Comments on Real-Time Imbalance Energy Offset Draft Final Proposal

Submitted By	Company or Entity	Date Submitted
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On July 29, 2011, the California Independent System Operator Corp. ("CAISO") issued a paper entitled "Impact of Convergence Bidding on Interties: Draft Final Proposal" ("Draft Final Proposal"). CAISO explains that it intends to seek approval to suspend convergence bidding on interties from its board of directors at their meeting of August 25-26, 2011. For the reasons set forth more fully in our prior comments, Powerex Corp. ("Powerex") supports this proposal. Simply put, under the current market design, intertie convergence bids do not substantially lead to improved efficiency in the commitment or dispatch of physical resources, which Powerex submits is their primary objective. Rather than adopting a patchwork fix, Powerex believes resources are better directed at identifying and remedying the root underlying causes of the persistent price divergences in CAISO's markets.

The Draft Final Proposal does not include any additional efforts to curb implicit virtual bidding, however. This is an abrupt reversal from CAISO's Revised Straw Proposal, in which multiple additional measures were considered.[1] Powerex is troubled that CAISO appears to dispense with the matter without articulating any substantive reason. The full extent of CAISO's explanation of its proposal to not adopt any measures to discourage implicit virtual bidding consists of three sentences:

> Stakeholder comments … have highlighted that additional measures to address implicit virtual bidding <u>may</u> have negative unintended consequences that <u>could</u> result in reduced liquidity at the interties. As such, the ISO has concluded that no additional measures beyond those already implemented as part of the original convergence bidding design would be prudent. The treatment of deviations will be addressed as part of the redesign of the real-time market.
>
> (Draft Final Proposal at page 10, emphasis added)

An important stakeholder discussion on implicit virtual bidding specifically – and on non-performing physical awards generally – was underway, but it appears to have been prematurely terminated by CAISO, largely as a result of nebulous and speculative comments of some of the stakeholders. CAISO does not describe any specific potential adverse outcomes, nor does it even adopt the "stakeholder comments" as its own conclusion. This is in contrast to the more fully reasoned positions it has taken on other proposals during the stakeholder process.[2] The decision seems especially flawed given that the principal measure being discussed was a change to the

1 "Impact of Convergence Bidding on Interties: Revised Straw Proposal", June 10, 2011 at pages 15-16. The Revised Straw Proposal included a change to settlement of HASP imbalances as well as a change to the allocation of the Real-Time Imbalance Energy Offset.

2 See, for example, "Price Inconsistency Caused by Intertie Constraints: Draft Final Proposal", May 18, 2011. Section 4.2 contains CAISO's extensive discussion of why its own "Option B" should not be adopted in light of the potential it identified for gaming.

existing rule for non-performing HASP awards. The existing rule is inconsistent with cost-causation principles, and creates an arbitrary distinction between non-performing IFM and HASP awards. The burden should be on those who seek to maintain the arbitrary settlement rule for non-performing HASP awards. Instead, applying well-established principles of cost causation appears to be dismissed as not "prudent" at this time.

Design flaws that fail to establish proper charges for non-performing physical awards can be – and should be – corrected without waiting to "be addressed as part of the redesign of the real-time market," which may be several years away. Powerex therefore renews the recommendations it made in its June 27, 2011 comments in this stakeholder process.

Powerex believes that a prudent course of action is for CAISO to seek approval from its board of directors to suspend convergence bidding on interties. However, the issue of whether to adopt additional measures to discourage implicit virtual bidding need not – and should not – be decided at the same time. Instead, Powerex recommends that CAISO continue to discuss proposals and concerns with stakeholders, and reach a more fully reasoned decision shortly thereafter.

1. Powerex supports suspension of convergence bidding on interties

Powerex supports the temporary suspension of explicit virtual bidding on interties. As it explained in its prior comments, Powerex believes that the primary purpose of explicit virtual bids is to improve the efficiency of the commitment and dispatch of physical resources. If this purpose is not being achieved, then it is appropriate to suspend explicit virtual bidding on the interties. Powerex therefore agrees with CAISO's comments in the Draft Final Proposal:

> The ISO does not believe it is appropriate to layer on virtual bids which can exacerbate current market design issues without improving market efficiency. If the physical settlement in the real-time market is resolved and results in a single clearing price of interties and internal supply/demand, then convergence bidding would lead to improved market efficiency.[3]

Powerex also believes that CAISO has properly identified intertie convergence bids as potentially leading to substantial revenue shortfalls when submitted as part of a balanced pair of internal and intertie convergence bids ("balanced virtual bidding"). Such a strategy allows participants to collect the persistent price differences observed between HASP and Real-Time Dispatch ("RTD") prices, while doing nothing to support convergence of those prices. The revenue shortfall arises from the two real-time settlement intervals – HASP for interties and RTD for internal nodes. As CAISO explains, "[i]f imports/exports and internal demand/generation were cleared in the same market, the divergence between HASP pricing and RTD pricing would not result in Real-Time Imbalance Energy Offset uplift costs."

Powerex participated extensively in the stakeholder processes conducted by CAISO related to convergence bidding on interties. During the stakeholder process, Powerex identified and proposed a solution to the fact that internal virtual bids are liquidated in the HASP market optimization rather than being held until RTD. This undermines the ability of virtual bids to converge prices between HASP and RTD. While recognizing that Powerex had correctly identified a design flaw, and that Powerex's proposed solution would correct this flaw, CAISO expressed concern that Powerex's proposed solution would hinder CAISO's ability to dispatch intertie resources and, hence, might jeopardize reliability in certain situations. Powerex defers to

[3] Draft Final Proposal, pg. 4.

CAISO the evaluation of operational matters affecting system reliability, and currently accepts CAISO's conclusion that the identified design flaw is not amenable to a satisfactory short-term remedy. In light of that conclusion, Powerex supports the recommendation that the activity that exploits the design flaw – that is, virtual bidding on interties – be suspended.

A related issue associated with convergence bidding on interties is the enforcement of the dual scheduling limits – for physical awards and for physical and virtual awards jointly. Mathematically, the dual constraints lead to dual shadow prices and, hence, dual locational marginal prices ("LMPs") at the interties – one applying to physical awards and one applying to virtual awards. In the stakeholder process dedicated to this specific issue, Powerex explained the various ways in which the use of dual LMPs could lead to participants having a rational incentive to submit convergence bids that could cause *divergence* of the physical LMPs, which is precisely the opposite of what is intended. On the other hand, designs that ignore the dual shadow prices are clearly second best, and involve compromises in terms of efficiency, complexity, or the potential creation of gaming opportunities. Where an efficient and practical improvement to the current design does not appear to be available without raising reliability concerns, Powerex supports the suspension of convergence bidding on the interties.

Powerex believes that CAISO has conducted multiple, extensive and comprehensive stakeholder consultations on the issues related to intertie convergence bidding. We concur with CAISO's evaluation that additional discussion is not likely to yield a satisfactory near-term solution to the identified issues. Therefore, Powerex supports CAISO's decision to seek approval from its board of directors to suspend convergence bidding on interties. Powerex reiterates that it is not opposed to convergence bidding on the interties in concept. If other market improvement efforts lead to a design in which intertie convergence bidding will satisfy the core objective of improving the efficiency of the commitment and dispatch of physical resources, without undesirable outcomes, then Powerex would support the re-introduction of the activity.

2. Additional measures are needed to address implicit virtual bidding

a. Non-performing physical awards are a root cause of price divergence

The core finding in CAISO's stakeholder process regarding the Real-Time Imbalance Energy Offset was that there existed a way to use convergence bids to collect the persistent price differences that exist between the HASP and the RTD. The elimination of *explicit* virtual bids on interties will reduce the ability of participants to capture these price differences. However, it will do nothing to address the underlying causes of price divergence that creates the opportunity in the first place.

It is Powerex's belief, therefore, that merely suspending *explicit* virtual bidding on the interties will not be sufficient to fully mitigate the concern regarding Real-Time Imbalance Energy Offset costs, as the underlying causes of price divergence are not being addressed. Moreover, the means will still exist for participants to arbitrage the HASP-RTD price spread using *implicit* virtual bids. The profits to the strategy may be reduced (as a result of suspending explicit virtual bidding on interties) but they will still exist, and the revenue shortfall from CAISO's dual real-time processes will continue to leave load and exports exposed to the shortfall.

Further, the use of implicit virtual bids (and more generally, non-performance of intertie awards) may be a primary cause of the underlying systemic price differences between the IFM, HASP and RTD. CAISO has recently reported that it has been biasing HASP dispatches by as much as a very substantial 4,500MW[4], partly to account for non-performance of HASP awards on interties. As CAISO is a large net importer during most of the year, IFM and/or HASP awards on the interties that fail to perform in RTD can be expected to typically have the impact of (a) depressing IFM prices;(b) depressing HASP prices; and (c) increasing RTD prices. Moreover, the impact to each subsequent market will be larger, as the same absolute volume of transactions represents a progressively larger fraction of the smaller real-time volumes. It is not surprising, therefore, that the CAISO experiences HASP prices that are systemically depressed relative to IFM prices, and RTD prices that are systemically higher than IFM or HASP prices.

In its June 27, 2011 comments, Powerex explained that there are a variety of ways in which participants can fail to perform on a physical award. These include the outright re-purchase of IFM awards in the HASP (where the participant lacked the physical ability to deliver), which Powerex termed "Type 1" implicit virtual bidding. Participants can also just fail to deliver in real-time, which Powerex termed "Type 2" implicit virtual bidding. Type 1 implicit virtual bidding will be subject to the existing IFM-HASP clawback, whereas a "Type 2" failure to deliver on an IFM award is currently only charged the RTD price. There is presently no clawback to prevent a non-performing IFM award from yielding a profit (*e.g.,* an IFM import award that does not perform will make money if the RTD price it is charged is less than the IFM price it received). Worse, Type 2 non-performing HASP awards are not charged the RTD price at all; they simply forego the initial HASP payment on non-performing quantities up to 10% of the participant's total monthly HASP volume (with supply and demand awards tracked separately). Beyond this 10% threshold, non-performing awards are subject to limited formula-based penalties.

Powerex had proposed that non-performing HASP awards be settled against the RTD price, as is currently done for non-performing IFM awards. This proposal would be similar to – though not as stringent as – the approach the New York Independent System Operator ("NYISO") takes with respect to "failed transactions." NYISO – which CAISO has identified as the RTO most relevant to itself – settles non-performing Day Ahead and Hour Ahead imports at the Real Time price. In addition, Powerex understands that NYISO charges participants a "financial impact charge" equal to the difference between the Hour Ahead indicative price and the Real Time price (if the Hour Ahead price was lower, and hence potentially suppressed relative to the Real Time price due, in part, to the import schedule that did not perform).Powerex believes that the CAISO should conduct a thorough review of the NYISO approach, with a view to adopting the same (or similar) measures, consistent with cost-causation principles.

b. CAISO has not justified its blanket rejection of additional measures

In the Draft Final Proposal, CAISO abruptly discarded the above proposal, as well as others that Powerex discussed in its June 27 comments, concluding that it would not be "prudent" to adopt *any* additional measures to discourage implicit virtual bidding. The only explanation given by CAISO is that some stakeholders said such measures "may have negative unintended consequences that could result in reduced liquidity at the interties." (Draft Final Proposal at page 10, emphasis added) CAISO does not expand on the "negative unintended consequences", nor does it even state that it shares the view that liquidity would be materially and adversely affected.

[4] "Weekly Market Update Call Meeting Minutes" July 14, 2011. See page 1 under heading "Summary on Weekly Performance Report".

The speculative and non-specific concerns over liquidity are somewhat ironic. The market activity that these stakeholders refer to is precisely the type of activity causing price divergence in the first place. It is self-evident that much of the "liquidity" that will be lost under rules against implicit virtual bidding will consist of participation that lacked the means to physically deliver on its awards. Moreover, flawed market rules invariably invite exploitation. The reduction or elimination of the exploiting activity is to be welcomed, not avoided. Activity *per se* is not the objective; the objective should be activity that contributes to the efficient commitment and dispatch of energy resources.

Powerex believes there is simply no evidence that making minor changes to the settlement rules to discourage implicit virtual bidding, consistent with NYISO and cost causation principles, will hamper any significant real liquidity. Rather, in our view, it will largely serve to eliminate the "phantom" supply that only serves to distort market prices and create profit opportunities for those engaging in the behavior.

Powerex is especially discouraged by the notion that the problem can be "addressed as part of the redesign of the real-time market." This market redesign is potentially several years away. Moreover, this is not merely an issue of "deviations," but of eliminating rules that can be deliberately exploited. As was revealed in a review of Congestion Revenue Rights ("CRR") for the first half of 2011, even obscure inefficiencies in market rules or design can be exploited, leading to millions of dollars in uplift charges in a single month.[5] Most perplexing to Powerex is that at least one proposal – to settle HASP imbalances at the RTD price – would simply treat awards in the HASP in the same manner as awards in the IFM (which, incidentally, has not been plagued by "reduced liquidity"). The burden should be on those who seek to maintain the existing rule. Instead, the notion of aligning the settlement of HASP imbalances with standard cost-causation principles appears to have been prematurely determined to be risky and deemed not "prudent."

Powerex urges CAISO to continue the discussion with stakeholders about measures to discourage implicit virtual bidding. This discussion is distinct from the suspension of convergence bidding at the interties, and it need not be concluded on the same timetable. CAISO should proceed to seek approval from its board to suspend convergence bidding at the interties, and should work to develop a more reasoned final proposal regarding measures to discourage implicit virtual bidding.

3. Conclusion

At the end of an extensive, multi-round stakeholder process on multiple associated issues, Powerex agrees with CAISO that the current market design flaws are not amenable to an efficient near-term solution. It therefore supports the suspension of convergence bidding on interties. This will permit CAISO and stakeholders to address the root causes of the issue, including its real-time market design, without draining resource to deal with the inevitable unforeseen consequences that patchwork fixes inevitably create.

[5] "Quarterly Market Performance CRR Report (Q1 and Q2)" July 29, 2011. See Tables 2 and 3 at pages 31 and 32, respectively, showing revenue inadequacy of $5 million in April 2011 at COTPISO and $2.5 million in May 2011 at New Melones.

Powerex is concerned, however, that CAISO's proposal does not include additional rules to prevent implicit virtual bidding. Non-performing physical awards can be used to exploit market design flaws, and CAISO should not wait several years for an improved market design to eliminate these practices. A productive stakeholder discussion on the need for and design of additional measures to discourage implicit virtual bidding was underway, and should continue even after CAISO proceeds with its proposal to suspend convergence bidding on interties. This continued stakeholder dialog will permit CAISO to develop a final proposal on this issue that is more fully explained and reasoned. The position in the Draft Final Proposal – based on speculative and non-specific claims that "liquidity" might be reduced, and therefore any new measures to discourage implicit virtual bidding would not be "prudent" – is simply inadequate.

Thank you for taking the time to consider Powerex's comments.