

FERC Order 764 Compliance 15-Minute Scheduling and Settlement Revised Straw Proposal

Submitted by	Company	Date Submitted
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Summary

Powerex is pleased to have this opportunity to provide these additional comments in response to the FERC Order 764 Compliance 15-Minute Scheduling and Settlement Revised Straw Proposal (“Revised Straw Proposal”) published on February 5, 2013.

Powerex is generally supportive of the direction that the CAISO is heading with respect to re-design of the physical real-time market, with some limited exceptions. Powerex is not, however, supportive of the concurrent reinstatement of convergence bidding on the interties as part of this initiative and strongly recommends the CAISO commence a separate stakeholder process on convergence bidding in CAISO markets.

Powerex has organized its comments on the Revised Straw Proposal into three general categories – *Supportive*; *Supportive with Modifications*; and *Not Supportive* – and offers further recommendations on additional design elements to consider.

Powerex’s Detailed Comments

Powerex is Supportive of:

1. *The aligned dispatch and settlement treatment of internal and intertie resources in real-time market, at 15-minute intervals.*

The disparate dispatch and settlement treatment of intertie and internal resources has been a significant cause of:

- Systemic price divergence between the 3 current ISO markets (IFM, HASP, and RTD);
- Real-time imbalance energy offset uplift charges; and
- Overall market inefficiency.

Order 764 paves the way for the CAISO to adopt an aligned 2-dispatch, 2-settlement design for interties and internal resources and Powerex generally agrees with the CAISO’s design in this regard (IFM hourly market and 15-minute real-time market).

2. The initial real-time timelines set forth for physical intertie bid submission, dispatch and scheduling.

The timelines set forth for physical intertie bid submission, dispatch and scheduling appear workable initially, but may need to be adjusted as practices evolve in the WECC. Powerex strongly urges the CAISO to take additional steps, as necessary, to remove any remaining discretion from participants to change either their quantity or prices associated with their bids after the Real-Time bid submission window closes, either directly or indirectly (i.e. through failures to deliver on physical awards).

- 3. The scheduling options for interties transactions, including:*
- a. Self-schedule and economic hourly block schedules;*
 - b. Economic hourly block schedules with single intra-hour curtailment;*
 - c. Economic bid with participation in 15-minute market, including flag to participate, or not, based on economically clearing the hourly process ;*
 - d. Self-scheduled variable energy resource; and*
 - e. Dynamic transfers.*

Powerex commends the CAISO for offering a myriad of flexible scheduling options that should go a long way towards increasing the intra-hour flexibility offered to the CAISO grid from the interties. While many non-VER intertie schedules may continue to hourly block schedule in the near term, the CAISO is sending a powerful and appropriate price signal to market participants to offer intra-hour flexibility on energy deliveries on the interties, through its suite of scheduling options, and applicable settlement treatment. Powerex also generally supports the CAISO's approach to intertie VER scheduling.

4. The CAISO's two options for determining schedule quantity for VERs on the interties, (participant versus CAISO forecast) with HASP decline charge applied to VERs that do not follow the CAISO's forecast and systemically over-state their output.

Powerex supports the CAISO's options for VER scheduling and commends the CAISO for identifying, and putting in place some initial disincentives, to discourage SCs from systemically over-stating their VER forecasts and inappropriately crowding out other resources. In Powerex's view, this activity is a form of implicit virtual bidding that must be carefully monitored on an ongoing basis to ensure that the HASP reversal charge is sufficient disincentive to discourage such activities. The CAISO may also wish to explore a review of the CRR clawback rule, in the context of the potential to use intertie VER schedules to engage in implicit virtual bidding, with the intent of improving the payoffs for CRRs.

5. Expanding the HASP decline charge to apply to all declines to physical schedules, including those that are initially IFM awards that subsequently clear the HASP process.

Powerex supports the CAISO's extension of the HASP decline charge to include all failures to deliver on 15-minute physical awards, as there is no reason to differentiate between physical awards that initially cleared the IFM and those that are new or incremental awards in the HASP or 15-minute dispatch processes. Powerex believes the HASP decline charge needs to be augmented with an additional monthly claw-back that ensures that entities cannot be net profitable on failures to perform across any month, as discussed further herein.

Powerex is Supportive, with Modifications, of:

6. *Addressing the dual pricing constraint issue by identifying in the CAISO's RUC run, which IFM physical intertie awards can be e-tagged Day, but only if the CAISO modifies its proposal to also require those awards to e-tag Day Ahead.*

Although it was described unclearly in the CAISO's Revised Straw Proposal, Powerex understands the CAISO intends to award in its RUC process a "right" to schedule certain IFM awards in the Day Ahead timeframe. Powerex understands this right will be based on selecting the most economic awards up to the physical intertie limit. Powerex finds this approach acceptable to this challenging problem, but with one significant modification: Powerex believes such right must be an obligation to e-tag physical awards.

In Powerex's view, allowing participants with an option to e-tag IFM awards in the Day Ahead timeframe may be a misguided effort by the CAISO to attempt to increase physical intertie liquidity, thereby lowering IFM clearing prices below the efficient market outcome. In effect, the CAISO's reluctance to institute a Day Ahead e-tagging requirement does little to increase real IFM physical liquidity but rather results in an undesirable co-mingling of (i) real physical supply with Day Ahead unit commitment behind it, and (ii) implicit virtual bidding and/or prospective real-time supply. It is imperative to proper functioning LMP markets that physical and virtual bidding activities be clearly delineated, both from a reliability perspective and a cost allocation/market efficiency perspective.

There are several reasons why Powerex recommends application of Day Ahead e-tagging obligation, consistent with efficient market outcomes. By allowing entities to sell energy in the IFM to the CAISO that it has not yet procured:

- The CAISO is undermining its own IFM RUC process. The primary purpose of the RUC process is to commit additional generation capacity to meet potential real-time demand. By allowing future prospective real-time supply (that implicitly has no Day Ahead capacity behind it) to be effectively recognized as firm physical supply in the CAISO's IFM market processes, the CAISO has presumably very little ability to predict how much IFM intertie supply may show up each hour. This not only prevents the CAISO's ability to accurately assess and procure sufficient RUC capacity to backstop failures to deliver on the interties, it prevents the CAISO from allocating such RUC costs to SCs bidding prospective real-time supply in the IFM, consistent with cost causation.
- The CAISO is sending a powerful disincentive to SCs with the ability to commit physical generation and transmission Day Ahead to stop incurring costs to do so, since such Day Ahead physical capacity commitment carries no CAISO settlement value and is not required under the CAISO's market rules. If all entities happen to react concurrently to this price signal (and rely on prospective real-time supply to meet their IFM awards) the CAISO may find itself without sufficient resources in real-time on the interties in any given hour, creating a reliability condition.
- By including prospective Real-Time supply in the IFM process, without procuring RUC capacity to backstop it, the CAISO is more susceptible to Real-Time price spikes, as inevitably some of this prospective Real-Time supply that has been relied upon Day Ahead will not show up, and no alternative generation capacity has been committed Day Ahead to make up the shortfall. Price spikes are a well-documented market efficiency concern in CAISO markets.

Fortunately, there exists a well-established and appropriate method for the CAISO to encourage increased inertia liquidity in the IFM market run, from prospective real-time supply, without these undesirable consequences. Specifically, this can be achieved through enabling and encouraging participants to submit inertia convergence supply bids in the IFM process, followed up by physical supply bids in real-time once the physical supply is actually procured and committed. This approach ensures that RUC capacity is sufficiently procured Day Ahead to backstop prospective real-time supply, with RUC costs applied to the SC submitting inertia convergence supply bids – an approach consistent with reliability objectives and cost causation.

Put another way, by providing SCs with the option to not e-tag physical inertia awards Day Ahead, the CAISO has essentially nullified any argument to reinstate inertia virtual bidding on the basis of enabling SCs a mechanism to hedge future Real-Time supply at the IFM clearing price..

7. *Not providing bid cost recovery or make whole payments for inertia resources that are not dispatched dynamically or in 15-minute intervals, except that:*
 - a. *The CAISO should eliminate the proposal for a make whole payment for inertias that are dispatched once in the hour; and*
 - b. *Include an hourly make whole payment for instructed inertia energy that follows CAISO's 15-minute or dynamic INC and DEC dispatches.*

Powerex believes the CAISO has generally taken the right approach by not providing bid cost recovery or make whole payments to the inertias. Powerex believes any bid cost guarantee or make whole payment to inertia awards (other than to those that are following either the CAISO's IFM hourly, or the CAISO's Real-Time 15-minute or dynamic dispatches) may cause substantial unintended consequences that would drive both RTIEO uplift and market inefficiencies. For this reason, Powerex does not agree that the CAISO should provide a bid cost guarantee or make whole payment to hourly block schedules that are dispatched down once in the hour, as proposed.

However, Powerex does support the CAISO respecting the bid price for inertia resources that follow either the CAISO's IFM hourly dispatch, or the CAISO's Real-Time 15-minute or dynamic dispatches, as such entities are following the dispatch instruction of the CAISO's core 2-dispatch, 2-settlement framework. Providing hourly bid cost recovery or make whole payments to such resources is both just and reasonable, and, should avoid any substantial unintended consequences.

Powerex is not Supportive of:

8. *The concurrent reinstatement of convergence bidding on the inertias, or as an item included in this initiative.*

While Powerex continues to be supportive of convergence bidding in concept, Powerex does not support the reinstatement of convergence bidding on the inertias at this time, nor do we feel it as an issue that should be tackled as part of this stakeholder initiative, for several reasons.

First, Powerex views it as imprudent to make wholesale changes to the CAISO's real-time market design as proposed, and then implement convergence bidding on the inertias at the

same time. The new real-time market will inevitably take some time to stabilize and therefore adjustments to the rules may be necessary. Applying a powerful financial instrument like convergence bidding at the same time as making a wholesale real-time market redesign is both unnecessary and imprudent, and has a high potential for unintended outcomes.

Second, Powerex believes there are numerous other issues related to convergence bidding on the interties, and related to convergence bidding more generally, which have not been thoroughly discussed in this stakeholder process, but do fully warrant a separate and distinct stakeholder process. These issues include, but are not limited to:

- A review and analysis of how the new real-time market design will, or will not, sufficiently address, with confidence, the market inefficiency and uplift problems associated previously with convergence bidding on the interties.
- The significant congestion-related uplift that is systemically being paid out to internal convergence bidding activity, at the expense of metered demand, may or may not be extended to, and exacerbated by, intertie convergence bidding activity.
- The CRR clawback rule design as it applies to the interties, and the potential for SCs to inflate the value of their CRRs through intertie convergence bids in the same direction as CRRs.
- The need for separation of physical from implicit virtual bidding activities, including consideration of redefining and enforcing CAISO energy product types on the interties, including consideration of the treatment of intertie convergence awards.
- The identification and appropriate settlement of physical IFM intertie awards with day ahead unit commitment from those without, and implications for the CAISO's RUC process.

Third, Powerex believes the re-design of real-time market, to a 2-dispatch, 2-settlement framework largely nullifies the potential market efficiency benefits of convergence bidding on the interties. At a high level, convergence bidding can theoretically provide the following primary benefits:

1. Drive a more efficient IFM physical dispatch and commitment process through the convergence of:
 - a. IFM and real-time LMP *energy* price components (i.e. SMEC); and
 - b. IFM and real-time LMP *congestion* price components.
2. Provide a hedging mechanism for future real-time supply to lock-in IFM prices.

However, it is important to note, that under the new Real-Time market design, there are only 2 SMECs to converge, IFM and Real-Time. Since this SMEC convergence objective can be entirely achieved from internal convergence bidding (including at either the zonal or nodal level), intertie convergence bidding affords negligible improvement potential to SMEC price convergence.

In addition, since the CAISO continues to allow prospective Real-Time supply to lock-in the IFM price through the submission of IFM physical bids that are not required to e-tag until

real-Time, it also cannot be successfully argued that intertie convergence bidding will allow any new hedging opportunities for prospective Real-Time supply on the interties. Quite simply, intertie convergence supply bidding is the more expensive of the two available methods for an SC to lock-in IFM prices for prospective Real-Time supply (as virtual bids are allocated RUC costs).

Therefore, the only *potential* benefit to enabling intertie convergence bidding is to enable the convergence of intertie *congestion* between the IFM and Real-Time markets. Given the undisputable poor performance of internal convergence bids to successfully converge internal congestion, and the tremendous uplift associated with such activities at the expense of metered demand, there is no obvious reason to expect that intertie convergence bidding will somehow better achieve such congestion convergence objectives, and do so without similar unintended and costly consequences. Moreover, the CAISO has provided no evidence of the existence or magnitude of intertie congestion divergence that it hopes to improve. Given this, it is simply imprudent to expand convergence bidding to the interties without substantively more stakeholder engagement and discussion.

9. Limiting physical energy schedules in the financially binding 15-minute market to the highest single 15-minute interval from the hourly process.

Powerex sees no reason to limit physical energy schedules that can respond either dynamically or to 15-minute dispatches to less than the amount of energy that the CAISO can accommodate at the time of dispatch (from a transmission and scheduling perspective). Limiting 15-minute dispatches on the interties to some quantity determined in the hourly process unnecessarily restricts the CAISO from accessing dispatchable resources on the interties during positive or negative price spikes that were not forecasted in the hourly process.

Powerex further recommends the CAISO

10. Apply a monthly clawback to any net profits from uninstructed deviations to dispatch to ensure entities are not systemically profitable from failures to perform on physical dispatches.

Powerex recommends that the CAISO apply a monthly “worse-of” settlement rule that ensures that SCs will not receive net profit, over the course of a month, from failing to perform on their physical awards. This clawback would augment the HASP decline settlement charge, and be based on comparing the entities uninstructed deviations settlement price to the award settlement price, and subtracting any HASP reversal charges, thereby only clawing back monthly net profits. This additional clawback will help ensure that failures to perform are not deliberate with the intent of arbitraging CAISO prices (through implicit virtual bidding activities) at the expense of market efficiency and/or interruption to other participants schedules.

11. Commence a separate stakeholder process to discuss, in greater detail, potential modifications to convergence bidding in CAISO markets, including exploring the benefits and costs of:
 - a. Continuing with existing internal nodal convergence bidding framework without convergence bidding on the interties;
 - b. Expanding the existing internal nodal convergence bidding framework to include convergence bidding on the interties; or

- c. Retreating to an internal zonal convergence bidding framework.

As described in (8) above, Powerex believes that:

- (i) there are numerous issues associated with convergence bidding on the interties, and with convergence bidding more generally in CAISO markets, that require further stakeholder engagement and discussion; and
- (ii) there are systemic uplift and unintended outcomes more specifically related to congestion-related convergence bidding that requires further stakeholder engagement and discussion.

For these reasons, Powerex strongly recommends that the CAISO commence a new stakeholder process on convergence bidding with a view to considering the three options described above. During this engagement, the CAISO should evaluate whether convergence bidding activities should be more narrowly implemented only at a zonal level. Such an approach would be intended to converge only the energy component of LMPs and congestion between CAISO zones. In other words, the CAISO should evaluate whether the benefits of nodal and/or intertie convergence bidding to further converge the congestion component of LMPs at a more granular level than zonal outweigh the potential unintended costs.

12. Add to the CAISO's upcoming iDAM stakeholder process a discussion of RUC on the interties, including:

- a. Participation of the intertie resources in the CAISO's IFM RUC process; and
- b. Identification of IFM physical awards with unit commitment, from those without, including appropriate cost allocation.

Powerex believes the issue of Day-Ahead unit commitment on the interties needs to be more thoroughly discussed, including the interaction with convergence bidding on the interties. Powerex believes the CAISO needs to identify, and differentiate, IFM intertie awards that include physical unit commitment from those that do not, to ensure settlements are consistent with cost causation. As well, intertie resources may be able to more broadly provide standalone RUC capacity to backstop forecasted shortfalls in physical supply relative to expected demand, as well as virtual supply activity.

13. Commence a stakeholder process (or include in a new convergence bidding stakeholder process) to review the CRR claw-back design, with a view to reducing:

- a. False negatives that may be allowing entities to increase the value of CRRs through virtual bidding activities that avoid the clawback as currently applied; and
- b. False positives which may be substantially discouraging physical DEC liquidity from intertie resources where the SC clearly is not able to benefit from increased congestion on the respective path.

Powerex repeats its request to commence discussions on the CRR clawback rule. In Powerex's view, there is a need to improve upon the CRR clawback rule with goal of eliminated false negatives, which distort efficient market clearing prices, and false positives, which limit real physical liquidity.

14. Commencing a separate stakeholder process to CAISO redefine energy product types, that are consistent with:

- a. The amendments made in the Order 764 stakeholder process related to VERs;

- b. The appropriate identification and differentiation of physical awards that are:
 - i. supported with Day Ahead unit commitment versus those that are not; and
 - ii. supported with sufficient capacity intra-hour to prevent reductions outside of CAISO economic dispatch versus those that are not.
- c. The fundamental principles of cost causation and efficient price signals.
- d. The CAISO's ability and willingness to enforce CAISO energy product types.

The CAISO currently has 3 energy product types that are increasingly outdated, and to the best of Powerex's knowledge, largely undefined and unenforced by the CAISO, even though they carry disparate settlement treatments. Powerex highly recommends that the CAISO re-design its energy product types, into the following types:

Firm energy – delivery will only be reduced due to:

- Unforeseen transmission curtailment.

Unit contingent energy – delivery will only be reduced due to:

- Unforeseen transmission curtailment, or
- A qualifying contingency event that allows the CAISO to deploy its contingency reserve pool.

Variable resource contingent energy – delivery may be reduced or increased due to due to:

- Unforeseen transmission curtailment,
- A qualifying contingency event that allows the CAISO to deploy its contingency reserve pool, or
- Forecasted change in output of the resource outside of the participants' control or discretion.

Non-Firm energy – delivery can be reduced for any reason.

Clarity on the intra-hour generation capacity provided by different types of intertie resources, and appropriate settlement treatment consistent with cost causation, are essential to the reliable and efficient operation of the CAISO grid and western wholesale energy markets.