

SVP Comments on CAISO CRR Auction Efficiency Analysis

Submitted by	Company	Date Submitted
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In response to the CAISO's request for feedback, Silicon Valley Power (SVP) submits the following comments on the CAISO's CRR Working Group meeting held on April 18, 2017 (the "CRR WG meeting").

SVP supports the CAISO's proposed efforts in evaluating potential causes of systematic differences between CRR auction revenues and CRR payouts. SVP also concurs with the CAISO's stated objective to use the results of the proposed analysis to decide if modifications to the current CRR auction design are appropriate and what those modifications should be.

Probably the most important question that needs to be addressed now is whether the current CRR Auction Design, in particular, and CRR market design, in general, are serving their purpose. As the CAISO indicated in its presentation during the CRR WG meeting, CRRs are acquired primarily, although not solely, for the purpose of offsetting integrated forward market congestion costs that occur in the day-ahead market.¹ In addition to providing a hedge against congestion for LSEs, CRRs were intended to mitigate price volatility and provide funds through the auction to reduce the Transmission Access Charge (TAC). DMM's analysis suggests the auction is not being used by LSEs or generators for hedging to any significant degree, and that the reductions in the TAC charges from the auction revenues have been overshadowed by the large payouts to the auction CRR holders.

Several presentations made during the CRR WG meeting identified some quantifiable and some non-quantifiable benefits of the current CRR auction design. They claimed that the CRR auction plays a key role in price transparency, liquidity, and the ability to manage nodal pricing risk. The CAISO's proposed analysis should be structured to prove or disprove those claims and to determine if the current auction design has served its primary purpose as a hedging instrument. In addition to the auction modeling issues, the CAISO analysis should help understand whether there was a lack of hedging demand for some or all CRRs sold in the auctions and/or whether there was a lack of competition in hedging demand for CRRs sold in auctions. SVP suggests the CAISO's analysis should include the following key elements.

1. Separately calculate and present the auction revenues and payments under annual versus monthly auction processes;
2. Analyze the auction revenues and payments by the participant category (i.e., financial, marketer, generator, LSE);

¹ Slide #6 of the CAISO presentation, titled, "CRR Auction Efficiency Analysis Working Group Introduction."

3. Analyze the auction awards on the most constrained paths in each of the DAM and the CRRM that have contributed the largest differences between the auction revenues and the CRR payouts;
4. Analyze not only the DAM constraints that were not modeled in the CRR FNM (causing gap/revenue inadequacy attributed to positions long on congestion), but also the CRR FNM constraints that were not modeled in the DAM (causing gap due to shorting congestion);
5. Identify the extent to which there have been auction awards on the same constraints for which there were allocation nominations that were not awarded because of a binding constraint in the allocation CRRM; and
6. Identify nominations that were not allocated/awarded in later tiers of the allocation process due to the 50% Scheduling Point (SP) set-aside and compare that to auction CRRs that were awarded on the same constraints. Alternatively, a simpler approach would be to identify all the auction awards on SP's that had any auction set-asides, and then check for any successful allocations from the same SP's or lack thereof.

The CAISO's analysis could involve a combination of the above-mentioned elements. For example, one analysis track could entail the following steps.

1. For each binding constraint in either the CRRM or the DAM, calculate the auction revenues and payments under each of the annual and monthly auction process for the period of 2014 through 2016;
2. Separately analyze and summarize the data assembled in Step 1 by each participant category;
3. For each category of participant participating in the annual or monthly auction process, separately group the auction awards that were revenues (counter flow positions) or payments (CRR purchases);
4. Calculate and analyze the difference in DAM payments/revenues and each of the annual and monthly CRRM auction purchases/revenues for each group in Step 3.

The analysis track comprising the above-mentioned four steps would analyze the role each market participant category played in shorting of congestion versus long positions over all paths in contributing to the revenue inadequacy in the annual and monthly auction processes. By capturing the results for the annual process separately from the monthly process, the CAISO may be able to assess some of the claims about carrying costs and risk mitigation.

In the remaining portion of these comments, we provide our rationales for the above-listed analysis recommendations.

In addition to analyzing the auction revenues and payments by the participant category as the CAISO has already done as part of the *Q4 2016 Report on Market Issues and Performance*, SVP suggests that the auction revenues and payments need to be separated out based upon annual versus monthly auction processes. Presumably, the annual auction process suffers more from the lack of information regarding forced outages, late scheduled outages, sudden nomograms, etc. that were not captured in the CRRM, which is different from the monthly auction process. Therefore, a comparison of the monthly auction CRR values, the actual (realized) values, and the annual auction process values may indicate a lack of competition in the monthly CRR auction

process. Some of the candidate approaches suggested earlier would be helpful in further investigating such conjectures. For example, a deep dive into specific constraints driving the discrepancy between the monthly auction process CRRM and the DAM, and separately analyzing counter flow positions benefitting from lower congestion in the DAM than was modeled in the CRRM.

We appreciate the CAISO's efforts to distinguish between revenue adequacy and auction efficiency.² Several CRR WG meeting participants identified the need to do a deep dive analysis of the DAM constraints to determine the causes, such as forced outages, late scheduled outages, and sudden nomograms that were not captured in the CRRM. Some CRR WG meeting participants noted that in the past two years, a large source of the auction revenue inadequacy was realized by participants "shorting" CRRs in the auction. This suggests that there may also be constraints modeled in the CRRM that are not modeled in the DAM. SVP, therefore, supports a historical data analysis that analyzes the auction awards on the most constrained paths in each of the DAM and the CRRM that have contributed the largest differences between the auction revenues and the CRR payouts.

While such analysis would shed light on revenue adequacy aspect of the discrepancy between the DAM and CRRM, it would not necessarily address the auction efficiency issue. Therefore, a separate, but related aspect of the investigation needs to address the auction efficiency issue by focusing on how the payments market participants are obligated to make to auctioned CRR holders compare to the CRR auction revenues market participants receive. In other words, such analysis should assess whether the CRR auction market has been truly competitive and whether the balance of benefits and burdens across market participants and auction participants have been reasonable.

SVP agrees with the plan proposed by several April 18th CRR WG meeting participants to focus on the constraints that might be driving the discrepancy between the DAM and CRRM. Presumably, such analysis would consider the constraints that appear in the DAM, but not in the CRRM. However, it might not only be the DAM constraints that are not modeled in the CRR FNM that are problematic, but also potentially the CRR FNM constraints that are not modeled in the DAM. That is, parties can take counter flow positions in the CRR Auction and then pay out less than their costs due to lower congestion in the DAM than was modeled in the FNM. SVP believes that the CAISO analysis should also identify the portion of auction revenue insufficiency from parties with counter flow positions in the CRR auction having paid back less than they received up-front from the CAISO due to lower congestion in the DAM than was modeled in the CRRM. The factors that might have led to the discrepancies, including differences between the CRRM and DAM, should be identified.

The CRR allocation process has several limitations that are not present in the CRR auction. LSE's quantities of nominated CRRs are limited to their load metrics, i.e., Seasonal Eligible Quantities (SEQ) or Monthly Eligible Quantities (MEQ). LSEs are almost certain to have less than one hundred percent of their SEQ or MEQ hedged at the end of the allocation process. Conversely, auction quantities are not limited. In addition, the LSEs, in the allocation process, can only select Default Load Aggregation Points (DLAP) or SubLAP sinks in the DLAP where

² Slide #6 of the CAISO's April 18th presentation to the CRR Auction Efficiency Analysis Working Group.

their load resides, and cannot use individual generating unit pnodes for sinks (See Table 1a). In contrast, auction participants can select any valid node for sinks resulting in more CRR pairs available in the auction than the allocation (See Table 1b).

Table 1. Allowable CRR Sources & Sinks*

Table 1a. Allocation Process		Table 1b. Auction Process	
CRR Sources	CRR Sinks	CRR Sources	CRR Sinks
Generating Unit Pnodes	LAPs	Generating Unit PNodes	Generating Unit PNodes
Trading Hubs	Sub-LAPs within LSE's DLAPs	Trading Hubs	Trading Hubs
Scheduling Points	MSS-LAPs	LAPs	LAPs
Points of Delivery associated with ETCs	Scheduling Points for external LSEs	MSS-LAPs	MSS-LAPs
		Sub-LAPs	Sub-LAPs
		Scheduling Points	Scheduling Points

*Source: Business Practice Manual for Congestion Revenue Rights, Sections 7.2 and 9.2

Furthermore, after the initial rounds of the allocation processes, the CAISO sets aside 50% of the remaining Scheduling Point (inertie) capacity for the auction, rather than allowing that capacity to be available to LSEs in subsequent allocation rounds. Moreover, LSEs face regulatory and financial burdens if they participate in the auction for reasons other than unwinding Allocation CRRs. These include additional resources to participate in the auction process, additional risk management modeling and reporting requirements, and potential criticism if the value of the auctioned CRR is lower than the amount paid to obtain it, that is, downside risks and little upside rewards.³ Combined, the above factors tend to limit the number and level of LSE participation in the auction, while also moving some of the available system capacity from the allocation process to the auction process. SVP therefore recommends that the CAISO analysis attempt to determine if asymmetries in the allocation versus auction contribute to the shift in value from the allocation to the auction participants. For example, the analysis should identify the extent to which there have been auction bids awarded from certain sources that were not awarded in the allocation because of a binding constraint in the allocation CRRM.

SVP appreciates the opportunity to comment on this very important issue.

³ The April 18th CRR WG meeting acknowledged the lack of the LSE participation in the CRR auction process, however no remedies were identified to increase that participation.