

## Subject: CRR Auction Analysis Report

### Comments of Calpine Energy Solutions, LLC (“Calpine Solutions”) on Congestion Revenue Rights Auction Efficiency Track 1 Draft Final Proposal

Submitted by	Company	Date Submitted
Justin Pannu – Director of Operations, West Power Desk, Calpine Energy Solutions, LLC	Calpine Energy Solutions, LLC	February 28, 2018

#### General Comments

Calpine Energy Solutions, LLC, (“Calpine Solutions”) is a nonutility load-serving entity operating in seventeen states, including California. As a load-serving entity participating in the CAISO markets, Calpine Solutions receives an allocation of annual and monthly CRRs from the CAISO, and also participates in the annual and monthly CRR auctions in order to secure the additional CRRs necessary to mitigate the financial risks Calpine Solutions and its customers would otherwise face if its portfolio of supply and transmission rights were exposed to unhedged locational congestion risks. Due to the value we see in and gain from the CAISO CRR auctions, Calpine Solutions strongly recommends that the CAISO take steps to preserve the CRR auction, even if slightly modified, and take further actions to *expand* the auction process to provide for more frequent auctions and to include new instruments with varying tenors. As for the four proposals discussed in the Track 1 Draft Final Proposal and the other changes discussed in these comments, the CAISO should consider implementing changes to the CRR auction process in a measured series of steps rather than implementing all of the changes simultaneously. We also support a step-wise implementation of the changes recommended herein rather than all four changes being implemented simultaneously.

Before addressing the four proposals in the *Track 1 Draft Final Proposal*, Calpine Solutions reiterates the overarching principles by which it is evaluating the concerns and proposals raised by the CAISO and the DMM in the CRR Auction Initiative.

**First, revenue adequacy in the CRR process should not be the sole, or even most important, criterion by which the value of CRR process should be evaluated.** Load-serving entities rely on CRR auctions to provide consumers with the lowest possible cost to meet their energy requirements. The CRR auction process provides load-serving entities with the means by which they can adjust and enhance their allocated CRRs in order to better hedge the costs of congestion between specific receipt and delivery points. In addition, the breadth and frequency of CRR auctions is critical to providing the liquidity and transparency of the financial instruments by which this hedging is accomplished. The CRR auction process provides enormous benefits to consumers and none of the analyses presented by the CAISO or the DMM in the CRR Initiative to date make any attempt to estimate the dollar value of those benefits. Based on its operational experience, Calpine Solutions submits that those benefits are greater by several orders of

magnitude than the multi-year CRR revenue deficiencies the CAISO is addressing. Thus, the CAISO should take care not to reconfigure the CRR process in a way that would impair these benefits.

**Second, Calpine Solutions once again urges the CAISO to consider that there is a well-evident, important divergence of opinion between load-serving entities whose customers are subject to cost-averaged pricing on the one hand and those load-serving entities whose customers are sensitive to market-price fluctuations on the other hand regarding the efficacy of the CRR auction process and the value of the CRRs available in the auction process.** In other words, the investor-owned utilities, Community Choice Aggregators, and publicly owned utilities have a greater financial indifference to congestion costs, to the detriment of ratepayers (through cost-averaged pricing and a guaranteed rate of return) compared to competitive Energy Service Providers, such as Calpine Solutions, who have no after-the-fact ratemaking protection from price volatility and who use CRRs to mitigate market risks.

As Calpine Solutions has argued in previous comments submitted in this stakeholder process, the load-serving entities most in favor of radically revising the CRR auction process in order to avoid CRR congestion balancing payments are those whose loads are relatively insensitive to energy pricing. Pursuant to the regulatory and pricing conventions by which they set the retail price of energy delivered to their customers, these load-serving entities bill their customers using relatively fixed class-based energy rates reflecting the providers' full out-of-pocket costs of energy, aggregated and averaged across long periods of time for the entire customer class. By and large, energy rates paid by these customers are not highly correlated to and do not fluctuate with short-term (*e.g.*, monthly, daily, hourly, or real-time) fluctuations in the market clearing prices set in and by the CAISO markets. Given the attenuated relationship between market prices and the retail prices paid by these consumers, the load-serving entities serving them are largely indifferent to short-term costs of transmission congestion, which affects their level of interest in preserving the CRR auctions. Conversely, the load-serving entities most in favor of preserving, and enhancing, the CRR auction process, a group that includes Calpine Solutions, are those whose loads are highly sensitive to energy pricing both at the retail and wholesale levels. Unlike captive ratepayers, the customers of these load-serving entities are highly sophisticated and receive service under contracts tracking market clearing prices. In order to meet their service obligations under this pricing regime, the load-serving entities serving these customers use the CRR auctions to hedge congestion costs in order to force a convergence between prices expected in the CAISO day-ahead market and actual market clearing prices. Thus, these load-serving entities seek more frequent auctions and a greater range of CRR instruments of varying tenors so as to maximize that convergence to the fullest extent possible and, further, oppose any adjustments to the CRR auction process that would reduce either the frequency of CRR auctions or liquidity of CRR products. To use the "illustrative" example provided in the *Track 1 Draft Final Proposal* (at p.20), the \$20/Mwh price differential between Location A and Location B, if unhedged, would be a mere journal entry for some load-serving entities, but financially catastrophic for others. The CAISO should keep the distinction between these two groups of load-serving entities in mind and specifically consider the disparate effects changes to the CRR process might have for one at the expense of the other.

### **The Four Proposals in the Track 1 Draft Final Proposal**

Calpine Solutions provides its specific comments on each of the four short-term proposals described in the *Track 1 Draft Final Proposal* below. Before addressing these four proposals individually, Calpine Solutions submits two overarching comments on the *Track 1 Draft Final Proposal*.

First, the four discrete proposals appear to have been developed independently of one another, with each being designed to address one of the potential causes of the revenue deficiencies being experienced in the CRR auction process. There is no analysis of the potential interactions, whether synergistic or counterproductive, that might result from implementing the four proposals simultaneously and/or in any combination. In this regard, Calpine Solutions believes that the first proposal, *i.e.*, improving the relationship between the CRR auction model and the capability of the transmission system by requiring better transmission-outage reporting, will have the greatest impact on resolving CRR revenue deficiencies, limiting the value of the other three proposals altogether and potentially obviating the need to implement any of them. But the evaluation of each of the four proposals has apparently been done on a stand-alone basis, without any assumption that the others will also be implemented at the same time.

Similarly, there is a potential incongruity between the proposal regarding the annual transmission-outage reporting requirement and the limitation on CRR modeling disclosures. The reporting requirement places an obligation on transmission owners to provide information related to those transmission outages that would affect the CRR auction model, but the limitation on CRR modeling disclosures leaves transmission owners, who will now be forced to evaluate what information will and will not affect the CRR auction model (and likely how), better informed as to the effects any specific transmission outage will have on constraints, contingencies and CRR values.

#### **A. Annual Outage Reporting Deadline for Annual CRR Process**

Calpine Solutions continues to support improving the transmission-outage information incorporated into the CRR market model. As the accuracy of transmission-outage information improves, the representation of the day-ahead system capabilities in the CRR auction model will converge with the actual system capabilities experienced in the day-ahead market, which should have a direct impact on the CRR auction revenue deficiency. As the *Track 1 Draft Final Proposal* notes (at p.23), “many constraints contributing to [the CRR] net payment deficiency were not enforced in the annual and monthly auctions but did contribute to congestion in the day-ahead market.” As a result, these unenforced constraints could not produce auction revenues because the constraint was not binding in the CRR auction model and could not be priced. Similarly, the lack of accurate transmission-outage information has resulted in certain contingencies not being enforced in the CRR auction model because the outage information available to the CAISO did not indicate that the contingency would need to be enforced in the day-ahead market.

The proposal to require transmission owners to submit pertinent information regarding planned outages that could impact the CRR model by July 1<sup>st</sup> of each year can address the foregoing modeling issues and Calpine Solutions fully supports the proposal. Calpine Solutions is concerned, however, that the proposal omits any reforms addressing the timely reporting of outages that might affect the monthly CRR auctions, despite the admission in the *Track 1 Draft Final Proposal* (at p.25) that “the analysis certainly points to an issue with monthly outage reporting.” Calpine Solutions recognizes that the new annual reporting requirement was considered to be more urgent given the upcoming 2019 annual auction, but hopes that the CAISO will move on to address issues related to the reporting of monthly transmission outages immediately following the March 2018 Board of Governors meeting.

#### **B. Limiting CRR Model Disclosures**

Calpine Solutions believes that limiting the extent to which the CAISO will make CRR modeling parameters available to market participants will reduce market and process transparency. Nor does the *Track 1 Draft Final Proposal* attempt to argue that making the CRR auctions less transparent will yield more efficient

market clearing or reduce the CRR auction revenue deficiency. This proposal seems to be a solution in search of a problem.

If making the CRR modeling parameters publicly available has contributed to the issue of CRR auction revenue deficiencies, the CAISO has been, at best, obtuse in describing the unwanted behavior, only saying that the CAISO seeks to prevent “savvy market participants [from scrutinizing] the model itself to find potential inconsistencies between the congestion revenue rights market model and the expected model that will actually be experienced in the day-ahead market.” (*Track 1 Draft Final Proposal*, at p.27.) Providing less information and transparency, says the CAISO, will prevent the “savvy” few from bidding the nuances of the market model rather than bidding on the basis of their expectations of system congestion in the day-ahead market. Whatever the legitimacy of the CAISO’s concerns, the proposal to solve those concerns suffers from several important deficiencies.

First, the proposal is based on the speculation that the current release of the integrated CRR market model “provides market participants the ability to bid for congestion revenue rights based on the nuances of the market (at p.27),” rather than any demonstration that this is the case for any discernible level of bidding activities. Withholding the CAISO’s expectations as to system congestion from market participants based on rank speculation is simply unjustifiable.

Second, the proposal blithely disregards the effect withholding information will have on those market participants using the market models to develop their expectations regarding congestion in the day-ahead market, a purpose Calpine Solutions assumes the CAISO would admit serves legitimate market interests such as procedural transparency and economic efficiency. Rather than address the interests of these market participants, the CAISO simply declares, “They can do this using other information than that provided in the specific network model used for the congestion revenue right market clearing.”

Third, the proposal is short on essential details. The CAISO proposes to withhold the facilities it models as “out-of-service” in the CRR auction model, but will provide “all outage information” (also described as “all required information to determine expected day-ahead market results” “associated to an all-lines-in-service full network model”) – these vague descriptions utterly fail to describe the difference between the two sets of information, and the proposal further omits any discussion of the extent to which the CAISO would ensure that the information provided to market participants would still provide “the full picture of transmission outages that will be encountered over the course of a month” and allow market participants to “determine estimated day-ahead market congestion and value it.” The details of the CRR auction model currently available to market participants provide the basis for market participants to make these forecasts, but the CAISO proposal is so vague that Calpine Solutions is unsure whether it will be able to do so in the future.

Finally, the proposal diverges from the practice of other RTOs and ISOs, which the *Track 1 Draft Final Proposal* indicates disclose the specific outages they model in their CRR auctions, the specific constraints they enforce in their auctions, and the contingencies they enforce in their auctions. If transparency and full disclosure is practiced without ill effect in other regions, the CAISO should identify the peculiar conditions or reasons those principles cannot be observed in the CAISO’s service territory before departing from the best practices of the other RTOs and ISOs.

### **C. Lowering the Percentage of System Capacity Available in the Annual Allocation and Auction**

There is scant support for reducing the annual CRRs to forty-five percent (45%) of system capacity provided in the *Track 1 Draft Final Proposal*. This limitation will force market participants to turn unduly to and rely disproportionately on monthly CRRs and the monthly CRR allocations and auctions to hedge their congestion risks, leaving a considerable level of financial risks on their books in the interim pending the procurement of monthly CRRs. Forcing this level of financial uncertainty and burden on market participants, particularly smaller ones, should be supported by analyses demonstrating that this limitation on annual CRRs is well-chosen, tailored to market conditions likely to prevail into the future, and will not disadvantage smaller market participants relative to others. No such demonstration has been provided here, and the simple statistical comparisons reported in the *Tier 1 Draft Final Proposal* do not even attempt to address the reasoning behind the proposed 45-percent limitation.

As the CAISO notes, the proposal to lower the percentage of system capacity available in the annual allocation and auction process will shift a greater proportion of the CRRs released into the monthly processes. While the CAISO may have more information about the actual state of the transmission system in the monthly CRR process, reducing the available CRRs in the annual CRR process will make it more difficult for load-serving entities to match their CRRs and hedging activity to the tenor of their retail load commitments. Calpine Solutions serves customer load under long-term contractual commitments and uses the annual CRR process to hedge its exposure to locational price differences consistent with the terms of its commitments. Reducing the availability of annual CRRs can only create a mismatch between Calpine Solutions' need for hedging instruments consistent with its service obligations and the CRRs available to serve that need. As noted above, this is a larger issue with greater financial consequences for load-serving entities whose customers and obligations are sensitive to price fluctuations in the day-ahead market than would be the case for load-serving entities that are not sensitive to daily price movements. Calpine Solutions urges the CAISO to take this into consideration before moving a greater proportion of CRRs from the annual process to the monthly process. If the CAISO implements this proposal, Calpine Solutions urges the CAISO to increase the frequency of CRR auctions and to add new instruments of varying tenors. This will balance the shift away from annual auctions with intermediate and additional protocols that provide for meaningful opportunities for load-serving entities to hedge congestion costs.

### **D. Limiting Allowable Sink and Source Pairs Available in the Auction**

Calpine Solutions generally supports this proposal. Specifically, Calpine Solutions agrees that limiting allowable source-and-sink pairs to those that are not electrically equivalent would improve the allocation and auction process. This practice has been adopted by other RTOs and ISOs and should not be expected to alter bidding behaviors or volumes significantly. Additionally, Calpine Solutions supports the concept of allowing CRR holders to sell their rights into the auction. This should provide greater opportunities for market participants to shape their portfolio of hedges to suit their supply and load commitments more frequently and more accurately than is the case under the current allocation and auction processes. However, Calpine Solutions opposes the proposal to eliminate generation-to-generation source and sink combinations. Market Participants use generation-to-generation combinations to sell or hedge against paths that might otherwise increase price volatility, e.g., eliminating undesirable points within a Trading Hub, thereby allowing financial Market Participants to provide a load-serving counterparty with the lowest possible hedge cost. These effects improve Calpine Solutions' ability to hedge locational price differentials and does the same for any number of other market participants, thereby enhancing market efficiency.

Eliminating any point-to-point pairs from CRR auctions will reduce liquidity in the market and prevent further reduction in energy prices to the detriment of consumers.

Calpine Solutions notes that the value of nominating counterflows may decrease significantly as transmission-outage reporting improves and, thus, the revenue deficiencies the CAISO associates with bids for generation-to-generation pairs may have already been resolved by the proposal regarding transmission-outage reporting. This augurs for the CAISO holding in abeyance this proposal at least until the effects of the outage-reporting proposal have been evaluated. In the alternative, the CAISO might consider releasing more CRRs for generator-to-hub and hub-to-load-zone pairs.

### **Long-Term Reforms**

For the longer term and as a means of improving auction revenues, Calpine Solutions reiterates its previous proposals to improve the CRR process and the hedging value of CRR instruments.

First, the CAISO should explore expanding the nature of the financial transmission rights it makes available for allocation and auction so as to increase the demand for financial transmission rights. As noted above, load-serving entities serving price-sensitive customers under agreements tracing market prices differentiate themselves from one another by providing products hedging and locking in the cost of expected congestion. By expanding the range of instruments that are available to effect these strategies, the CAISO will facilitate a more robust retail market, with the further potential to improve the costs of energy to all consumers by improving the economic efficiency of the overall energy market. At present, the CAISO markets provide for ten-year CRRs, instruments that are so long in tenor that they have little practical value. The CAISO offers only one instrument, a one-year CRR, by which a load-serving entity can hedge congestion risks across a meaningful tenor. Noteworthy in this regard, the PJM Interconnection offers a four-year instrument, which generally matches the supply book of most retail providers operating in the PJM region. The CAISO should consider likewise offering more instruments of varying tenor to meet the needs of the load-serving entities operating in its service territory.

Additionally, the CAISO should consider increasing the frequency of its auctions and providing for new instruments of varying tenors. In PJM, the frequency of auctions for financial transmission rights allows for many hedging opportunities throughout the year. PJM runs an annual auction in April and a number of monthly, quarterly and balance-of-year auctions throughout the planning year in order to improve market efficiency and enhance the liquidity of the market for these rights. In addition, PJM runs three long-term auctions during the year, for terms beyond the planning year. (Currently, these would cover PY2019, PY2020 and PY2021). The transparency and resolution of the balance-of-planning-year auctions also allows load-serving entities to shape, by period (balance of planning year, quarterly, and/or monthly) and by block (peak and off-peak), the congestion risk in their books, well in advance of the day-ahead market. Calpine Solutions believes that implementing similar processes in California will improve the demand for CRRs in the auctions and could cure a substantial portion of the auction revenue deficiencies under study.

As a final matter, Calpine Solutions offers the following comments on the DMM's recommendation that a bilateral market in which CRRs are traded directly between individual counterparties should replace the existing CRR auction process. For the reasons discussed previously, Calpine Solutions strongly believes that while this recommendation might eliminate the revenue deficiency from the abandoned auctions, this "solution" could result in greater harm to energy markets by raising energy prices by amounts that would far overshadow auction revenue deficiencies. The CAISO should consider the dynamics of the basis bilateral

trading markets being proposed before assuming that such markets can instantaneously fend for themselves and flourish without a consistent CRR market and/or auctions behind them.

Calpine Solutions hopes the CAISO will look to expand and improve the CRR auction process in ways beyond those proposed in the *Track 1 Draft Final Proposal*.