Department of Market Monitoring *Problems in the performance and design of the congestion revenue right auction* November 27, 2017:

http://www.caiso.com/Documents/DMMWhitePaper-Problems_Performance_Design_CongestionRevenueRightAuction-Nov27_2017.pdf

² *Comments on the CRR Auction Analysis Working Group*, Department of Market Monitoring, January 16, 2018: <http://www.caiso.com/Documents/DMMComments-CRRAuctionAnalysisReportWorkingGroup.pdf>.

³ \$730 million through 2017 plus \$27 million in the first two months of 2018. See: *Q4 2017 Report on Market Issues and Performance*, Department of Market Monitoring, February 14, 2018, p.28. <http://www.caiso.com/Documents/2017FourthQuarterReport-MarketIssues-PerformanceFebruary2018.pdf>

⁴ *2015 Annual Report on Market Issues and Performance*, Department of Market Monitoring, May 2016, pp. 225-226. <http://www.caiso.com/Documents/2015AnnualReportonMarketIssuesandPerformance.pdf>

Figure 1. Auction revenues and payments to non-load-serving entities (2012-2017)

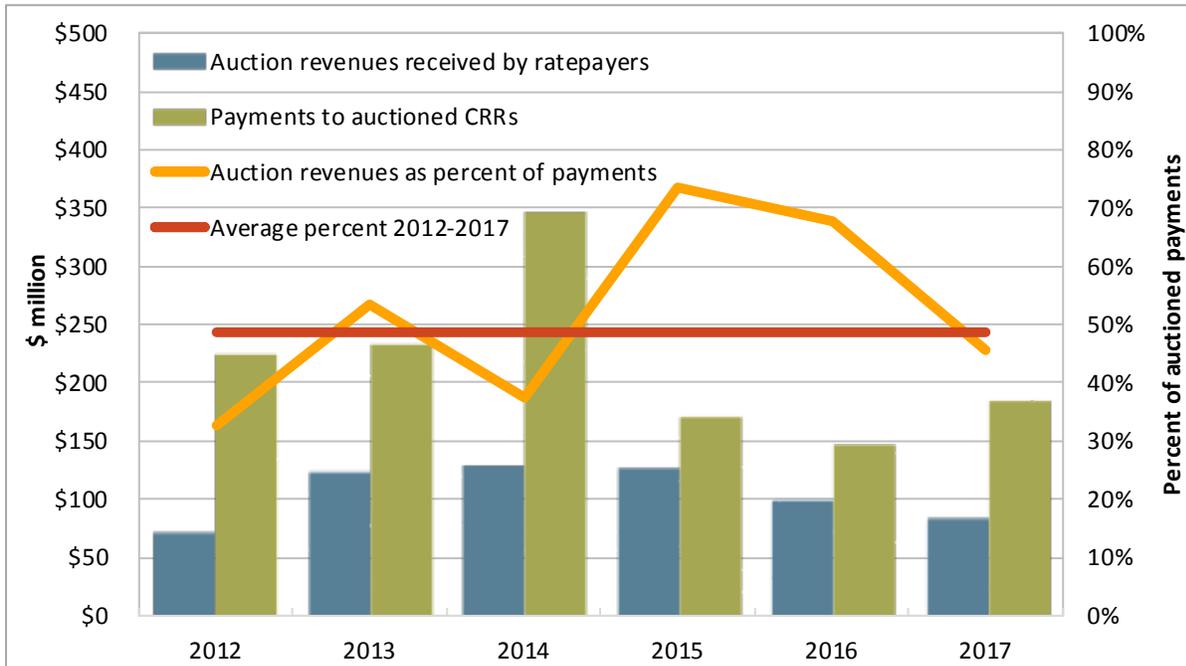
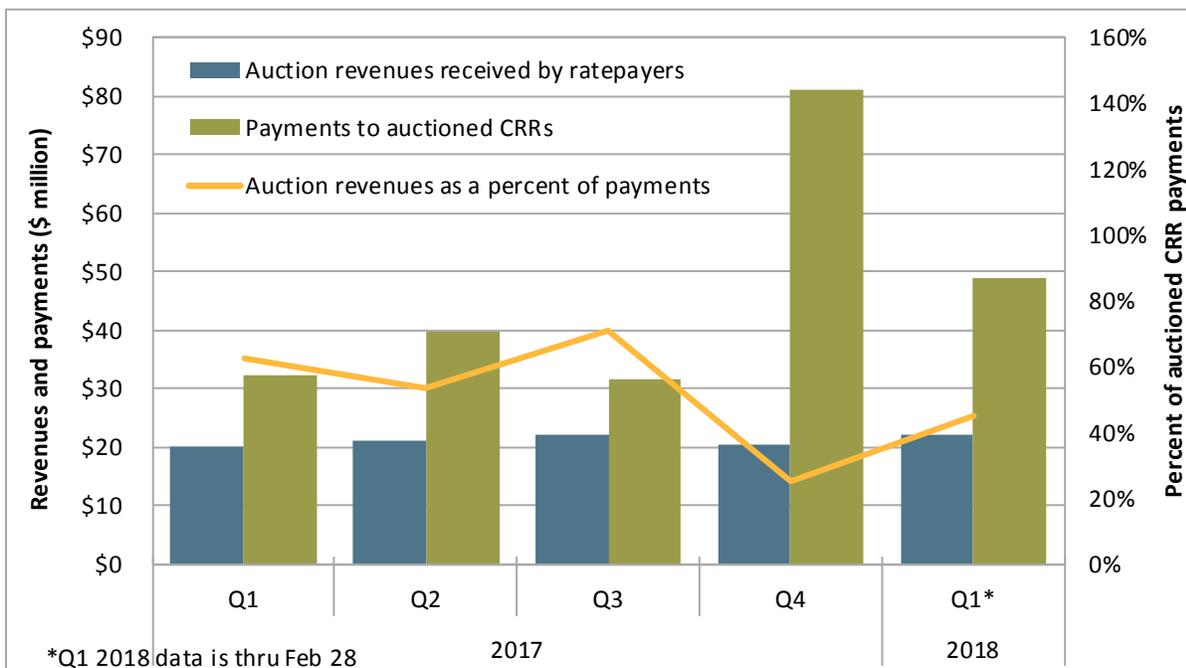


Figure 2. Auction revenues and payments to non-load-serving entities (2017-2018)



As noted in DMM's Q2 2016 report:

DMM believes replacing the congestion revenue rights *auction* with this type of congestion revenue rights *market* would be more equitable, produce more efficient prices set by willing buyers and sellers, and greatly reduce the loss of congestion revenues for ratepayers by the current congestion revenue rights auction design. DMM believes it is likely that implementing this type of market would not be more complex than the effort needed to implement the current congestion revenues rights auction.⁵

The ISO ultimately agreed to open a stakeholder process on this issue in 2017 and has now been analyzing this issue and options for over a year.⁶ Although the ISO now agrees that “there is evidence that the California ISO’s congestion revenue rights auction produces inefficient outcomes,” the measures proposed by the ISO do not move toward the type of CRR market based on willing buyers and sellers.

The ISO’s February 8 draft final proposal incorrectly states that “DMM proposes to eliminate the congestion revenue rights auction” and only consider three other potential market designs for financial price swaps.⁷ In fact, DMM’s January 17 comments specifically noted that there are numerous “feasible alternatives to the CRR auction that will ensure CRRs are bought and sold only between willing counterparties while allowing market participants to manage basis risk,” and that these alternatives include “another easy to implement alternative proposed by SCE.”⁸

The approach proposed by SCE allows the ISO to maintain its auction structure but sets auction limits for all transmission constraints (i.e. above levels needed for allocated CRRs) to a net value of zero. This will enable the clearing of bids for offsetting locational price swaps, and still allow the ISO to be the clearinghouse. As noted in our January 2018 comments, “DMM believes the ISO should give serious and timely consideration to SCE’s proposed alternative as a very effective option that could be implemented quickly by the ISO.”⁹ In our most recent comments in response to the ISO’s Draft Final Proposal, DMM

⁵ *Q2 2016 Report on Market Issues and Performance*, Department of Market Monitoring, August 22, 2016, p. 56.

<http://www.caiso.com/Documents/2016SecondQuarterReportMarketIssuesandPerformance.pdf>

⁶ As noted in the ISO’s draft final proposal, the public stakeholder process on this issue started with the Market Surveillance Committee Meeting on February 2, 2017. , *Congestion Revenue Rights Auction Efficiency Track 1 Draft Final Proposal*, February 8, 2018, p.6. <http://www.caiso.com/Documents/DraftFinalProposal-CongestionRevenueRightsAuctionEfficiency-Track1.pdf>

⁷ Draft Final Proposal, p.7.

⁸ *Comments on the CRR Auction Analysis Working Group*, Department of Market Monitoring January 16, 2018, <http://www.caiso.com/Documents/DMMComments-CRRAuctionAnalysisReportWorkingGroup.pdf>

⁹ *Comments on the CRR Auction Analysis Working Group*, p. 8.

reaffirmed its recommendation that “the ISO instead propose a design that addresses the fundamental auction design flaws – such as the SCE proposal – as soon as possible.”¹⁰

MANAGEMENT PROPOSAL

Under Management’s proposal, the ISO would continue to auction off large volumes of CRRs – primarily to purely financial entities – which must be backed by payments from congestion revenues that should instead flow back to transmission ratepayers who pay for the transmission system. Because Management’s proposal does not address the fundamental flaw underlying the CRR auction design, it will not protect transmission ratepayers from further losses from the CRR auction. As discussed below, the proposal may only have moderate effects on ratepayer losses and could potentially make the problems worse.

Limiting source and sink pairs will not eliminate ratepayer losses

The ISO proposes to limit allowable CRR source and sink pairs in the auction. The node pair limits are meant to align the CRR sales with source and sink pairs more likely to be used for hedging forward contract basis risk. The node pair limits are also meant to limit the ability of auction participants to target specific illiquid transmission elements or modeling discrepancies.

Even though the ISO would restrict source and sink pairs, the underlying auction would still use a transmission model offering contracts backed by ratepayers without reservation prices. Auction participants could still create portfolios of CRRs that mimic source and sink pairs that the ISO proposes to not allow. As a result, even with the proposed limits on source and sink pairs, auction participants could still create portfolios of CRRs that give them approximately the same exposures to the illiquid transmission elements and modeling discrepancies that the source-sink limits seek to stop.

Given that the ISO would still be offering contracts backed by ratepayers, reducing competition would work to increase ratepayer losses. The net effect that restricting source and sink pairs would have on ratepayer losses is not clear, but DMM notes that this aspect of the proposal could actually increase ratepayer losses from the auction over time.

Even financial participants currently making large profits from the CRR auction agree this measure will be ineffective at reducing ratepayer losses. As noted by DC Energy, “it is not logical to expect that a highly restrictive filter on allowable bids will somehow create more competition on “delivery pair” transaction or help the CAISO carry out its objective to minimize “net payment deficiency” DC Energy submits that the actual outcome of the proposed CRR restrictions would be fewer CRRs awarded and reduced competition across

¹⁰ *Comments on the Congestion Revenue Rights Auction Efficiency Track 1 Draft Final Proposal*, Department of Market Monitoring, February 28, 2018, p.1.
<http://www.caiso.com/Documents/DMMComments-CongestionRevenueRightsAuctionEfficiencyTrack1DraftFinalProposal.pdf>

the network. This would lead to less overall auction revenue ... and would not facilitate the CAISO's objective of minimizing "net payment deficiency".¹¹

Lowering annual transmission limits will not significantly cut ratepayer losses

The ISO has indicated it has considered decreasing the percent of expected transmission capacity modeled in the annual allocation and auction processes from 75% to 45%. However, the ISO would continue to auction CRRs in the monthly auctions based on the same transmission ratings it does today.

While the ISO will have better information about day-ahead market transmission models when the ISO runs the monthly auction, the ISO still cannot make the auction model the same as the day-ahead models. Auction participants will also have better information about potential day-ahead transmission modeling in the monthly auction that they can use to take advantage of model differences between the monthly auction model and the day-ahead market models. Therefore, moving more CRR sales from the annual to monthly auction may not improve auction outcomes.

Recent market results support this assessment. Lowering the line ratings in the annual processes may not significantly affect auction results. In 2017 about 60% of total ratepayer losses from the CRR auctions came from annual auction CRRs while 40% came from the monthly auction CRRs. On average, ratepayers were paid 41 cents in the auction for every dollar they had to pay out on annual auctioned CRRs. Ratepayers were paid on average 50 cents per dollar on monthly auctioned CRRs.

Lowering the transmission limits used in the annual model could also limit the allocation of CRRs to load serving entities. DMM would support significantly decreasing the amount of CRRs sold in the annual auction for 2019 if the ISO was committed to implementing a market between willing buyers and sellers – such as the approach proposed by SCE -- in the monthly process as soon as possible in 2018. However, DMM believes the approach proposed by SCE could be implemented in the annual auction for 2019. DMM notes that the annual auction for 2018 was not held until November 28, 2017 to allow the ISO to address a modeling issue that could have caused large losses to transmission ratepayers.

Changing modeling disclosure may exacerbate CRR auction problems

The ISO has considered stopping disclosing the exact modeling used in the CRR auctions in order to make it more difficult for auction participants to find opportunities to extract value from model differences. As discussed in DMM's stakeholder comments, the CRR auction design suffers from a public-private estimation problem.¹² Auction participants who can better estimate how, or have better insights into how, the ISO will model transmission in the

¹¹ *Comments on Congestion Revenue Rights Auction (CRR) Auction Efficiency Draft Final Proposal* [sic], DC Energy, February 28, 2018. p.3. <http://www.aiso.com/Documents/DCEnergyComments-CongestionRevenueRightsAuctionEfficiencyTrack1DraftFinalProposal.pdf>

¹² *Comments on the Congestion Revenue Rights Auction Efficiency Track 1 Draft Final Proposal*, p, 2.

auction will have an advantage over other participants. Because auction participants who are better at estimating the day-ahead models are likely to also be better at estimating how the ISO will create the auction model, the ISO's proposal to not disclose the auction model will likely increase the information advantage of these participants. This will further undermine price based competition and increase the rewards to this non-price competition. As a result, the ISO's proposal may actually increase ratepayer losses from the CRR auction.

SCE PROPOSAL

DMM supports the auction modifications proposed by SCE as a very effective option for creating a market for CRRs between willing buyers and sellers that could be quickly implemented by the ISO. With this approach:

- The ISO would first allocate all CRRs that are feasible based upon the transmission capability to load serving entities based on their CRR nominations. The allocation process would be conducted in the same manner as today, except the ISO would no longer "reserve" CRRs for the auction process.
- The ISO would then utilize the CRR model to conduct a market by clearing only bids to buy and sell CRRs by willing counterparties. To implement this, the ISO simply needs to set the limits on additional transmission sold in the auction to a net value of zero. Thus, CRR bids would only clear to the extent that bids from other parties created an equal and opposite counter-flow. Those wishing to purchase CRRs either to hedge a physical risk or to speculate on value would be able to do so in the auction. Load serving entities could still utilize the auction to essentially sell back any CRRs they were allocated and/or buy additional CRRs.

This approach completely eliminates revenue shortfalls in the auction since payments to one party will be matched by revenues due from its counterparty. This framework could be supplemented with other mechanisms to encourage liquidity, such as a pre-auction bulletin board where auction participants could disclose potential interest in buying or selling specific CRRs. DMM believes this approach is actually simpler to implement than Management's proposed measures.

OTHER ISSUES

Timing of Approval and Implementation of Auction Changes

The ISO has indicated that it feels it must gain approval at the March 2018 Board of Governors' meeting for any changes in the auction to be implemented in the annual and monthly 2019 congestion revenue rights auction and allocation processes. DMM disagrees that the Management proposal is the only feasible option for reducing ratepayer losses from the annual and monthly auctions for 2019.

DMM understands that the overall annual allocation and auction process starts in July with the collection of information for the CRR allocation and development of the full network model. The 2018 annual auction was held October 31-November 2 with the awards posted November 8. Because of a modeling issue that could have caused large losses to transmission ratepayers, the 2017 annual auction was delayed to November 28 with awards posted December 5. A similar delay would be appropriate if needed to implement the SCE proposal.

Moreover, DMM believes that even if the ISO cannot act soon enough to implement the approach proposed by SCE in the annual auction for 2019, these changes can and should be implemented in the monthly auctions in late 2018 or early 2019. As noted above, the annual auction can be delayed and/or the transmission limits used in the annual model could be lowered significantly as an interim measure, while the ISO worked to implement the approach proposed by SCE.

Other Options

Beyond the measures incorporated in Management's proposal, the other main option that has been mentioned by Management as a "longer term option" is the concept of the ISO placing a *reservation price* on CRRs in the auction. DMM notes that this essentially amounts to the ISO placing a positively priced bid to sell in the CRR auction on behalf of transmission ratepayers (instead of the \$0 bid currently placed). DMM believes this approach would be very problematic and ineffective. However, if the ISO believes this is a viable option, DMM encourages the ISO to vet this option (and any other potential options) as expeditiously as possible.

Impact of CRR Auction Design on Regional Expansion Initiatives

The ISO has indicated that it plans to create a CRR design for the extended day-ahead market that is "similar to CAISO balancing area".¹³ The current CRR auction design has cost California transmission ratepayers an average of over \$82 million per year since 2009 – and over \$100 million in 2017. If the ISO does not address the fundamental flaws in the

¹³ 2018 Policy Initiatives Roadmap, January 12, 2018, p. 21:
<http://www.caiso.com/Documents/2018FinalPolicyInitiativesRoadmap.pdf>.

CRR auction design, the risk of these transmission ratepayer losses could impact the ISO's regional expansion initiatives.

The ISO auction design in effect forces transmission ratepayers to offer financial swaps. This exposes these ratepayers to potentially large losses that are funded by the congestion rents that these ratepayers would otherwise receive from their transmission assets. Extending this flawed design to other balancing authority areas will unnecessarily prevent their transmission ratepayers from receiving all of their day-ahead market congestion rents.

Therefore, extending the ISO's flawed auction design to other balancing areas would reduce the benefits these areas would receive from the ISO's extended day-ahead market and could adversely impact entities' decisions to join. Developing a CRR auction design that addresses the fundamental flaws would allow the ISO to extend its CRR market design to the extended day-ahead market without adversely impacting regional expansion.

CONCLUSION

Over the last 12 months since the ISO began its stakeholder process on this issue, transmission ratepayers lost another \$100 million in the CRR auctions. DMM hopes the ISO will move swiftly to eliminate the costs and risks placed on ratepayers by the current CRR auction design.

Because Management's proposal does not address the fundamental market flaw underlying the CRR auction design, it will not protect transmission ratepayers from further losses from the CRR auction. Under Management's proposal, the ISO would continue to auction off large volumes of CRRs – primarily to purely financial entities – which must be backed by payments from congestion revenues that should instead flow back to transmission ratepayers.

DMM recommends that the Board direct the ISO to develop a design that addresses the fundamental auction design flaws -- such as the proposal by SCE -- as soon as possible. The approach proposed by SCE is less complex to implement than the changes being proposed by Management and directly addresses the flaw in the CRR auction design. If the ISO believes further refinements in the CRR allocation and auction process would be beneficial, these can be made after the basic flaw in the CRR auction design has been addressed. DMM believes that even if the ISO cannot act soon enough to implement the approach proposed by SCE in the annual auction for 2019, these changes can and should be implemented in the monthly auctions in late 2018 or early 2019.

Because the ISO plans to extend its CRR structure to the extended day-ahead market, failure to address these auction design flaws now could adversely impact the ISO's regional expansion initiatives. Extending this flawed design to other balancing authority areas will unnecessarily prevent their transmission ratepayers from receiving all congestion rents from the day-ahead market.