Comments on CRR Auction Analysis

Velocity American Energy

This is a commendable report of the analysis of CRR Auction by CAISO. This study has identified several aspects of the current CAISO CRR market that need to be closely studied for improvement. In particular the following conclusion is remarkable and needs to be examined in much more depth for possible solutions.

"Through this detailed analysis, one common finding arose that leads to late or missed outages and constraints in the CRR auctions being the primary driver for revenue shortfalls and large net CRR payments to auction CRRs."

The outage modeling seems to be the biggest driver of the shortfalls and the persistent source of inefficiency in the CRR market. The CAISO would need to devote significant time and resources into improving the outage modeling for CRR auctions. In particular, the report also states the following:

"For outages subject to the 30-day submission requirement, about 57 percent of these outages were not submitted to the ISO in time."

This is a significant short-coming that needs to be addressed. Perhaps there needs to be mechanism to enforce the reporting and not be left to voluntary reporting. There needs to be some discussion on what such a mechanism (monetary downside for improper and not timely reporting) would look like.

In addition, the findings from this study as stated below further emphasize the need to get the transmission topology modeled as accurate as possible for CRR auction.

"The analysis in this report shows that there is a persistent and strong correlation between CRR revenue inadequacy (congestion rents not being sufficient to cover all CRR payouts) and net CRR payments (difference between auction CRR payments and auction revenues). This does not indicate that one is the cause of the other; instead, it reflects that both items are being driven by a common cause. This common factor happens to be the misalignment of transmission modelling between the CRR auctions and the day-ahead market."

Of course it is not possible or practical to model the Day ahead market topology exactly for CRR auction and totally eliminate any inadequacies but it is clear that there is considerable scope for improvement given current practices. Another reason that there will always be some inadequacy has to do with forced outages that may happen inside the month that no way can be modeled in the auction even with an appropriate derate or other such metric. This also presents the need for a mechanism to deal with any resulting inadequacies in revenue and how to allocate it to different market participants. Here there is considerable precedent for CAISO as other markets such as MISO, PJM, SPP have addressed this issue and perhaps CAISO could closely study such markets to determine what is palatable for CAISO stakeholders.

"In some cases, like January 2017, one single constraint missed being modelled in the annual and monthly auctions and as a result drove over 80 percent of the revenue shortfall and accounted for a significant portion of the large payout to auction CRR holders."

As correctly identified in the study (above), the importance of modeling constraints cannot be over-emphasized. If one constraint not being modeled for one month could drive 80% of shortfalls, the revenue inadequacies could jump to exorbitant levels with just a handful of constraints not modeled correctly. There is considerable improvement possible in this domain as well from current performance.

In conclusion, we support a highly focused **study towards improving the outage reporting and outage and constraint modeling aspects for CRR auctions and we believe such improvements would significantly eliminate revenue inadequacies**. If there are still revenue inadequacies, it could be addressed through a shortfall funding mechanism and CAISO could perhaps study the pros and cons of such mechanisms by looking into other organized electricity markets.