

DC Energy, Comments on Congestion Revenue Rights Auction (CRR) Auction Analysis Report

Submitted by	Company	Date Submitted
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DC Energy appreciates the opportunity to provide feedback on the CAISO’s CRR Auction Analysis Report (“CAISO’s report”) in advance the CRR Auction Efficiency Analysis Working Group meeting on December 19th. The CAISO’s report was a necessary first step before recommending improvements to the CRR auction. The report is very detailed and provides a good assessment of the efficiency and performance of the CRR auction within the scope of CAISO market data. Accordingly, it is important to note that the assessment did not measure the CRR product’s benefits to the overall energy market. Specifically, the CRR product is an important risk management tool used to reduce the delivered cost of power to consumers. In recent testimony provided before the U.S. House of Representatives Subcommittee on Energy it was stated: *“Without these products [Financial Transmission Rights (“FTRs”) and “virtual” transactions], our company and others would have to charge higher prices to manage the increased risk. This “risk premium” cost would wind up being included in retail sales, which directly increases consumer costs.”*¹ As the CRR auction initiative progresses toward the policy phase, we look forward to working on ways to improve CRR auction efficiency and thereby magnify its benefits to the overall energy market. DC Energy’s comments below focus on improvement areas identified in the CAISO’s report and ask clarifying questions related to the data contained in the study.

1) *The CAISO’s report identified numerous areas where improvements to the CRR auction can be undertaken. It was shown that the transmission outage and constraint modeling practices are key drivers of CRR Auction efficiency. DC Energy reviewed the cause of CRR revenue inadequacy for the period of June 2016 and August 2016 through March 2017 and discovered that over 70% of all CRR revenue inadequacy can be attributed to non-modeled transmission outages or non-modeled nomograms.*² ***We urge the CAISO to address these items expeditiously:***

- **Transmission outage submissions and modeling:** The ISO reported that one of the cornerstones of the CRR market efficiency is for the CRR market to closely reflect the transmission capacity of the day-ahead market. The degree to which network model symmetry exists between the sequential market models impacts CRR revenue adequacy and how transmission capacity is valued. The deficiency is further highlighted in the CAISO’s report, which showed 57% of outages subject to the 30-day Rule were not

¹ Testimony of Chris Moser, Senior Vice President for Operations for NRG Energy, Inc. before the Subcommittee on Energy and Commerce Committee, U.S. House of Representatives Washington, DC on November 29th, 2017

<http://docs.house.gov/meetings/IF/IF03/20171129/106663/HHRG-115-IF03-Wstate-MoserC-20171129.pdf>

² July 2016 was not included since it was not posted with the other monthly reports (e.g web location: <http://www.caiso.com/Documents/MarketPerformanceReportforDec2016.pdf>)

submitted on time. The practice of late schedule high impact outages presents an ongoing risk of CRR revenue inadequacy to load serving entities and can lead to divergent pricing outcomes between markets. It is imperative the CAISO and Participating Transmission Owners address this major source of revenue inadequacy and improve compliance with the CAISO's Tariff. Furthermore, it is clear that vast improvements are attainable, given the CAISO's analysis showed a 20% variance between the top performing and bottom performing PTOs.

- **CAISO CRR auction outage modeling practices:** CAISO reported that the transmission outage derate procedure that is applied to outages with a duration of less than 10 days, but greater than 24 hours, might not fully capture the impacts of the line being out of service. Specifically, an outage represented as a pro-rata deration can lead to a situation where the revenue inadequacy created during the outage timeframe (as modeled in the IFM) is not offset by the potential surplus created from the outage modeled as a full month in the CRR auction. Also, it was noted that high impact outages with less than 24-hour duration can lead to steep and concentrated revenue deficiencies since the CAISO's current policy is to not model them in the CRR Auction. The CAISO offered it might not be best practice to ignore these outages in the auction models. DC Energy agrees that outage modeling practices need to be reviewed with the goal of addressing revenue inadequacy and aligning pricing outcomes between markets. We submit that a logical next step would be to review the practices utilized in other ISOs and RTOs with the goal of seeking immediate improvements.
- **Advanced notification of constraints and transparency into CAISO Operating Procedures:** The introduction of new constraints after the CRR auction can cause significant revenue inadequacy. In late December of 2017, the 23040_CROSSTRIP constraint was enforced for the first time. The CAISO noted the 23040_CROSSTRIP constraint was introduced due to changes in constraint practices as codified in operating procedure 7820. The introduction of the constraint led to significant CRR revenue inadequacy since it was not modeled in CRR auctions until February 2017. The CAISO report calculated that for the period of December 2017- January 2018 the un-modeled 23040_CROSSTRIP constraint led to over \$7 million in CRR revenue inadequacy, which represented over 25% of the total \$27.5M of CRR revenue inadequacy for the period. DC Energy submits the CAISO needs to provide advanced notification of changes to congestion management (i.e., newly monitored constraints/changes to constraint definitions/weightings/limits nomograms, branch groups, and standard branch constraints) and ensure the changes are enforced in the CRR auction. Along with providing advanced notice the ISO could improve in this area by publishing its operating procedures impacting congestion outcomes to the market participant portal.
- In the monthly tables reporting information on the "Top constraints binding in the day-ahead market not binding in CRR market" there were numerous instances where the cause of the mismatch was due to "Higher Limit". DC Energy requests a review of what leads to the limits being rated higher in the CRR auction and what practices can improve in order to correct this form of market inefficiency.

2) The CAISO's report dedicates significant analysis on detailed information regarding CRR awards. DC Energy submits that assessing the CRR auction with path level information in isolation of the full network topology can lead to inaccurate information and erroneous conclusions.

- The CAISO's assessment of participation levels in the CRR auction, included a path-level analysis of CRR awards. The analysis was used to question the level of liquidity in the CRR auction, however it failed to capture the dynamics of the network topology. All awarded CRR paths are related to some degree and therefore a set of "single definition awards" may all impact flows on the same transmission constraint. In this way CRR network capacity can be awarded in many configurations, which promotes the liquidity of the overall market. For this reason, when measuring the liquidity or competitiveness of the auction all awarded paths must be assessed within the full network model. We urge the CAISO consider this point as they make conclusions regarding the liquidity of the CRR market.
- In addition, the CAISO's report compares constraint level information between the CRR and IFM markets in the detailed monthly breakout sections. For instance, Table 6 provides auction revenue and congestion payout information for constraints binding in one market (i.e. CRR or IFM), but not in the other. Table 7 provides additional detail on the case where a constraint was binding in the IFM, but not the CRR market. These constraint level depictions can lead one to think each occurrence represents a situation where there was congestion absent in one of the sequential markets; However, when viewed in the context of the entire network this might be more accurately contributed to different constraints effectively resolving the same congestion. For example, a constraint binding in the IFM might not bind in the CRR auction due to a more limiting Nodal Group Constraint that was not enforced for a given day in the IFM. Obviously, this does not mean there was zero auction revenue contribution for the same congestion in the CRR auction. As the CAISO develops its policy recommendations for the CRR auction, we urge them to consider the interaction of related network elements when comparing constraint level information.

3) Figure 45 of the CAISO report needs clarified

Figure 45 reports a 100% rate of return when a CRR auction revenue and its congestion payout equal. The plot's x-axis on right side needs corrected since this actually represents a zero rate of return. In addition, it would be appropriate to characterize this as the "CRR auction revenue to CRR payment ratio" since the metric does not consider the transaction costs of the market participant.