

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

Submitted by	Company	Date Submitted
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Powerex is pleased to have this opportunity to provide comments in response to the FERC Order 764 Compliance 15-Minute Scheduling and Settlement Straw Proposal (“Straw Proposal”) posted on October 23, 2012. As stated in previous comments in the Settlement of Interties in Real-Time Stakeholder Process, Powerex believes that the CAISO’s current real-time market contains substantive design flaws that:

- a) Drive systemic price divergence between the IFM, HASP and RTD settlement prices;
- b) Drive large real-time imbalance energy offset uplift charges; and
- c) Results in numerous market inefficiencies and unintended consequences.

Powerex believes that it is clear that the disparate dispatch and settlement treatment of interties and internal resources in real-time is at the core of these problems. Accordingly, Powerex believes it is essential that the CAISO re-design its markets to align the dispatch and settlement treatment of intertie and internal resources, under either a 3-settlement or 2-settlement framework. In comparison, a 2-settlement framework is significantly less complex than a 3 settlement framework and has been applied in numerous eastern ISOs, while a 3-settlement framework would be unprecedented. However, a 3-settlement framework may be preferable under circumstances whereby interties cannot be predominantly dispatched at the same time as internal resources in real-time. Fortunately, the recent issuance of Order 764 requiring the CAISO, and external transmission providers, to offer 15-minute scheduling paves the way for the CAISO to adopt the more proven and less complex 2-settlement framework. This would allow intertie and internal resources to be dispatched and settled in 15-minute increments in real-time. Powerex therefore strongly supports the CAISO’s proposal to re-design its real-time market towards a single 15-minute dispatch and unified settlement prices for all resources.

While the timeline for this compliance filing is aggressive, Powerex does not foresee any major impediments to addressing the issues set out in the Straw Proposal, as well as additional issues that Powerex believes must be addressed as part of this comprehensive re-design. As an introductory remark, Powerex supports many of the design elements contained in the Straw Proposal, but requires more details in order to thoroughly evaluate each element. Powerex offers the following preliminary comments on each issue.

## **Hourly Process and Real-Time Bid Submission**

While Powerex sees no significant issues with the timeline of the hourly and intra-hour processes, Powerex asks the CAISO to provide more detail on how the market optimization will

determine hourly transmission awards, hourly energy schedules, and 15 minute energy schedules (all within the framework of financially binding DA energy and AS awards).

Powerex would appreciate the CAISO posting examples of INC, DEC, and incremental import and export bids, and how they will be treated in the real-time optimization process.

Powerex also believes that the CAISO should consider accepting the following intertie energy bids:

- 1) Self-schedules or economic bids that will be dispatched for the entire hour;
- 2) Economic bids that may be dispatched each 15 minutes; and
- 3) Economic bids that may be dispatched each 5 minutes (i.e., dynamic resources).

Powerex believes the addition of a flag that specifies whether the resource can be dispatched in 5-minute increments, 15-minute increments or for the entire hour could facilitate this framework. In each of these three circumstances, Powerex supports the CAISO's design to settle at the applicable price determined each 15-minutes, without make whole payments.

### **Hourly Transmission Capacity**

Powerex requires significantly more details on the proposed hourly transmission capacity framework, as it is not clear to Powerex:

- a) What objectives the CAISO is trying to achieve via awarding explicit CAISO transmission rights in real-time;
- b) How these transmission rights facilitate hourly e-tagging of transmission necessary for energy awards in the first interval, as well as incremental energy awards (imports or exports) that may be awarded in subsequent intervals; and
- c) How these transmission rights will align with e-tagging requirements in neighboring jurisdictions.

Powerex is concerned that the CAISO's approach may have the unintended consequence of unnecessarily reducing the availability of intertie resources to deliver intra-hour energy, via unnecessarily limiting the ability to e-tag transmission prior to the hour for all intervals.

Powerex believes the need for CAISO to implicitly or explicitly award incremental hourly intertie transmission rights in real-time, should be for the sole purpose of deciding which e-tags to curtail - in the limited circumstances where the CAISO has total implemented e-tags at its hourly check-out process with greater scheduled transmission rights than available CAISO transmission capacity for any 15-minute interval. Powerex believes the CAISO should consider the following approach:

1. Accept and approve all e-tags that have transmission profiles that do not exceed the resource's respective energy bids, independent of whether or not such resources have energy awards in the first 15-minute interval; and
2. If the CAISO has aggregate e-tagged transmission profiles which exceed the CAISO's available transmission in any 15-minute interval, as determined at the

hourly check-out process, the CAISO reduces those e-tags which have transmission profiles that exceed the energy award quantity in the first 15-minute interval, based on the least economic, first-out principle.

This approach will ensure that the CAISO accepts the maximum e-tagged transmission possible, thereby enabling energy dispatches in future intervals, while at the same time not pro-rata curtailing e-tagged energy awards in the first interval to enable potential energy awards in a future interval from a different resource that may or may not be dispatched. It is essential that the CAISO allow resources that may be called upon to deliver energy in a future interval to e-tag their transmission profile prior to the hourly check-out process, as necessary on neighboring transmission systems, provided such transmission profile does not cause the CAISO to exceed CAISO transmission limits.

This approach is also consistent with the CAISO's current approach to e-tagging dynamically scheduled intertie resources. Any requirement to acquire limited CAISO transmission rights prior to submitting e-tags will create substantive seams issues and has the likely undesirable outcome of broadly restricting participants' ability to provide 15-minute energy in future intervals and/or to provide dynamically dispatched energy. Powerex does not fully understand, nor see the need for, the more comprehensive CAISO real-time transmission product as outlined in the Straw Proposal, but looks forward to future discussions on the topic.

### **Hourly Energy Schedules**

As previously described, Powerex believes the CAISO should:

- a) Reconsider its transmission framework as discussed above; and
- b) Allow entities to submit either economic bids or self-schedules, with a flag that indicates the resource must be dispatched for the entire hour, may be dispatched in 15-minute intervals, or may be dispatched in 5 minute intervals (i.e. dynamic resources). The CAISO would evaluate those resource bids that are flagged hourly dispatch against the expected average hourly price, and dispatch accordingly. However, Powerex agrees with the CAISO that no make whole payment should be made as this would drive uplift costs, and lead to other unintended consequences.

### **Participation in 15-Minute Market and RTD**

Powerex has both confusion and concerns with the CAISO's description of bidding and energy dispatch. Powerex believes the CAISO should allow resources to bid as described above, and should accept e-tags for all associated bids, up to CAISO transmission limits, without the need to develop a separate transmission product.

Powerex supports the CAISO in restricting the ability for any resource to changes its price or quantity after the hourly bidding timeline, except to the extent that a change in quantity is necessary due to a change in the physical capability of the resource. To this end, Powerex believes the CAISO must re-define and enforce three separate energy product types:

- 1) Firm energy – delivery will only be reduced due to
  - a. Transmission curtailment.
- 2) Unit contingent energy – delivery will only be reduced due to

- a. Transmission curtailment, or
  - b. A qualifying contingency event that allows the CAISO to deploy its contingency reserve pool.
- 3) Variable resource contingent energy – energy may be reduced or increased due to:
- a. Transmission curtailment,
  - b. A qualifying contingency event that allows the CAISO to deploy its contingency reserve pool, or
  - c. Forecasted change in output of the resource outside of participants' control or discretion.

It is imperative that the CAISO not design its market to allow for intertie deliveries that may be changed at the participants' discretion after the close of the hourly bidding deadline, without ensuring that the participant bears the full cost to the market of such changes. More specifically, providing a discretionary opportunity to change delivery quantity after the bidding window has closed creates very troublesome opportunities for participants to change their delivery quantities based on their own portfolio's net position and prevailing CAISO real-time prices, which can have both substantive market efficiency and reliability consequences. Therefore, Powerex strongly recommends that sufficient clarity on energy product types as well as sufficient enforcement measures be instituted, including appropriate incentives for failures to deliver as later discussed.

In addition, Powerex strongly recommends that entities wishing to deliver variable resource contingent energy (i.e., for VERs whereby the source Balancing Authority is not carrying sufficient balancing and/or contingency reserves to meet the Firm or Unit Contingent requirements), should be required to submit updated 15-minute quantities based solely on the CAISO's forecasted change to the resources output.

### **15-Minute Market Process**

Powerex generally supports the description of CAISO's 15-minute market process, but looks forward to further discussions on this topic.

### **Settlement with 15-Minute Market**

Powerex is in general agreement with CAISO in settling all instructed energy (based on instructed deviations from IFM award) at the applicable 15-minute or 5-minute price. Powerex understands that the 15-minute price will be a weighted average of the 5-minute price and that both the 15-minute and 5-minute prices will therefore be determined in the same LMP optimization processes, negating uplift concerns between these two settlement prices. Powerex requests that the CAISO clarify if this understanding is incorrect. Powerex also requires more details, with examples, on how specific transactions will be settled.

With respect to uninstructed deviations, Powerex believes the CAISO needs to settle real-time quantity changes that occur for acceptable reasons, as set forth in the energy products described above, at the applicable 15-minute or 5-minute price, without any additional penalty. Powerex believes it is imperative that uninstructed deviations that occur for reasons outside

those defined under the applicable energy product type receive pricing that effectively discourages such behavior. Perhaps the worse-of the 5-minute, 15-minute or IFM price should be applied to any such deviations, ensuring that such failures are not profitable. Powerex believes that poorly defined or enforced energy product types, and/or insufficient incentives to encourage delivery on physical awards, will continue to cause unintended consequences in CAISO markets including increased uplift charges to metered demand due to physical re-dispatch in real-time, and systemic price divergence, with the potential for reliability consequences.

### **Variable Energy Resources**

Powerex believes that clearly defining and enforcing energy product types; limiting the ability of VERs to change schedules to any level other than the CAISO's forecast of VER output; and applying appropriate settlement treatment at the applicable LMP, as described above, will provide an efficient framework for VER imports to schedule in the IFM and real-time markets. This framework will allow VERs the option of either acquiring sufficient balancing and/or contingency reserves from the source balancing authority (and thus treated as a firm energy resource), or acquiring sufficient balancing and/or contingency reserves from the CAISO (and appropriately treated as variable resource contingent energy resource).

While all energy product types should receive similar treatment from an energy perspective (i.e. receiving the quantity delivered times the applicable LMP price), different energy product type alternatives should be treated distinctly from a capacity perspective. More specifically, VERs that are sufficiently balanced by the source balancing authority and scheduled as firm energy resources should not be allocated additional CAISO contingency reserve costs or flexi-ramp costs whereas as VERs scheduled as variable resource contingent energy resources should be allocated additional contingency reserve costs and flexi-ramps costs consistent with cost causation. Further, firm energy imports scheduled in the IFM, including VER energy, should not be exposed to RUC costs, whereas as VERs scheduled in the IFM as variable resource contingent energy should be exposed to appropriate RUC costs, again consistent with cost causation.

Powerex believes further discussion is necessary on whether VER imports should be able to change schedule quantities in 15-minute increments versus 5-minute increments, as well as how to address changes in VER imports when there is insufficient available transmission capacity to accommodate such changes without displacing other resources.

### **Flexible Ramping Product**

Powerex requires further details and discussion on the flexible ramping product and will make comments in the separate FRP stakeholder process.

### **Convergence Bidding**

Powerex supports the CAISO's approach to settle all convergence bids, both internal and interties, at the applicable IFM and 15-minute market LMP.

Powerex believes the 2-settlement framework should enable the CAISO to efficiently re-implement intertie convergence bidding, but with some caveats.

First, Powerex believes the CAISO must recognize that substantive changes to its RUC process, including increased cost allocation to virtual bidders consistent with cost causation, will

be necessary. Specifically, Powerex believes the CAISO must extend its IFM RUC process to include both the current “INC” RUC product as well as a new “DEC” RUC product. Powerex also believes the CAISO must extend its RUC product to include qualifying resources on the interties. This expansion of the CAISO’s RUC products will enable CAISO operators to have sufficient real-time INC and DEC bids as conditions warrant, thereby prevent the need to “skew” real-time intertie dispatches to create desired INC or DEC flexibility for reliability purposes intra-hour. Such operator skewing of intertie dispatched in an LMP market, particularly one with convergence bidding, inevitably causes substantive market inefficiencies. In today’s design, this LMP outcome “skewing” manifests itself in large uplift charges to load as a result of physical intertie dispatches in one direction and subsequent physical internal dispatches in the other direction, as well as systemic convergence bidding profits, with both activities funded by uplift charges to metered demand. Under the proposed 2-settlement framework, such operator “skewing” is likely to manifest itself differently, but with similar troubling consequences to market efficiency. Specifically, operator skewing will lead to intertie resources that must be scheduled hourly, settling at prices that are systemically inconsistent with their bid price, resulting in reduced liquidity on the interties and/or other unintended consequences, as participants respond to the distorted price signals.

Second, Powerex believes that the CAISO must quickly remove any convergence bidding position limits on the intertie to enable the market to efficiently respond to anomalous pricing outcomes that may occur on any particular intertie.

Third, Powerex believes that the CAISO must address the dual pricing constraint in a manner that is symmetric in pricing, and treats virtual and physical bids as fully fungible. Powerex strongly opposes Option A for these reasons as set forth in more detail in the previous stakeholder process. Powerex is open to the concept of a Day Ahead E-tag Approval limit (provided such e-tags that are *allowed* to e-tag are *required* to e-tag) but believes the modified approach set forth by Powerex in the previous stakeholder process should be further evaluated and discussed.

Fourth, Powerex urges the CAISO to remove the option for participants to delay e-tagging physical IFM awards until real-time as this tacitly encourages implicit virtual bidding activities. By encouraging such activities, Powerex believes the CAISO is inadvertently sidestepping its own RUC process. It is widely accepted in LMP markets that future real-time supply can “lock-in” the IFM price, as well as compete in the IFM markets, via the combination of a virtual supply award and a real-time physical award. Such an approach settles at the IFM price less appropriate RUC charges - which is effectively the reliability cost of backstopping prospective real-time supply that may not show up. It is both inefficient and potentially dangerous from a reliability perspective, to continue to allow such prospective real-time supply to compete directly in the IFM market as physical supply, thereby sidestepping the CAISO’s RUC process and applicable charges.

Fifth, Powerex strongly urges the CAISO to take a fresh look at the CRR clawback rule. Powerex believes the current CRR clawback rule can be materially improved, reducing both false negatives which distort energy prices for all market participants, as well as false positives which unnecessarily limit physical liquidity on the interties.

In summary, Powerex believes the CAISO is on the right track with its efforts towards a 2-settlement market design and looks forward to further discussions on the many important details.