

Memorandum

To: ISO Board of Governors
From: Eric Hildebrandt, Executive Director, Market Monitoring
Date: March 18, 2020
Re: Department of Market Monitoring update

This memorandum does not require Board action.

EXECUTIVE SUMMARY

This memo summarizes a recent report by the Department of Market Monitoring (DMM) on results of the ISO's auction for congestion revenue rights (CRRs) in 2019.¹ From 2009 to 2018, revenues from sales of congestion revenue rights in the ISO's auction consistently fell well short of the revenues paid out to entities purchasing these congestion revenue rights, resulting in significant losses of congestion revenues for transmission ratepayers. In response, the ISO instituted significant changes to the auction starting in the 2019 settlement year.

In 2019, losses from sales of congestion revenue rights totaled about \$34 million. About \$22 million of the \$34 million in losses occurred in Q4. Transmission ratepayers received about 68 cents in auction revenue per dollar paid out to congestion revenue rights purchased in the auction in 2019. Financial entities received profits of \$33 million and paid 55 cents in auction revenues per dollar of payments received.

Analysis by DMM indicates that losses from congestion revenue rights were reduced significantly in 2019 by a combination of at least three factors.

- First, DMM estimates that settlement changes which limit payments from exceeding the congestion rent collected on the underlying constraints (known as Track 1B changes) reduced payments to non-load serving entities by about \$44 million in 2019.
- Other changes limiting the types of congestion revenue rights that could be purchased in the auction (Track 1A) appear to have also helped to reduce losses in 2019, although the impact of these changes cannot be quantified.

¹ *Report on results of 2019 congestion revenue rights auction*, Department of Market Monitoring, January 27, 2020.

<http://www.caiso.com/Documents/ReportonResultsof2019CongestionRevenueRightsAuction-Jan272020.pdf>

- A third factor contributing to lower losses from sales of congestion revenue rights in 2019 was relatively lower congestion than in prior years. Total day-ahead congestion rent for 2019 was about \$355 million -- down from about \$628 million in 2018. Thus, while losses dropped from \$131 million to \$32 million in 2019, a significant portion of this decrease can be attributed to the drop in overall congestion.

Rule changes made by the ISO reduced losses from sales of congestion revenue rights significantly in 2019. However, DMM continues to recommend that the ISO take steps to discontinue auctioning congestion revenue rights on behalf of transmission ratepayers. If the ISO believes it is highly beneficial to actively facilitate hedging of congestion costs by suppliers, DMM recommends that the ISO modify the congestion revenue rights auction into a market for financial hedges based on clearing of bids from willing buyers and sellers.

Background

From 2009 to 2018, the ISO's auction for congestion revenue rights resulted in a net loss of over \$800 million for transmission ratepayers.² Over this ten year period, revenues collected in the auction equaled only 50 cents in auction revenue per dollar paid to auctioned congestion revenue rights. In 2017 and 2018, losses from sales of congestion revenue rights totaled \$100 million and \$131 million, respectively.

In response to these systematic losses from sales of CRRs, the ISO instituted significant changes to the auction starting in the 2019 settlement year. These changes include the following:

- Track 0 – Increasing the number of constraints enforced by default in the congestion revenue rights CRR models, identifying potential enforcement of “nomogram” constraints in the day-ahead market to include in the congestion revenue rights CRR models, and other CRR process improvements.³
- Track 1A – Limiting congestion revenue rights sold in the auction to “delivery path” pairs of sources and sinks.⁴

² *Problems in the performance and design of the congestion revenue right auction*, Department of Market Monitoring, November 27, 2017 p.11: http://www.caiso.com/Documents/DMMWhitePaper-Problems_Performance_Design_CongestionRevenueRightAuction-Nov27_2017.pdf

2018 Annual Report on Market Issues and Performance, Department of Market Monitoring, p.202, May 2019: <http://www.caiso.com/Documents/2018AnnualReportonMarketIssuesandPerformance.pdf>

³ *Congestion Revenue Rights Auction Efficiency Track 1B Straw Proposal*, California ISO, April 19, 2018: <http://www.caiso.com/InitiativeDocuments/StrawProposal-CongestionRevenueRightsAuctionEfficiencyTrack1B.pdf>

⁴ *Congestion Revenue Rights Auction Efficiency Track 1A Draft Final Proposal Addendum*, California ISO, March 8, 2018: <http://www.caiso.com/InitiativeDocuments/DraftFinalProposalAddendum-CongestionRevenueRightsAuctionEfficiency-Track1.pdf>

- Track 1B – Limiting congestion revenue rights payments to not exceed congestion rents actually collected from the underlying transmission constraints.⁵

2019 Congestion Revenue Rights Auction

In 2019, losses from auctioned congestion revenue rights totaled about \$34 million (see Figure 1).⁶ About \$22 million of the \$34 million in losses occurred in Q4. Transmission ratepayers received about 68 cents in auction revenue per dollar paid out to congestion revenue rights purchased in the auction in 2019.

Financial entities received profits of \$33 million and paid 55 cents in auction revenues per dollar of payments received in 2019. Marketers had profits of about \$4 million and paid 74 cents per dollar of revenue received. Physical generators incurred losses of \$3 million and paid \$1.20 into the auction per dollar of payments received.

DMM estimates that Track 1B changes, which limit congestion revenue rights payments from exceeding the congestion rent collected on the underlying constraints, reduced payments to congestion revenue rights auctioned to non-load serving entities by about \$44 million for the year. These reductions in payments are referred to as *deficit offsets*. The deficit offsets made under Track 1B settlement changes had a significant impact on reducing losses from congestion revenue rights sold in 2019, as shown in Figure 2 (see light blue bar).

Track 1A changes limiting the types of congestion revenue rights that could be purchased in the auction appear to have also helped to reduce losses from rights sold in 2019. However, the impact of these Track 1A changes cannot be quantified.

A third factor contributing to lower losses from sales of congestion revenue rights in 2019 was relatively lower congestion than in prior years. As shown in Figure 2, day-ahead congestion rent for 2019 totaled about \$355 million -- down from about \$628 million in 2018. Losses in 2019 totaled almost 10% of total day-ahead congestion rents in 2019, compared to about 20% of congestion rents in 2018. This reduction in losses as a percentage of total day-ahead congestion rents likely reflects the impact of changes made by the ISO beginning in 2019.

⁵ *Congestion Revenue Rights Auction Efficiency Track 1B Draft Final Proposal Second Addendum*, California ISO, June 11, 2018:

<http://www.caiso.com/InitiativeDocuments/DraftFinalProposalSecondAddendum-CongestionRevenueRightsAuctionEfficiencyTrack1B.pdf>

⁶ With the introduction of the Track 1B offsets, ratepayer losses should be higher than DMM's estimate by the amount of offsets that would have been charged to the portion of annual auction CRRs sold by non-LSEs in the monthly auction that back CRR purchases made by LSEs. While it is not possible to directly calculate this amount, DMM expects this will not have an appreciable effect on the calculation of ratepayer losses. DMM will develop an estimate of this offset effect in future reports.

Figure 1. Auction revenues compared to payments to auctioned congestion revenue rights (2012-2019)

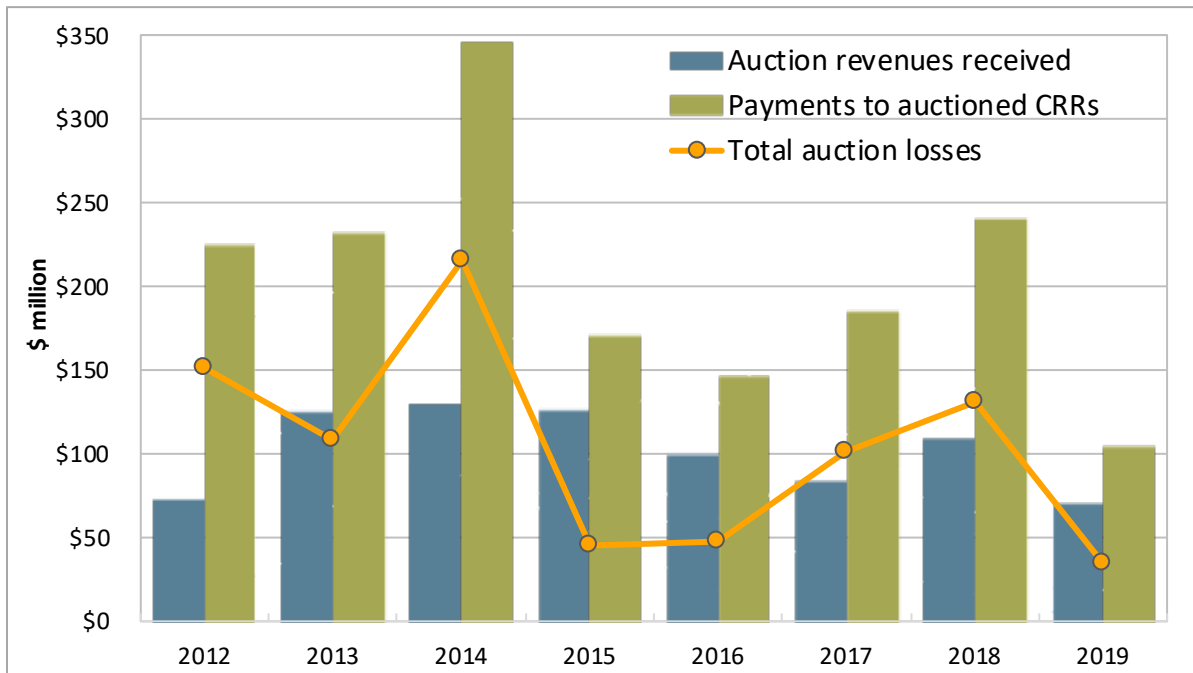
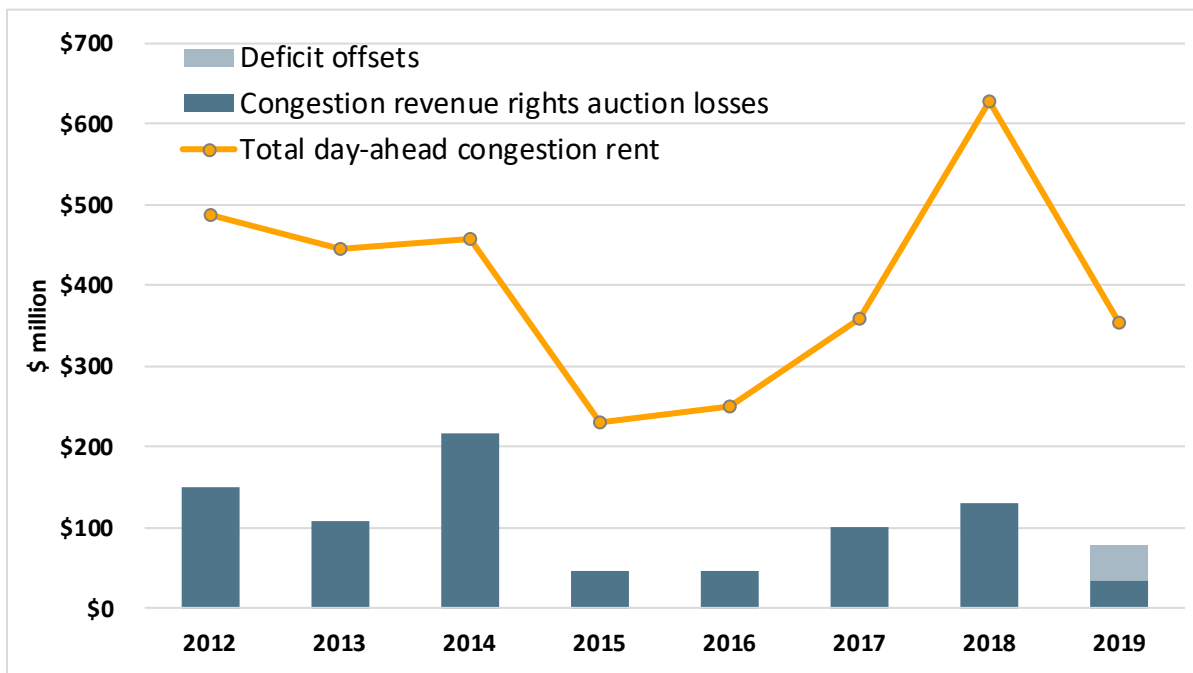


Figure 2. Auction losses and day-ahead congestion rent (annual)



DMM's recent report includes a variety of additional metrics which highlight trends and correlations between total congestion rents and auction results. DMM will provide additional analysis and discussion of 2019 auction results in its annual report for 2019.

Conclusion

Auction and settlement changes made by the ISO reduced losses from sales of congestion revenue rights significantly in 2019. However DMM continues to recommend that the ISO discontinue auctioning congestion revenue rights on behalf of transmission ratepayers. If the ISO believes it is highly beneficial to the market for the ISO to actively facilitate hedging of congestion costs by suppliers, DMM recommends that the ISO modify the congestion revenue rights auction into a market for financial hedges based on clearing of bids from willing buyers and sellers.