

Stakeholder Comments

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

Submitted by	Company	Date Submitted
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Southern California Edison (SCE) appreciates the opportunity to comment on the California Independent System Operator (CAISO) Revised Straw Proposal¹ on the Federal Energy Regulatory Commission (Commission) Order 764. SCE comments do not relate to or address Flexible Ramping Product (FRP). Order 764 is an independent stakeholder process and not the right forum for FRP.

SCE is generally supportive of the CAISO’s proposal to move to 15-minute markets. However, Intertie Convergence Bidding (ICB) is out of scope of Order 764 requirements. The CAISO should run the Order 764 proposal as a standalone proposal that only serves Order 764 requirements and address the real-time settlements of internal Convergence Bids. The CAISO should address ICB in a separate process. The Commission’s Order 764 specifically mandates 15 minute scheduling and meteorological data provision². ICB is not part of that mandate. Ignoring the lack of a supporting mandate, the proposal to reintroduce ICB is not justifiable even on its own without first addressing much more severe uplift issues noted below. SCE does not oppose the CAISO continuing the ICB process separately, even along a parallel timeline. SCE opposes the inclusion of ICB with the Commission’s Order 764 mandated process. Finally, the market has not yet experienced 15 minute scheduling. Until the more granular scheduling option is tested, ICB should not be considered. Any conception of ICB should only occur after the 15 minute market has performed for a while and the CAISO has had sufficient time to deal with any unforeseen issues. SCE suggests that, at a minimum, the CAISO treat 764 and ICB as two separate issues for both Board approval, and for separate filings at the Commission.

As such, Section I of our comments pertains to 764 issues and the move to 15-minute markets, while Section II pertains to issues related to ICB and uplift issues that must be addressed.

I. Comments on Order 764

1. SCE opposes the proposal for BCR for DA adjustments.

- a. The CAISO has not demonstrated the rationale for paying uplift to a party that elects an intra-hour curtailment option*

¹ <http://www.aiso.com/Documents/RevisedStrawProposal-FERCOrderNo764Compliance.pdf>

² Final Rule re the Integration of Variable Energy Resources under RM10-11. June 22, 2012. Docket RM10-11. <http://elibrary.ferc.gov/idmws/common/OpenNat.asp?fileID=13013217>

In general, SCE objects to any new proposal that creates yet another source of uplift. SCE is concerned with the proposal of an inefficient option which is unnecessary given the presence of market alternatives. With the options for economic bidding in the hourly block process as well as true 15 minute market participation, why does the CAISO want to encourage parties to use the intra-hour curtailment option by providing uplift as an incentive? The CAISO must justify why it proposes the sub-optimal alternative of intra-hour curtailment, in particular when it goes against everything else they are trying to accomplish (i.e. a migration to 15-minute participation) in the rest of the proposal.

b. Transfer of risk goes against Order 764

Risk is commensurate with payoff. A 15 minute scheduling option with potentially greater payoff would also bear the risk appropriate for that option. Any attempt to “mitigate” such risk can only be through a transfer of risk to another market participant – and in this case the CAISO would once again shift both risks and costs to load. SCE believes this would be to the overall detriment of market efficiency. Parties will be more willing to engage in risky practices if they know they won’t have to pay for their mistakes – thereby distorting market signals and economic behavior. Undermining market efficiency benefits goes against Order 764 and, asking load to subsidize inefficient designs is unjust and unreasonable.

c. Market participation negates the need for BCR

SCE opposes the proposal to provide Bid Cost Recovery (BCR) to hourly curtailed participants³. A participant can fully mitigate this risk by participating on a 15-minute basis, or simply maintaining the DA schedule. If concerned, a participant can address the risk by incorporating the risk in to their hourly-block or hourly-single-curtailment bid price. There is no justification to provide BCR given these key facts and the market options available. Resorting to unnecessary out-of-market payment options in the presence of market alternative is unwarranted and in our view, unacceptable.

2. The CAISO should apply the Hourly Block Process Decline Charge to 15 minute market participants that do not deliver. The rules for internal resources should be consistent with those applied to external resources.

a. Either Worse-of pricing or Decline charge must be used and applied consistently for all resources, external or internal

A Scheduling Coordinator (SC) that chooses to participate in the 15 minute market and not deliver is engaging in an implicit convergence bid to speculate between the 15 minute and the 5 minute prices. As the CAISO clarified that its position is to not allow convergence bidding between 15 and 5 minute prices, it should, at a minimum, apply the Decline charge to any SC participating in the 15 minute market that does not deliver on its schedule. Even this will not prevent implicit convergence bidding, but it will likely limit the magnitude of the practice.

Moreover, the CAISO should adopt symmetric rules for internal generation, such that uninstructed internal generation deviations from the 15-minute schedule face analogous penalties.

Finally, the Decline charge should also apply to “one-per-hour” curtailments that are not followed.

b. Worse-of pricing may be a superior alternative to a decline charge

³ Section 5.2.2. <http://www.caiso.com/Documents/RevisedStrawProposal-FERCOrderNo764Compliance.pdf>

We continue to encourage the CAISO to simply adopt “worse-of pricing” such that any uninstructed deviation from the 15-minute schedule/dispatch will never be rewarded by a beneficial 5-minute price. The decline charge may not prove effective, particularly in an environment where flexibility may become increasingly scarce. Compliance with CAISO instructions may become increasingly crucial to ensure 15-minute prices correlate with 5-minute prices, that the optimization has reliable inputs when looking forward, and for correct price formation of energy and flexibility products. With a delicate balance needed to ensure efficient and effective market functioning, there are too many factors that can upset such a balance by relying excessively on an incompletely defined rule.

c. Worse-of pricing eliminates incentives for implicit convergence bidding

Without worse-of pricing, an import or an internal resource can choose to implicitly bid between 15 and 5 minute prices. Under the CAISO’s proposal uninstructed deviations settle between 15 and 5 minute prices, this enables such implicit bidding behavior. A party could choose to deviate partially or completely from its 15 minute schedule and thereby secure an implicit bid between 15 and 5 minute space. It could even profit from not obeying CAISO instruction. As this is contrary to the CAISO proposal to only allow convergence bidding between the DA and 15 min markets, the CAISO can address this by simply adopting worse-of pricing and removing all incentives for such behavior.

d. In addition to implementing rules consistently, uplift caused by Uninstructed Deviations should be allocated to the deviators

The CAISO should also address the case where uninstructed deviations lead to uplifts. Consider the following example focusing only on the RT market:

15-minute space: The CAISO runs the 15-minute optimization and forecasts an incremental 100 MW for load. It procures 100 MW from Gen A in the 15-minute market. Gen A is paid \$30/MWh.

5-minute space: The CAISO forecast is correct. Gen B provides 100 MW uninstructed. Gen A provides the 100 MW instructed from the 15-minute market award. The CAISO has to dec down Gen A 100 MW due to Gen B uninstructed. The excess supply from Gen B results in the Locational Marginal Price (LMP) dropping to \$25.

Gen A is made to dec down 100 MW from its 15-minute award. Thus Gen A was paid \$30 and paid the CAISO \$25 to dec down resulting in $100(\$5) = \500 uplift.

Gen B is paid $100(\$25) = \2500 for producing energy.

The total cost of these transactions is \$3000 which is charged to load. Thereby load is charged \$30/MWh for the 100 MW incremental transaction.

1. \$30 is not the appropriate 15-minute price – The only reason Gen B would generate is if its costs are below \$25 since it knows it will only be paid \$25. Thus, it withheld supply from the 15-minute market.
2. Load is overcharged – Gen B economically withheld its supply from the 15-minute market. If it had not done so, the price would have been \$25/MWh since its costs are lower than \$25/MWh and it would have bid competitively. Thus, \$25/MWh is what load would have been charged instead of \$30/MWh.

Thus, the only outcome of this situation should be that the CAISO should allocate the \$500 uplift to the uninstructed generation deviation. The effective price the Gen B then gets paid is \$2000 for 100 MW or \$20/MWh. Gen B could avoid this uplift if it simply follows CAISO instructions.

3. **SCE opposes the Participating Intermittent Resource Program (PIRP) continuing in any form that creates uplifts.**

a. PIRP in its current form is contrary to Order 764

Order 764 mandates changes on an immense scale to allow Variable Energy Resources (VER) more granular scheduling, and, in conjunction with relevant meteorological data usage, enables effective VER participation in Real Time. To expect such structural changes in the market and still have programs like PIRP subsidies to continue, in any form that creates uplift (e.g., monthly netting of deviations cleared at a monthly average price), goes against the spirit of the Order and cannot be justified in light of the major changes proposed to help mitigate risks to VERs. Further, any PIRP continuation is counterproductive toward enhanced efficiency provided by Order 764 and potentially opposes the goal of the mandate.

b. Grandfathering should be a last resort

With that said, if rule changes would create demonstrated hardships to particular counterparties, SCE would be open to limited forms of grandfathering to prevent this hardship. First, explicit metrics for grandfathering eligibility need to be defined⁴. Second, SCE recommends that the CAISO consider rules such that only those VERs who are in PIRP at the time the Commission approves the CAISO proposal would be eligible to pursue grandfathering⁵. This rule provides greater certainty to the CAISO as to the quantity of PIRP resources it should expect in the future until the phase-out is completed. Finally, any grandfathering would have to be very limited and sunset as soon as practicable. Otherwise, grandfathering defeats the purpose of increasing the set of economically bidding resources and potentially threatens grid reliability⁶.

4. The CAISO should explore the feasibility of 2.5 minutes for updated e-tags.

SCE has concerns about the impact on operations of the proposed 2.5 minute timeframe for submission of updated e-tags. SCE instead proposes a 5 minute timeframe for tag submission which is more practical to allow operational feasibility. We would hope the CAISO could “make up” for this by shortening the market run-time.

II. Comments on Intertie Convergence Bidding

a. The CAISO must immediately resolve the excessive uplift created by Convergence Bids

Internal Convergence Bids now exploit internal congestion⁷, causing more than half the uplift from Real Time Congestion in 2012 as observed by the Department of Market Monitoring (DMM)⁸. Convergence Bidding driven Real Time Congestion Offset (RTCO) is even more clearly emphasized by the CAISO as shown in the included figure⁹.

⁴ http://www.caiso.com/Documents/SCEComments-RenewableIntegrationMarketandProductReviewPhase1_SecondRevisedStrawProposal.pdf

⁵ <http://www.caiso.com/Documents/SCECommentsonRI-MPRPhase1RevisedStrawProposal.pdf>

⁶ http://www.caiso.com/Documents/SCE_Comments_RenewableIntegrationMarket-ProductReviewPhase1ThirdRevisedStrawProposal.pdf

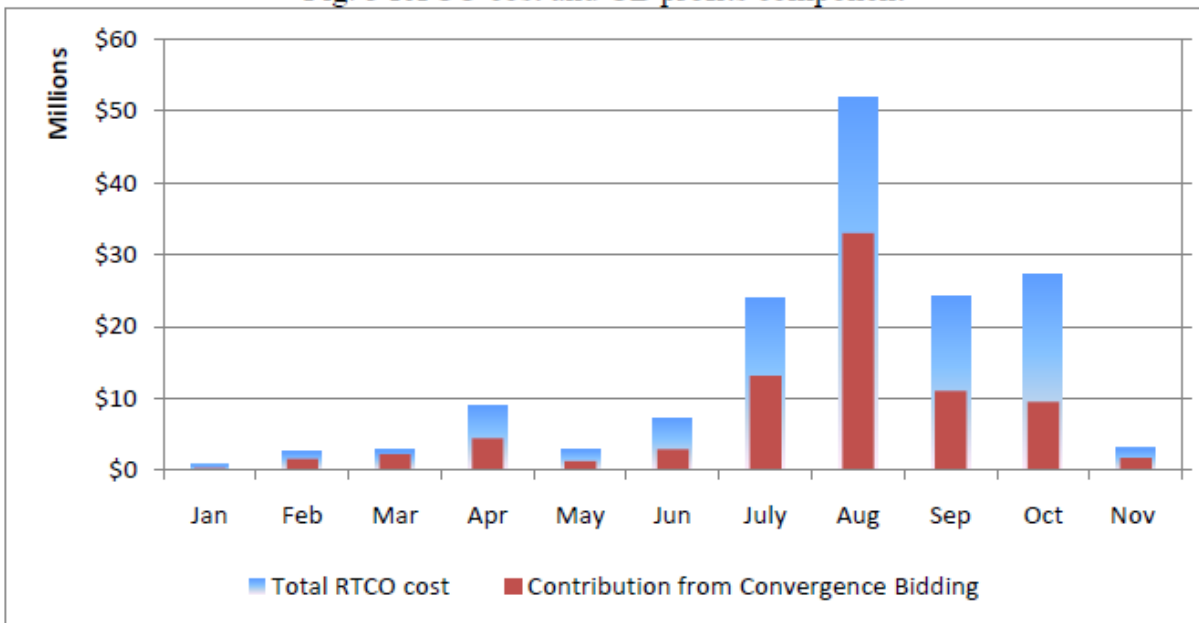
⁷ “DMM estimates that during the fourth quarter about 90 percent of accepted virtual bids were designed to profit from potential differences in day-ahead and real-time congestion.” Memo of Eric Hildebrandt to Board of Governors. Page 4. <http://www.caiso.com/Documents/DepartmentMarketMonitoringReport-Memo-Feb2013.pdf>

⁸ \$95 million out of \$186 = 51.1%. Page 23. DMM Q4 2012 Report.

http://www.caiso.com/Documents/2012FourthQuarterReport-MarketIssues-Performance-Feb_2013.pdf

⁹ Page 12. <http://www.caiso.com/Documents/DraftFinalProposal-TransmissionConstraintRelaxationParameterChange.pdf>

Fig. 3 RTCO cost and CB profits component



With total Real Time Offset uplifts of \$235 million in 2012, it appears the convergence bids are responsible for at least \$95 million of uplift to load. This situation is neither just nor reasonable and must be addressed immediately. The CAISO simply cannot claim it is rational or reasonable to reintroduce ICB and thus expand virtual bidding until it first resolves the uplift created by existing Convergence Bidding (CB).

b. Convergence Bids should only be settled if there is a willing counterparty with a long or short position

SCE continues to believe an essential prerequisite to any just and reasonable CB implementation is that all profits are made and paid among willing counterparties. Specifically, either a physical load, physical generator, or another virtual bidder must be on the opposite side of any “virtual bet”. This includes: load that has imbalances in the real-time market (either from over or under procurement in the day-ahead market) or generation that has imbalances in the real-time market (either from uninstructed deviations or from and outage or derate). Absent a direct counterparty to fund winning bets, CB should not be paid through uplifts – such uplifts force unwilling parties, in particular load, to pay costs they had nothing to do with. The end result is the CAISO forces unwilling participants to fund the profits of certain convergence bidders. This is neither just nor reasonable.

SCE reiterates the criteria for an effective, and just and reasonable market mechanism. These are: (1) the ability to self-fund among willing counterparties, (2) allowing convergence bids to converge prices, (3) treating physical and convergence bids as fully fungible, (4) if extra steps are required to maintain physical feasibility, allocating any uplifts from these steps based on cost-causation.

Even with the interties off, convergence bidders are able to “bet against the CAISO”, rather than find a counterparty to take the other side of their bet. That is, they can bet that the CAISO will make a model change or change inputs like loop-flow, that will allow them to profit by the change. There are several problems with “betting against the CAISO”, first – market participants have no control over what the CAISO does, second, current rules do not allow the CAISO to refuse the bets, and third, since the CAISO has no money, every time it loses a bet it forces primarily load to pay on its behalf. This situation is neither just nor reasonable.

The fact that load is not a willing counterparty to convergence bidding bets and has no control over these bets was emphasized by the CAISO during the suspension of ICB. Citing Mark Rothleder's testimony at the Commission:

“Q. Are there any ways for load-serving entities to protect themselves from increases in the real-time imbalance energy offset?

A. No. Load-serving entities cannot protect themselves from being exposed to increases in the real-time imbalance energy offset. Since the energy crisis of 2001-2001, the major load-serving entities in ISO have consistently scheduled close to 100% of their actual physical load in the day-ahead market. Thus, in theory, they should not be exposed to significant additional costs beyond any generation re-dispatch costs actually associated with meeting these day-ahead schedules. They cannot control the actions of any other market participants that choose to profit from Convergence Bidding or engage in the specific Convergence Bidding strategy previously described in my testimony.”¹⁰

In sum:

- As a matter of principle, the CAISO should only pay convergence bidders when the payments can be funded without uplift. As long as there is a willing counterparty, the bids can and should be paid in full. However, if payments require uplift, that means that participant “bet against the CAISO”, rather than against a market participant. In this case, the CAISO should simply invalidate CB if they cannot be paid without creating uplift.
- CB was never intended to allow parties to “bet” that the CAISO will change the model between Day Ahead (DA) and Real Time (RT). Asking load to “take these bets” and pay through uplift is unjust and unreasonable and must be immediately addressed by the CAISO.

In sum, the CAISO should immediately work with stakeholder to resolve the current situation that allows convergence bidders to “bet against the CAISO”, and then have profits funded through uplifts. Only after this significant issue has been addressed should a discussion on ICB begin.

c. The CAISO's Proposal to restore ICB could reduce physical liquidity at the interties

ICB reintroduction, as proposed by the CAISO, bears the credible threat of decreasing liquidity on the interties by not allowing physical Integrated Forward Market (IFM) awards to flow unless they clear the Hourly process. Such added uncertainty will not encourage physical intertie resources to participate in the CAISO market.

III. Other Issues

a. The CAISO should educate other WECC Balancing Authorities (BA) about its proposal and obtain exposure to their vision implementation of Order 764

Order 764 is mandatory for all Commission jurisdiction entities and will also have substantial impact on the intertie design of non-jurisdiction entities. To SCE's knowledge, the CAISO has the most developed proposal toward Order 764 implementation. As the Order is an intertie specific Order, seams issues are key. SCE understands that the CAISO has been involved in WECC efforts on Order 764 implementation. However, due to the sophistication of the CAISO market design, there may be seams issues that may have

¹⁰ Pages 24-25. September 21 Tariff Amendment, Testimony of Mark Rothleder in Docket ER11-4580. <http://elibrary.ferc.gov/idmws/common/OpenNat.asp?fileID=12769707>

been overlooked or externalities that could develop into problems. The CAISO must engage other BAs in communicating its proposal as well as in understanding their concerns.

b. The CAISO should present historical data on 15 minute performance

Much of the concern of market participants stems from perceived risk associated with the proposed 15 minute market. The CAISO should simulate its proposed markets and at a minimum provide price and quantity distributions. Low variance (risk) in prices would potentially allay the fears of several market participants. If the CAISO can demonstrate lower volatility in its 15 minute performance, relative to its 5 minute space, SCE believes stakeholders would show more support for the CAISO's proposal.

c. Market Simulation for the new 5-minute settlement system

As CAISO moves to 5-minute metering and settlement, the CAISO should work with the stakeholders to establish solid test plans and exit criteria and allow sufficient time for market simulation activities before go-live.