FERC Order 764 Comments – Round 3

Company	Date	Submitted By
Bonneville Power Administration	**February 26, 2013**	**Edison Elizeh, BPA Strategy Integration (egelizeh@bpa.gov)**

Recovery of transmission cost

If the CAISO elects under advisory to accept an hourly block schedule at T-45, but elects not to dispatch after the internal generation bidding process when results of the real Time Pre-Dispatch (RTPD) optimization run are announced at T-22.5, the CAISO has a free option and the bidder is exposed with sunk transmission cost. Please confirm that this is not the intent, and that the CAISO will have specific guidelines in its Bid Cost Recovery mechanism as to how the bidder will recover the cost of transmission if the bidder resource is not dispatched.

CAISO Response

There is no bid cost recovery for hourly block schedules include hourly block schedules with a single intra-hour schedule change. The 15-min market will honor and continue to dispatch hourly block schedules without a bid for a single intra-hour schedule change accepted in the hourly block acceptance process. If an hourly block schedule bid with a single intra-hour schedule change is curtailed economically, the ISO recognizes that the transaction may have procured hourly transmission externally that is not needed to meet the economic dispatch within the 15-minute market. The cost of hourly transmission external to the ISO should be incorporated in to the bid.

Economic bid hourly block with single intra-hour "curtailment"

The CAISO has introduced an option for the hourly block schedules to "curtail" one time during the hour for remainder of the hour. BPA has the following questions and comments related to this option:

- The CAISO has stated that "WECC allows and has established business processes that support a single intra-hour curtailment". BPA request clarification on which specific business processes the CAISO is referring to. BPA is unaware of any WECC policy for economic curtailments and suggests that the CAISO is confusing an economic curtailment with a reliability curtailment.
- Regardless, in the CAISO's proposal there is a statement that "the import is curtailed". Will these economic curtailments be issued by the CAISO? It is BPAs understanding that the e-Tag specifications only allow reliability entities such as TSPs and BAs to curtail e-Tags leaving CAISO market participants unable to perform the curtailment action. BPA recommends the tag action for this scheduling option be a market level adjustment initiated by the market participant and it is implemented by CAISO.

CAISO Response

The ISO agrees that the existing WECC business practices are related to reliability curtailment. The ISO is not proposing a different business practice for economic curtailment, but rather proposes that WECC entities can leverage the existing framework for single intra-hour changes for reliability reasons to develop business processes. In any case, these schedule changes will occur consistent with the 15-minute schedule changes that WECC entities subject to FERC Order 764 are required to accommodate.

Regarding the entity that can change e-tags within the hour, the ISO interprets FERC Order 764 to allow market participants the ability to change energy amounts in e-tags at the 15-minute interval. However, under the design proposed by the ISO, it would initiate the change to the energy portion of e-tags based upon the 15-minute market optimization. Market participants can elect not to allow the ISO to update the tags energy schedule, but the market participant will be responsible for updating the e-tag energy

schedule with the 15-minute market award or be subject to the RTD price for deviations.
Discrete or Average Dispatch Pricing?
At one point in the stakeholder meeting, there was an example provided where if someone bid $50 and the first 15 minutes cleared at $55, they would be dispatched. Then, if the 2nd price cleared at $48, they would still be dispatched because the average of $55 and $48 was still greater than the $50 offered. This is contrary to BPAs original interpretation that participants would be dispatched based on discrete rather than average prices. BPA requests clarity on this issue.
CAISO Response
The 15-minute market optimization is multi-interval. Therefore an intertie transactions bid as an hourly block with single intra-hour schedule change will only be changed if the change is economic for the remainder of the hour.
Reliability
BPA wishes to point out that frequent changes in generation and load patterns, driven by the CAISO 15-minute market, may have unintended reliability impacts to adjacent balancing authorities. In the unlikely event that those extreme reliability impacts are realized, transmission operators may need to take action to manage the issues, which ultimately may impact market participants' ability to actively participate in the market. What will the impact be on the proposed market if (in the rare circumstance) adjacent transmission operators are forced to restrict access to the CAISO 15-minute market for reliability reasons?
CAISO Response
The ISO will model constraints to reflect the ability of a neighboring BA to accept 15-minute schedule changes if the BA places limits on the MW change that can be supported within the WECC intra-hour 10 minute ramping rule.

<table>
<tr><th>Company</th><th>Date</th><th>Submitted By</th></tr>
<tr><td>Brookfield Renewable Energy Marketing</td><td>February 26, 2013</td><td>Margaret Miller
Margaret.miller@brookfieldrenewable.com
916 673-3082</td></tr>
<tr><td colspan="3">Option for hourly block schedules to curtail once an hour</td></tr>
<tr><td colspan="3">1) From our understanding there is no option that exists within WECC rules to curtail firm power for economic reasons, only for reliability reasons. In addition surrounding BAAs will have to have processes in place to accommodate these curtailments and it is not clear that those processes exist today. In essence the CAISO is creating a new product for firm energy with an option to curtail for economic reasons that is not recognized by adjacent BAs, existing standard WSPP agreements, or existing contracts. The only market participants that can put this option into practice are those who have their own system/portfolio of resources that they can manage directly. For example, a BAA that can agree with themselves for a custom product.

2) While the CAISO will provide make whole payments to the intertie supplier in the event they are decremented from their day-ahead schedule, that supplier will still be out of the money as a</td></tr>
</table>

result of incurring costs to procure hourly transmission. The CAISO would also need to provide compensation for the unused transmission. As many participants don't have flexibility and there is no 15min transmission market, many market participants will likely not use this option absent additional cost recovery. One for the initial dispatch and a second value for curtail price (should be lower by the transmission costs so represents the marginal cost net of sunk transmission)

3) CAISO should offer the option for market participants to submit a bid with a price at which they are willing to curtail in addition to a price for dispatch rather than just being curtailed at any price below their bid price. This could also help to address # 2 above.

4) The logic doesn't hold for why the CAISO is willing to offer bid cost recovery to a schedule that can only be curtailed once and then is locked for the hour, but will not provide the same for hourly schedules. The two products being offered are essentially the same once they are dispatched for the hour but if one is allowed to dispatch down they will receive more guarantees than an hourly schedule.

The bottom line is more evaluation and discussion is needed to determine whether or not this option truly exists in WECC rules impacts to adjacent control areas and what is needed in the form of updated business practices, processes, procedures before the CAISO can move forward assuming this is a workable solution. The costs may outweigh the benefits of instead pursuing a slower but more coordinated approach to a 15 minute market.

CAISO Response

1. As the ISO has stated, we are utilizing to build on existing business practices used for reliability schedule changes. The ISO is not proposing a different business practice for economic schedule changes, but rather utilize the existing framework allowed for reliability curtailment. In any case, these schedule changes will occur consistent with the 15-minute schedule changes that WECC entities subject to FERC Order 764 are required to accommodate. The ISO has shared our Draft Final Proposal with WSPP and has recommended that changes to the standard contracts that should be address at the next contracts working group.
2. The ISO has removed this element in the Draft Final Proposal. No bid cost recovery will be allowed for hourly block schedules, including those with a single intra-hour schedule change. The expectation of sunk transmission costs should be included in hourly bids. It should be noted that existing dyanamic transfers and pseudo ties utilize hourly transmission currently.
3. The ISO only allows a single bid to be submitted for both internal and external resources that will be used in the hourly process, 15-minute market and RTD.
4. The ISO has eliminated BCR for all hourly block schedules.

"Worse-of" Pricing

Brookfield supports the CAISO's proposal to not apply worse of pricing to deviations that occur between the 15 minute and 5 minute dispatch. It makes sense to pay or charge deviations in the market in which the deviation occurred. As far as concerns about implicit virtual bidding you cannot consistently predict the outcome of the physical constraint and therefore, cannot guarantee a profitable virtual bid.

CAISO Response

The ISO agrees that the RTD price reflects the cost of replacement energy for deviations.
Hourly Block Process Decline Charge
It is not clear why the decline charge would not apply also to economic bids cleared in the 15 minute market. Is it because the decline is only for hourly schedules and the CAISO does not intend to have a decline option for 15min schedules? If there will be a decline option then 15 minute schedules should pay similar penalties as hourly block schedules.
CAISO Response
The declines charge only applies to incremental hourly block schedules that are advisory in the hour ahead process and if not delivered will have no financial impact to the market participant. If a 15-minute schedule change is not delivered, the deviation is settled at the RTD price.
Two Constraint Issue
Brookfield's preference to resolve the two-constraint issue would be for the CAISO to remove the physical constraint from the IFM, treat the Day-Ahead market as a financial market and allow any necessary physical adjustments to occur in the real-time market. The CAISO has not expressed willingness to support this option in the past due to reliability concerns. That being said we believe the proposal to utilize RUC to make adjustments appears to be an alternative that warrants further discussion.
CAISO Response
The ISO's proposal <u>is</u> to remove the physical constraint from the IFM. Under the ISO's proposal, net physical intertie transactions can be scheduled in the IFM that exceed the capacity of an intertie. However, WECC standards do not permit the ISO to accept e-tags that would exceed the capacity of an intertie. Therefore, the ISO proposes to use the RUC process to determine the e-tags to accept. This RUC process will not change intertie schedules determined by the IFM. Using the RUC process with penalized economic bids will ensure that the least economic schedules are not allowed to tag in day ahead. In addition, a DA schedule that the ISO does not allow to tag will not be subject to the HASP reversal rule.
Position Limits for Convergence Bids
As we have stated in prior comments, we continue to oppose the application of more stringent position limits upon the reinstatement of intertie convergence bids. We don't believe any party has made the case as to why limits should be stricter than those initially put in place in February 2011. We recommend an initial limit equal to 5% at each intertie, the same limit that was in place prior to the suspension of intertie convergence bidding.
CAISO Response
The Draft Final Proposal uses the position limits that were established when convergence bidding was originally implemented on the interties.
PIRP Elimination
As we have expressed in prior comments, we are supportive of the proposed changes offered to variable energy resources to offer DEC bids, provide more granular forecast data and participate in the 15

minute market. All of these elements will better allow variable energy resources to manage their exposure to deviation charges and potentially eliminate the need for PIRP going forward. However, there may be a need for grandfathering of some contracts where suppliers with long-term contracts could be financially harmed due to the elimination of PIRP. At this time Brookfield is evaluating its existing contracts to determine whether grandfathering is required. The outcome of our analysis and necessary responses from counterparties was not available in time to include our position within these comments. We agree with the CAISO that it would be beneficial to further work through the details of the 15 minute market proposal prior to attempting to determine what grandfathering may be required for PIRP resources.
CAISO Response
The PIRP program is not being eliminated. The program is being modified given the improved scheduling based upon forecast closer to actual flow. The netting of uninstructed imbalance energy over the month is not included in the modified PIRP program. The ISO is willing continue discussions on grandfathering where operational characteristics of certain existing PIRP resources make the energy settlement provisions under the FERC Order 764 market design changes not appropriate.

Company	Date	Submitted By
Calpine Corporation	February 25, 2005	
Conceptual Support, but with Questions of Feasibility		
Calpine appreciates the ISO's focus on efficiently dispatching both interties and internal generation and in particular, supports mechanisms which ensure that interties (as well as intertie CBs) and internal generation are dispatched and settled simultaneously. Additionally, as anticipated in Order 764, shortening the scheduling timeframe for interties should assist in the integration of variable resources. Finally, establishing schedules closer to real time should improve the accuracy of generation movements and reduce uplifts. Calpine suggests the following for the CAISO's consideration.		
Test the Proposal Feasibility with Adjacent BAAs.		
Calpine continues to believe that adjacent Balancing Authorities should be specifically invited to present their view on the CAISO proposal. Despite calls for such, the CAISO simply refers market participants to the WECC process and asserts that there have been no objections to the CAISO approach. If this is the case, the CAISO should not fear and indeed should accept the simple burden of inviting a panel of adjacent BAA representatives to (1) describe their approach to Order 764, and (2) provide their comments on the CAISO's anticipation of up to 4 schedule changes every hour on the ties.		
CAISO Response		

The ISO has been discussing the proposed changes with neighboring balancing authorities and those discussions have indicated they can accommodate the ISO's proposed changes. The ISO will continue to actively participate in the WECC taskforce and work through implementation issues with our neighbors. The 15-minute schedule changes under the ISO's proposal will occur consistent with the 15-minute schedule changes that WECC entities subject to FERC Order 764 are required to accommodate.

Four Schedule Changes per Hour, and 2.5 Minutes to Perform

The current proposal eliminates bid cost recovery for hourly block intertie transactions – in part to act as an incentive to offer curtailable, or 15 minute intertie blocks (which would be covered by BCR.) Calpine understands that these 15 minute intertie schedules would be awarded with only 2.5 minutes to execute with both sending and receiving BAAs.

Calpine would like external BAA's to review and comment on their ability to accept and execute (e.g. check out) these modified e-tags within the proposed timeline.

CAISO Response

Neighboring balancing authority areas will have more than 2.5 minutes to check-out e-tags that are changed intra-hour. The ISO will publish schedule changes at T-22.5 and the initial change to the energy portion of an e-tag is due at T-20, i.e. 2.5 minutes. As T-20 is the established WECC deadline for e-tag submission, the ISO's proposal makes no changes to the amount of time allowed for balancing authorities to approve e-tags before the ramp associated with the change begins at T-10. In discussions with neighboring BAs, the suggestion was made to have the ISO update energy schedules based upon the 15-minute market to address the concern that 2.5 minutes might not always be enough time for the market participant to initiate an intra-hour change to an e-tag The ISO has included this option in the Draft Final Proposal.

Shift of Risks to Interties

The effect of the proposal, in substantial part, is to both reduce and shift the risk and expense of errors in CAISO intertie dispatch away from load (uplifted through the energy imbalance offset) and to interties. Interties are subjected to this risk if they use block schedules and therefore are price-takers without BCR. This proposal may be appropriate, but only if the alternative of 15 minute adjustments is initially and continuously feasible.

If one or more adjacent BAA is unwilling to accept and confirm schedules in the 2.5 minute window proposed by the CAISO, the absence of BCR for block schedules may significantly affect the bid prices, risks and liquidity of intertie transactions.

CAISO Response

BCR for hourly block schedules would mute the economic incentive for WECC to move to 15-minute schedule of both energy and transmission.

Demonstrate the Need for Both 5-minute and 15-minute Settlements

The CAISO proposes that internal generation be settled 4 times every 15 minutes – once based on a forecast in RTPD, and subsequently in each 5 minute dispatch interval. The RTPD settlement will include a new, financially binding co-optimization of energy and A/S as well as Flexi-ramp. Subsequently, the CAISO proposes to resettle energy based on instructions and deviations between the 15 minute RTPD run and the 5 minute dispatch. Identical energy bids will be used for awards in the RTPD and dispatch in

the subsequent 3, 5-minute RTD intervals. Today, the CAISO awards A/S and FlexiRamp in the RTPD and settles energy by combining 2 RTD intervals in a 10-minute settlement. Therefore the changes suggested by the CAISO will double the effort required to shadow, validate and settle CAISO transactions. Calpine requests that the CAISO provide an analysis that would support the need for such increased granularity. Such an analysis should include expected volume and price movements between RTD and RTPD as well as consideration of all settlement alternatives.
CAISO Response
The ISO provided data showing the difference in volume and prices between the 15-minute market and RTD. The proposed settlement of both the 15-minute market and RTD will more accurately compensate the flexible resources that are providing the 5 minute dispatchability necessary to manage the grid, among other market benefits.
Are 5-Minute Deviations Unavoidable?
Finally, as discussed at the stakeholder meeting, Calpine seeks more information on the conversion of 15 minute awards to 5 Minute dispatches. In particular, it seems that if a unit is ramping, a generator could be subjected to uninstructed deviations every time unit is precisely meeting the 5-minute RTD dispatch. Take a simple example as follows: RTPD price = RTD price RTPD award = 31.25 Mwh over the 15 minutes Unit is ramping from 100 to 150 MW RTD dispatches the unit on a linear ramp At the end of each interval the unit is at (1) 116.7 MW, (2) 133.3 MW and (3) 150 MW. Energy production during each interval is (1) 9.0 Mwh, (2) 10.4 Mwh, (3) 11.8 Mwh Since RTPD award is 31.25, the simple average expected energy is 10.4 Mwh. So, our preliminary conclusion is that for every hour with a ramp, a unit following dispatch will have deviations at the beginning and end of the 15 minute interval even if it precisely follows dispatch orders. In the next draft, please provide more information on how RTPD awards will be distributed to the subsequent 5-minute RTD intervals. Obviously, simple averages will not result in a reasonable assessment of deviation charges.
CAISO Response
The 15-minute market is based upon 15-minute market intervals. RTD is based on 5-minute intervals. Calpine is correct that there will be deviations between the 15-minute market and RTD when ramping; however, these deviations will be instructed energy, not uninstructed energy. This instructed energy is similar to deviations from day-ahead schedules in the current market for real-time dispatches, including ramping in real-time between DA hourly schedule changes. In the current market, this real-time energy, including ramping energy due to day-ahead hourly schedule changes, is currently settled at the real-time price. The ISO has posted a spreadsheet illustrating the settlement.

Company	Date	Submitted By
Comments of the California Wind Energy Association	**March 4, 2013**	**Dariush Shirmohammadi** **e-mail: dariush@shirconsultants.com** **phone: 310-858-1174** **Nancy Rader** **e-mail: nrader@calwea.org** **phone: 510-845-5077**

Elimination of PIRP Requires Further Discussion and Study

CalWEA very much appreciates the fact that CAISO postponed the elimination of the Participating Intermittent Resources Program (PIRP) until market reforms could be put into place that would allow VERs to be able to effectively participate in the market. There are, however, two very important elements of that market reform that should be implemented, in addition to those offered by the CAISO in its February 5 Straw Proposal, prior to considering the elimination of PIRP:

1. Allow VERs to offer their 5-minute schedules closer than 37.5 minutes to real-time (as noted above);
2. Integrate VERs' 5-minute schedules in the operation of VERs; and
3. Implement a wide deviation band around the final schedules that will be used to determine real-time imbalance charges.[1]

In addition, CalWEA requests that the current PIRP monthly imbalance settlement cost averaging/netting schemes be kept in place for at least a year after all market changes are fully implemented (currently scheduled for Q4, 2014) to allow for an assessment of the full impact of PIRP's elimination. Only if the total magnitude of netted monthly imbalances for all PIRP VERs falls below 0.1% of the total imbalance settlement charge for these VERs should CAISO consider the elimination of the PIRP program. We again emphasize that the introduction of PIRP was crucial to the development and financing of independent VERs in California, and its elimination could have a chilling impact on independent VERs' development if not carefully planned.

[1] We note that MISO uses an 8% band for the purpose of real-time imbalance settlement for VERs.

CAISO Response

Allowing VERS to use forecast for settlement purposes that is not considered in the 15-minute market optimization will result in potential uplifts that would need to be allocated. In addition, not using the forecast immediately prior to the start of the market optimization will can result in reliability issues as system conditions are not being accurately reflected in the market optimization.

PIRP is not being eliminated. The proposed design allows PIRP resources to submit a forecast to be used by the RTD dispatch 7.5 minutes prior to flow. For the purposes of calculating uninstructed imbalance energy, under the modified PIRP, the difference between the meter and this forecast received 7.5 minutes prior to flow is considered UIE. The ISO does not have uninstructed deviation penalties implemented. However, 25% of the flexible ramping constraint cost is currently allocated to gross UIE. Under the existing PIRP program, this amount is measured as the difference between the hourly forecast at T-90 and the meter.

Grandfathering of PIRP for Existing Projects Is A Must

Finally, CalWEA believes that elimination of PIRP for existing VERs, many of which have been developed and financed based on the assumption that PIRP would be available, would impose major financial and contractual risks on those VERs. In many cases, power purchase agreements to which the VERs are parties require the VERs to remain in PIRP and be eligible for its monthly netting in order for the intended allocation of deviation risk between the contracted parties (most often with the utility-buyer agreeing to absorb the risk of deviations) to remain in place. If PIRP, as we know it, is changed as CAISO proposes without grandfathering these projects, there will almost certainly be a widespread disruption in the market, as the contracting parties are forced to sort out the allocation of deviation risk without PIRP and the financing community fears the worst.

Hence, we strongly request that PIRP be grandfathered for all projects with existing power purchase agreements that were executed during PIRP's existence, which, as a result, allocated deviation risk based upon the assumption that PIRP is in place. Many project owners with QF contracts that pre-date PIRP operate small amounts of capacity and do not have the capabilities required to navigate the new, more sophisticated market being contemplated by the CAISO; grandfathering is also important for these projects.

Earlier CAISO proposals to eliminate PIRP would have allowed plants with "signed contracts" (including those not yet built) to stay in the program for the life of the contract. Moreover, the proposed grandfathering limitation is inconsistent with the CAISO's approach in other cases, such as for the RA Standard Capacity Product (SCP) II, where it grandfathered contracts executed before FERC approval of that program, for the entire life of those contracts. The CAISO has provided no justification for eliminating grandfathering for this much more significant program. Moreover, the cost of retaining the PIRP apparatus (given that the CAISO will retain the forecasting program in any event) is minimal.

Of course, we realize that shorter-interval scheduling closer to real-time would mean some tweaks to the implementation of the real-time imbalance netting/averaging process in PIRP as it exists today. In that regard, we propose the following PIRP implementation process which we believe is identical to the existing PIRP and reflects only the changes in scheduling timelines and would not put existing PPAs at risk:

1. CAISO would forecast the 3X5 minute schedules 37.5 minutes before RT for all PIRP VERs and update those schedules 22.5 minutes before RT for all in-area PIRP VERs.

2. CAISO would develop a 15-minute schedule for the resource by averaging the 3X5 minute schedules in Step 1.

3. CAISO would use the same 15-minute schedule as it developed in Step 2 as the instructed dispatch for the PIRP resource to be used in RTD.

4. CAISO would net RT imbalance for metered PIRP resource output against 15-minute schedules as calculated in Step 2 on monthly basis.

CAISO Response

The proposal above recognizes that UIE will be very small under the Order 764 market design and seeks to inflate UIE artificially by using the forecast at T-37.5 so that there is a larger deviation that could be netted. As stated earlier, utilizing the most recent forecast at the start of the 15-minute and RTD market optimization leads to improved unit commitment and dispatch.

The ISO is not proposing to eliminate the PIRP program. While modified, the PIRP program is maintained since many existing power purchase agreements require participation in PIRP or contain other references to the PIRP program. The proposal recognizes that allowing scheduling and dispatch based upon forecasts received at the start of the relevant market optimization significantly reduces uninstructed imbalance energy which reduces the need for the monthly netting. The ISO is willing continue discussions on grandfathering where operational characteristics of certain existing PIRP resources make the energy settlement provisions under the FERC Order 764 market design changes not appropriate .

Company	Date	Submitted By
Citigroup Energy, Inc (CEI)	**February 27, 2013**	

Transferring risk to intertie transactions with no apparent purpose.

Instead of unnecessarily shifting risk to imports and exports, which are essential for reliability, CAISO should work in tandem with its neighbors to develop a regional solution to fifteen-minute scheduling and continue to allow bid-cost recovery, while allowing more flexible fifteen minute scheduling as an optional flag.

While CAISO's desire for fifteen-minute scheduling is laudable, it should do so within the context of the WECC Order 764 Task Force, rather than as a separate procedural path. We encourage CAISO to take a leadership role in this by hosting a panel of experts from among adjacent balancing authorities. Until CAISO and its neighbors jointly create a mechanism to allow for a fifteen-minute scheduling mechanism that allows for everyone to participate and accurately accounts for regional USF (which occurs on an hourly basis and may not have a simple way to convert to 15-minute scheduling), it should allow for flexible scheduling to be optional, and maintain the existing settlement mechanisms for those who do not desire to move to fifteen minute scheduling.

Shifting risk to intertie transactions without a mechanism for mitigating that risk can only result in higher costs and unnecessary inefficiency. CAISO's preferred method for scheduling coordinators to work with their counter-parties in neighboring balancing authorities. While theoretically possible, this often outside the control of many SCs, as many contracts are already signed and the rules of neighboring balancing authorities are outside the control of SCs. Therefore, the risk created by CAISO cannot be effectively mitigated. When engaging in market design, policy makers should allow for markets to efficiently manage risk, in order to create the best outcome. By merely creating risk without creating market mechanisms to manage the risk, CAISO is proposing a sub-optimal solution.

Instead of the current mechanism, making fifteen minute scheduling optional will allow for the best outcome. Intertie transactions will likely gradually transition to fifteen minute scheduling as contracts are updated and scheduling coordinators follow nodal price signals.

CAISO Response
The ISO proposal recognizes that hourly block schedules and hourly external transmission will remain in WECC as it transitions to 15 minute scheduling, thus the ISO will support hourly block schedules. But the ISO will not allow BCR for hourly block schedules because this would disincentive the WECC- wide movement to 15-minute energy and transmission and continue current market inefficiencies. Market participants selling or buying power at the interties can incorporate their expectation of 15-minute prices and any perceived risk into their hourly bids. The ISO does not expect this cost will exceed the costs currently paid by load to guarantee an hourly price on interties that are currently funded through uplifts to load.

Company	Date	Submitted By
Center for Energy Efficiency and Renewable Technologies	**February 26, 2013**	**David Miller, PhD** david@ceert.org 510-502-6117
Sub hourly scheduling		
A key requirement for the low cost integration of Variable Generation (VG) resources into the electric grid is the implementation of sub hourly scheduling, along with the ability to provide schedules as close to flow as possible. Matching the granularity of VG output profiles with appropriately resolved scheduling and settlement mechanisms has the potential to minimize VG forecast error and allows for the efficient dispatch of balancing reserves at least cost. This CAISO proposal creates a binding 15 minute energy market within the CAISO footprint that, while meshing with the existing hourly transmission scheduling in the rest of WECC, also provides incentives for import and exports at the interties to move in a similar direction, consistent with FERC Order 764. Furthermore, hourly schedules within CAISO which previously had to be submitted by T - 90 will, under the new proposal, be submitted at T - 37.5, leading to a reduction in forecast error. In addition, if and when WECC moves to 15-minute transmission reservations and shorter e-tag timelines, the CAISO is claiming that it will be able to further modify its timeline to run the 15-minute market even closer to actual flow. These are significant improvements to the CAISO markets that will not only improve the efficiency of scheduling VG resources both within and outside of the CAISO footprint, but will hopefully provide a strong incentive for resources outside of California to move towards 15 minute scheduling as well. CEERT commends the CAISO for developing this proposal in a manner not only satisfies FERC Order 764 compliance but does so in a forward looking manner.		
CAISO Response		
Allowing VERs to schedule their energy based upon forecasts closer to actual flow address the market issues previously highlighted by the VER community.		

Participating Intermittent Renewable Program (PIRP)
One significant holdover is the Participating Intermittent Renewable Program (PIRP). The original purpose of PIRP was to reduce uninstructed imbalance energy risk for VG resources due to having to operate in an hourly market. Currently PIRP resources must submit the CAISO hourly forecast generated 90 minute prior to the hour to be eligible for monthly netting of uninstructed imbalance energy. Under the 15 minute market being proposed here by the CAISO, the very meaning of PIRP becomes unclear. Under the new 15 minute market, does a PIRP resource still need to submit an hourly forecast 90 minutes prior to the hour? Clearly this would be nonsensical and would defeat the very purpose of moving towards sub hourly scheduling. But if an existing PIRP resource is expected to operate under the new 15 minute market by submitting 15 minute schedules, how does this affect the existing contractual obligation between the buyer and seller? Under this scenario, the uninstructed imbalance energy (UIE) will be based on deviations from the 5 minute Real Time Dispatch (RTD), which will presumably be small since not only is the scheduling granularity significantly smaller than under existing market rules, but the forecast error upon which the UIE will be based comes from energy forecasts 7.5 minutes before the RTD interval. Under this circumstance where UIE has become so small, does PIRP even make sense anymore? Even the concept of 'grandfathering' contracts may not make sense here, since the new proposed market significantly reduces UIE that PIRP was originally supposed to protect against. The proposed 15 minute market will greatly diminish the UIE of VG resources as compared to the current hourly market. However, under this new market, VG resources will be exposed to instructed imbalance energy (IIE) resulting from the difference in forecast errors between the T - 37.5 schedule (submitted in the 15 minute market) and the respective T - 7.5 instruction (from the 5 minute RTD). Clearly there is financial risk associated with taking a forward position in any market. But it is unclear whether the current PIRP construct would be more or less financially risky to VG resources than the situation under the proposed 15 minute market. So while CEERT fully supports moving towards sub hourly scheduling, we would like to see the CAISO develop a side by side comparison of the financial exposure of VG resources under the existing PIRP to the proposed 15 minute market using some real data before advocating for dismantling PIRP. CEERT commends the CAISO for developing this proposal to create a binding 15 minute energy market. The proposal includes elements that will incentivize proper treatment of VG resources at the interties, and helps move California and WECC closer to efficient integration of renewable resources. The remaining issue of how to handle VG resources currently enrolled in PIRP will require taking a look at the relative financial implications of moving towards the proposed 15 minute market, and may need to be managed on a contract by contract basis. CEERT is confident that both parties will recognize the mutual value of moving towards this proposed new market and will act in good faith to preserve their relative financial positions.
CAISO Response
The ISO believes that maintaining the existing PIRP energy settlement provisions for resources that would be grandfathered is not needed under the new real-time market design because of the reduced exposure to RTD prices. However, the proposed modified PIRP program is maintained to incent the use of ISO forecasts and since many existing power purchase agreements require participation in PIRP or contain other references to the PIRP program.

Company	Date	Submitted By
Department of Market Monitoring	**March 15, 2013**	

Hourly Block Process Decline Charge
Hourly Block Process Decline Charge does not adequately incent intertie VERs to submit accurate hour-ahead forecasts. In addition to “reserv[ing] the right to cancel a variable energy resource’s ability to use their forecast,” we recommend the ISO commit to monitoring for any gaming and/or systematic errors in these forecasts. Moreover we recommend the ISO create a tariff provision that gives the ISO the authority to revoke a specific resource or entity’s ability to submit its own forecasts should the ISO determine the resource has submitted inaccurate forecasts. We also recommend the ISO consider minor revisions to its incentive structure for preventing intertie VERs from inflating hour-ahead forecasts.
CAISO Response
The ISO will have tariff authority to suspend a VER from using their own forecast if their forecast is less accurate than the ISO forecast.
BCR for hourly block intertie schedules with single intra-hour curtailment
BCR for hourly block intertie schedules with single intra-hour curtailment would use an administratively assigned uplift to incent day-ahead intertie schedules to submit economic bids (i.e. not self-schedule) in real-time. We recommend the ISO not provide BCR for hourly block interties schedules and instead rely on price signals in the 15-minute market to incent participant behavior.
CAISO Response
The draft final proposal has eliminated BCR for hourly blocks with single intra-hour schedule changes.
Intertie virtual bids
Intertie virtual bids could exacerbate Real-time Congestion Imbalance Offset costs if there continues to be constraint limit inconsistencies between day-ahead and real-time. Prior to re-implementing intertie virtual bids DMM recommends the ISO reduce the biasing down of real-time limits of constraints for which intertie schedules have a strong impact on flows.
CAISO Response
The ISO continues seek to improve modeling consistency of the day-ahead and real-time market and plans to implement more focused measures.
Starting the 15-minute market optimization at 37.5 minutes
Starting the 15-minute market optimization at 37.5 minutes prior to the time of flow (T-37.5) introduces improvements in accuracy compared to the current time gap between HASP and RTD. However, this will still be less efficient relative to starting the binding 15-minute optimization at T-22.5. Among other benefits, starting the 15-minute optimization closer to the time of flow will reduce real-time congestion imbalance offset charges. We recommend the ISO pursue working with other Balancing Authorities and WECC to move to 15-minute transmission reservations and shorter e-tag timelines so that the binding 15-minute market optimization can be moved forward to the T-22.5 run.
CAISO Response
The ISO has provided data through this stakeholder process that the differences between the T-37.5 run and T-22.5 run are not materially different. The ISO agrees that over time, if WECC is able to adjust

tagging timelines that the ISO will be able to pull in the 15-minute market and not create seams issues.
Price divergence between the 15-minute market and RTD
Price divergence between the 15-minute market and RTD has the potential to increase relative to historical patterns after the implementation of the 15-minute market. This is because the type and degrees of operator intervention in the 15-minute market (such as load biasing, exceptional dispatch, and constraint limit biasing) may increase relative to the historical norm of operator intervention in RTPD due to the greater importance of RTPD process in terms of market dispatches and prices. This, in turn, creates the potential for market inefficiencies. We recommend that the ISO develop and test protocols on operator intervention in the 15-minute market prior to its implementation as a proactive measure for reducing the price divergence. We also recommend the ISO commit to monitoring for deviations intended to arbitrage the price divergence and prepare options for addressing the problems should they arise.
CAISO Response
The ISO will continue to ensure consistency between the 15-minute market and RTD optimizations. The ISO will monitor for deviations that seek to arbitrage difference between these two market runs.

Company	Date	Submitted By
Independent Energy Producers Association	**March 1, 2013**	**Steven Kelly (916) 448-9499 steven@iepa.com**
The Grandfathering of PIRP Resources		
During the stakeholder meeting convened on February 12th, the CAISO asked stakeholders to comment on the scope for grandfathering PIRP resources, including: what resources should be grandfathered; how long the grandfathering should last; and what elements, if any, of FERC Order 764 should be included. IEP continues to support the grandfathering of PIRP resources to ensure that generators are protected under the terms of the contracts they originally executed, particularly as it relates to the monthly netting duration. The availability of the monthly netting duration was critical to the terms and conditions of the original commercial transactions; hence, this element needs to remain intact as part of any PIRP grandfathering proposal to ensure contractual obligations and commercial commitments can be met. Originally, Variable Energy Resources (VERs) were non-financeable due to the uncertainty associated with imbalance energy charges. The PIRP program essentially created a mechanism for VERs to become financeable and has since been a general framework for contracting around the intermittency associated with certain renewable energy resources. Elimination of the PIRP program, or fundamental features of the PIRP program including the netting duration, undermines existing contracts and risks abrogation of contracts if certain parties can no longer comply with the requirements of their contracts as a result of the CAISO's actions. For resources continuing to operate as PIRP resources under the grandfathering protocol, PIRP eligible		

resources should continue to have the opportunity to participate in the elements of the market available to them today, including the option to participate in Decremental (DEC) bidding. Allowing PIRP resources to participate in DEC bidding is beneficial to the CAISO and the market as a whole with respect to managing supply and should not be eliminated as an option for PIRP resources that are grandfathered going forward.

On the other hand, recognizing that the 15-minute market will enable VERs to participate better in the CAISO markets, IEP is supportive of eliminating entry to the PIRP program on a going forward basis from the date FERC approves this tariff filing. VERs operating under contracts executed after this date should be ineligible for PIRP participation. This approach, which couples grandfathering with the elimination of the availability of PIRP on a going forward basis, allows the commercial transactions premised on the existence of the monthly netting duration to remain viable; creates room for contracts that are awaiting approval to continue the approval process without modification or delay; and provides notice to the marketplace that the PIRP program will no longer be available, except to those that are grandfathered, from a date certain.

CAISO Response

The ISO has held lengthy discussions with stakeholders regarding the issue of grandfathering. The ISO believes that maintaining the existing PIRP energy settlement provisions for resources that would be grandfathered is not needed under the new real-time market design because of the reduced exposure to RTD prices. However, the proposed modified PIRP program above should be maintained since many existing power purchase agreements require participation in PIRP or contain other references to the PIRP program. The ISO is willing continue discussions on grandfathering where operational characteristics of certain existing PIRP resources make the energy settlement provisions under the FERC Order 764 market design changes not appropriate .

Coordination and Collaboration with Regional Initiatives

While IEP is supportive of moving to a 15-minute market, such a move needs to make sense in the context and timing of other ongoing initiatives. For example, when developing the 15-minute market, the potential CAISO/PacifiCorp Memorandum of Understanding (MOU) regarding an Energy Imbalance Market (EIM) should be kept in mind. These two initiatives should be designed to complement, not contradict one another. Furthermore, these efforts should be coordinated and ultimately aligned in terms of the broader goals that the CAISO is attempting to achieve. In the absence of knowing more about the design/implications of a potential energy imbalance market, IEP welcomes open communication and coordination between these two distinct initiatives.

In conclusion, IEP supports grandfathering of existing resources operating under the PIRP program for the duration of their existing contracts; enabling executed commercial transactions to move forward without having eligibility to participate in the PIRP program, a foundation of the commercial arrangements, withdrawn. IEP supports elimination of entrance to the PIRP program on a going forward basis from the time FERC approves this tariff change(s). In addition, IEP is generally supportive of moving to a 15-minute market to the extent that it is coordinated and makes sense in terms of other ongoing initiatives..

CAISO Response

The FERC Order 764 changes to the real-time market have been contemplated in the development of

EIM. The EIM stakeholder process will commence with a straw proposal on April 4th. The FERC Order 764 market design changes are planned for implementation in Spring 2014. The EIM will leverage these real-time market changes when EIM is implemented in October 2014.

Company	**Date**	**Submitted By**
Large-Scale Solar Association	**February 26, 2013**	
Elimination of PIRP for projects in advanced stages of development		
Consistent with its prior comments in this process, LSA continues to strongly support continuation of the Participating Intermittent Resources Program (PIRP) for projects with Power Purchase Agreements (PPAs) executed before year-end 2012, for the existing contract duration (same provisions as in the recent Technical Bulletins for "existing" resources). LSA provides this additional information in these comments in support of its position: • Additional explanation, with reference to specific provisions in executed PPAs; • Responses to CAISO questions regarding PIRP continuation at the February 12th meeting, for example supporting certain beneficial improvements to the program that LSA does not believe will cause the same concerns as the Proposal; and • A potential alternative framework – perhaps in the nature of a settlement – where Load-Serving Entities (LSEs) agree to not use necessary contract modifications related to the proposed PIRP changes to extract unrelated concessions from sellers, which could address most grandfathering situations.:		
CAISO Response		
The ISO has held lengthy discussions with stakeholders regarding the issue of grandfathering. The ISO believes that maintaining the existing PIRP energy settlement provisions for resources that would be grandfathered is not needed under the new real-time market design because of the reduced exposure to RTD prices. However, the proposed modified PIRP program above should be maintained since many existing power purchase agreements require participation in PIRP or contain other references to the PIRP program. The ISO is willing continue discussions on grandfathering where operational characteristics of certain existing PIRP resources make the energy settlement provisions under the FERC Order 764 market design changes not appropriate .		
Use of 5-minute schedule submissions		
LSA is concerned that, while the Proposal allows use of 5-minute forecasts/schedules to reflect expected intra-hour ramps, the method for constructing 15-minute schedules, and measuring 5-minute schedule imbalances from those schedules, would undercut the benefits of the greater granularity. Instead, LSA proposes that the CAISO either measure imbalances from the 5-minute schedule submittals directly or net imbalances within each 15-minute interval.		
CAISO Response		
The 15-minute market optimization uses 15-minute intervals for all resources. RTD uses 5 minute granularity. The existing RTUC process is being utilized for the 15-minute market and will not be changes from 15-minute granularity.		

Under the existing market design, the day-ahead market uses hourly granularity. In RTD (five minute granularity), the dispatch, including those to meet day-ahead hourly schedule changes, results in instructed imbalance energy from the day-ahead schedule. Uninstructed imbalance energy is measured between the RTD dispatch and the meter.
Concerned with some of the CAISO's separate efforts
In addition, LSA is concerned that some of the CAISO's separate efforts, including the CAISO-PacifiCorp Memorandum of Understanding (MOU) regarding an Energy Imbalance Market (EIM), will be under development at the same time as the 15-minute market. LSA encourages the CAISO to explain the interaction of this initiative with those others, and to align its priorities and timelines with these other initiatives. The CAISO should determine whether it is worthwhile to move ahead now with this initiative or work collaboratively at a coordinated pace on a framework that would integrate all of these efforts into a better end-state.
CAISO Response
The FERC Order 764 changes to the real-time market have been contemplated in the development of EIM. The EIM stakeholder process will commence with a straw proposal on April 4th. The FERC Order 764 market design changes are planned for implementation in Spring 2014. The EIM will leverage these real-time market changes when EIM is implemented in October 2014.

Company	Date	Submitted By
Northern California Power Agency	**February 26, 2013**	
Settlement of Load		
CAISO is proposing that the differences in load from day-ahead schedules be settled at the weighted average LMP of the 15-minute market and RTD by DLAP. CAISO further explains that the LMPs will be weighted by the MWs cleared in the two respective markets. CAISO's proposal appears to be based on the assumption that all load is metered only on an hourly basis. CAISO explains that the weighted average approach will result in neutrality charges that will be allocated back to load. The assumption that all load is metered hourly is not correct. As further described below, NCPA's load is metered and settled at the same level of granularity as internal generation (each 5-minute interval); therefore settling NCPA's load as currently proposed would not be just and reasonable. NCPA operates in the CAISO as a Load Following Metered Subsystem ("LF-MSS"). As a result, NCPA is contractually required to install settlement quality metering at all points where it takes delivery of energy to serve load (or load take out points). CAISO currently meters NCPA's load for each 5-minutes interval, and NCPA's load is settled based on actual settlement quality meter data for each 10-minute settlement interval. Since NCPA's load is metered at the same level of granularity as internal generation (each 5-minute interval), NCPA's load should be settled based on actual LMPs, and not be settled using the weighted average LMPs as proposed by CAISO. Also, since NCPA's loads are metered and settled at the same level of granularity as internal generation, NCPA's load should not be subject to or be allocated any neutrality charges as described by CAISO. NCPA should not be subject to such neutrality charges because the costs are driven by the fact that other loads in the system are only metered hourly. NCPA requests CAISO to update the next draft of the proposal based on these facts.		

CAISO Response
The settlement of load based upon the weighted average price is only applicable for load that is metered hourly. Load following MSS will be settled similar to the current market design. In the 15-minute market, load following MSS will need to balance their load and supply. In RTD, the load following MSS must balance their load and supply in the five minute interval within the established threshold or be subject to MSS load following deviation penalties. Similarly to internal generation, load following MSS settlement intervals will be changed from a 10-minute granularity to a 5-minute granularity.
Convergence Bidding
Reintroduction of Convergence Bidding at intertie scheduling points is not a stated requirement under FERC Order 764; therefore CAISO's proposal to enable Convergence Bidding at intertie scheduling points is out of scope and should be addressed in a separate stakeholder process (subsequent to implementing 15-minute scheduling and settlements). Introducing 15-minute scheduling and settlements will be a significant change to the current CAISO market structure, and NCPA strongly believes that CAISO should properly evaluate the impact such will have on overall market efficiency and prices/costs prior to complicating the landscape by reintroducing Convergence Bidding as currently proposed. During the past years, market uplift costs attributed to Convergence Bidding have been significant to say the least (primarily in the form of Real-Time Congestion Offsets costs and Real-Time Imbalance Energy Offsets costs). The CAISO also appears to have certain reservations about enabling Convergence Bidding at intertie scheduling points in parallel with 15-minute scheduling and settlements. In its proposal CAISO states "given the challenges and risks that have been demonstrated with convergence bidding on the interties, the ISO believes it is prudent to impose position limits on intertie convergence bids." NCPA strongly believes that if Convergence Bidding is reintroduced as part of this initiative, establishing strict position limits will be very important, but in light of the risks involved (as demonstrated by $100 + million in market uplifts experienced) NCPA believes that it would be prudent to evaluate what impacts 15-minute scheduling and settlements has on the market prior to reintroducing Convergence Bidding at intertie scheduling points.
CAISO Response
After the Intertie Settlement & Pricing Initiative was suspended, the ISO filed comments with FERC that the ISO would seek to address convergence bidding on the interties in this stakeholder initiative. The root cause of the suspension of convergence bidding on the interties will be addressed by settling both internal and intertie convergence bids based upon the 15-minute market LMP, as now proposed by the ISO. The Draft Final Proposal includes the same position limits as when convergence bidding was originally implemented on the interties.

Company	Date	Submitted By
NRG Energy	**February 26, 2013**	**Brian Theaker**

NRG Strongly Supports Eliminating HASP

As an initial matter, NRG strongly supports the CAISO's efforts to lever Order 764 to move away from the existing Hour-Ahead Scheduling Process (HASP). The current full-hour HASP is discriminatory (open to only a subset of CAISO market participants) and has contributed to large Real-Time Imbalance Energy Offset charges that prompted the CAISO to eliminate intertie convergence bidding instead of dealing with the fundamental underlying issues of (1) liquidating intertie and internal virtual bids at different prices and (2) the persistent and often systematic differences in HASP and real-time prices.

NRG agrees with the CAISO's observation that "[i]n the past two years, the ISO has identified a number of inefficiencies with its current hour-ahead scheduling processes and real-time market settlement. Introducing the financial settlement of the 15-minute market addresses these market inefficiencies." (CAISO Revised Straw Proposal at 4). While Order 764 does not compel the CAISO to eliminate HASP, NRG supports using Order 764 as a springboard to timely address the real, persistent problems caused by HASP by moving beyond HASP to a non-discriminatory hour-ahead and real-time market structure.

CAISO Response

The ISO agrees that Order 764 makes reforms that allow the ISO to address inefficiencies under the current market design.

Interties as Price-Takers for Block-Hour Schedules

NRG supports the CAISO's proposal to not provide bid cost recovery for block-hour intertie schedules. Providing BCR for block-hour intertie schedules will only dampen the incentives for other Balancing Authorities Areas (BAAs) to move towards 15-minute scheduling, a result which would be inconsistent with the spirit of Order 764.

That said, it seems unlikely that the other BAAs will embrace 15-minute intertie scheduling with the same enthusiasm that the CAISO currently demonstrates for this enhancement, or will implement 15-minute scheduling on the same schedule as the CAISO currently envisions. It may be difficult to balance the need to press ahead with 15-minute scheduling and the elimination of the highly problematic HASP with the desire to avoid a disruptive transition. NRG is not especially sympathetic to parties using concerns about intertie liquidity to slow or prevent progress towards leveling the playing field between intertie and internal resources, but is also skeptical that a chaotic and disruptive transition is in the overall market's best interest.

To that end, NRG encourages the CAISO to actively engage representatives from BAAs adjacent to the CAISO in the Order 764 process. Robust participation from market participants who will have to deal with the CAISO 15-minute intertie market on a regular basis will give all stakeholders a better sense – even those parties who, like NRG, typically do not trade on the interties – a better sense of the feasibility of the CAISO's proposal.

CAISO Response

The ISO has been discussing the proposed changes with neighboring balancing authorities and those discussions have indicated they can accommodate the ISO's proposed changes. The ISO will continue to actively participate in the WECC taskforce and work through implementation issues with our neighbors.

The 15-minute schedule changes under the ISO's proposal will occur consistent with the 15-minute schedule changes that WECC entities subject to FERC Order 764 are required to accommodate.
Participating Intermittent Resource Program (PIRP)
NRG is encouraged that the CAISO is now considering grandfathering PIRP resources. NRG does not yet agree that the allowing variable energy resources to provide 15-minute schedules 37.5 minutes in advance mitigates the balancing energy risk enough to allow PIRP to be eliminated. In both of its prior Order 764 comments, NRG requested that the CAISO provide analysis regarding the extent to which these closer-to-real-time forecasts would reduce the need for PIRP.[1] NRG is in the process of assessing what would be needed to provide its own forecasts in accordance with the CAISO's proposed schedule. Until NRG can determine whether it is feasible to provide these forecasts, and understands how these forecasts are likely to reduce the balancing energy risk, NRG cannot support eliminating PIRP. Eliminating PIRP may have difficult consequences for those resources currently enrolled in the program. Because some Power Purchase Agreements mandate that resources must be enrolled in the PIRP program, simply eliminating the PIRP program may create hardships. Even if the PPA contained reopener language in the event the PIRP program was no longer available, it may not be possible to recreate the balance of benefits and burdens agreed to in the initial negotiation in the renegotiations. Consequently, unwinding PIRP participation may be problematic. Finally, the CAISO has offered to allow variable energy resources to submit their own forecasts instead of using the CAISO forecast, but has indicated that the CAISO will develop a certification process for variable energy resources forecasts, and that the CAISO may cancel a resource's ability to use its own forecast if the resource's forecast is significantly less accurate than the CAISO's forecast. In order for variable energy resource owners to consider whether to use their own forecasts, both the certification process and the conditions under which the CAISO will de-certify the use of the resource owner's own forecasts and the de-certification process must be clear. NRG appreciates that the CAISO may not have had time to clarify these things, but encourages the CAISO to provide details regarding the certification process and the de-certification process. 1 *See* http://www.caiso.com/Documents/NRG-Comments-FERC_Order764MarketChangesStrawProposal.pdf and http://www.caiso.com/Documents/NRGCommentsFERC_ Order764MarketChangesStrawProposalTechnicalWorkshop.pdf.
CAISO Response
The ISO has held lengthy discussions with stakeholders regarding the issue of grandfathering. The ISO believes that maintaining the existing PIRP energy settlement provisions for resources that would be grandfathered is not needed under the new real-time market design because of the reduced exposure to RTD prices. However, the proposed modified PIRP program above should be maintained since many existing power purchase agreements require participation in PIRP or contain other references to the PIRP program. The ISO is willing continue discussions on grandfathering where operational characteristics of certain existing PIRP resources make the energy settlement provisions under the FERC Order 764 market design changes not appropriate .
Uninstructed Deviation Penalties
"The ISO believes that if additional measures are needed, such as implementation of uninstructed deviation penalties, they should be reviewed after implementation the new 15-min[ut]e market."

(CAISO Revised Straw Proposal at 15). NRG agrees it would be premature to begin discussing uninstructed deviation penalties prior to the implementation of revamped real-time market.
CAISO Response
The ISO agrees.
Position limits for intertie convergence bidding
The CAISO has proposed to impose on each scheduling coordinator a total intertie virtual biding position limit equal to 10 percent of the total transfer capability of the largest intertie within the CAISO's footprint. Additionally, the CAISO has proposed that the position limit would remain in place for at least six months and would be reconsidered only after the CAISO and the DMM examine the performance of intertie convergence bidding. The CAISO seems intent on requiring severe positions limits as a condition for re-establishing intertie convergence bidding, and opposing such limits – even limits determined in an arbitrary way by taking 10 percent of the largest intertie transfer capability - seems futile. However, the conditions under which the CAISO would re-evaluate and relax the initial severe position limits are far too ill-defined. The CAISO and DMM should be required to conduct and publish their position limits analyses by a date certain, and the CAISO should better define a priori what the analyses would have to show in order to justify retaining the restrictive initial position limits.
CAISO Response
The draft final proposal uses the same position limits as used when convergence bidding on the interties was originally implemented.
The CAISO Should Identify How Order 764 Changes Fit Within the Scope of All Market Changes Under consideration
While NRG supports efforts to eliminate HASP as quickly as possible, the already-impressive list of major market modifications slated for implementation in 2014 continues to grow. Those modifications include deployment of (1) the Flexible Ramping Product, (2) the Order 764 modifications, (3) the integrated Day-Ahead Market (combining RUC and IFM), and (4), most recently, the integration of Pacificorp into the CAISO's five-minute real-time balancing energy market. Additionally, other significant issues – such as RA procurement reform, incorporating flexibility into RA procurement, reevaluating CAISO cost allocation, and consideration of highly-ranked market initiatives that hold significant interest for NRG (such as additional constraints to reduce exceptional dispatch and extended pricing mechanisms) are all expected to compete with the efforts already scheduled for implementation in 2014 for market participants' and CAISO staff's time. It is in everyone's interest for all parties to have a common understanding of how all of these efforts will be considered, developed and implemented within the constraining framework of available CAISO and market participant time and resources. NRG therefore requests that the CAISO lay out a comprehensive plan for how all of these issues will be considered and addressed over the next two years.
CAISO Response
In the revised straw proposal, the ISO discussed how the flexible ramping product and integrated DA-IFM would interact with the proposed FERC Order 764 design changes. The ISO will recommence the

FRP and iDAM stakeholder process after FERC order 764 tariff changes are filed with FERC. The FERC Order 764 changes to the real-time market have been contemplated in the development of EIM. The EIM stakeholder process will commence with a straw proposal on April 4th with a Board decision planned for November 2013. The FERC Order 764 market design changes are planned for implementation in Spring 2014. The EIM will leverage these real-time market changes when EIM is implemented in October 2014.

Company	Date	Submitted By
Pacific Gas & Electric Company (PG&E)	**February 27, 2013**	**Bahaa Seireg - (415)-973-3731**
Reactivation of virtual bidding at the interties should only be implemented in conjunction with a full scale reexamination of convergence bidding internal to the CAISO market.		
PG&E anticipates the implementation of a binding system-wide 15-minute market for energy and ancillary services will likely support better price convergence between day-ahead and day-of prices. While such an outcome may facilitate reinstatement of virtual bidding on interties, PG&E recommends that this initiative exclude reactivation of virtual bidding on the interties. Such an expansion of scope would be problematic for a variety of reasons. As highlighted in the DMM's Q4 Report on Market Issues and Performance, convergence bidders appear to be increasing arbitraging congestion and price spikes in the CAISO, often resulting in uplift costs paid by load without increasing market efficiency. As the DMM discussed, entities are submitting an increasing number of internal virtual supply clearing the market paired with internal demand bids at different internal locations by the same market participant, profiting from internal congestion within the ISO. The virtual demand bids at internal locations were very profitable in the hours when real-time prices spike occurred caused by the system power balance constraint binding because of insufficient upward ramping capacity or with congestion. This outcome might be acceptable if these convergence bidders were contributing to market efficiency, but the DMM found that "in practice, the impact of internal virtual demand on real-time price spikes appears to have been limited by the fact that any additional capacity available to convergence bidding may not be enough to resolve congestion or the short-term ramping limitations. This is further exacerbated by the hour-ahead market, which often does not reflect the same system conditions as in the real-time market and frequently reduces net imports, decreasing the benefits of additional capacity added in the day-ahead market". Given the lack of market benefits and the significant amount of uplift created costs created in terms of RTCO and RTIEO, the CAISO must reexamine the participation of virtual bidders internal to the market prior to simply reinstating virtual bidding at the interties. Second, even with the proposed repairs to one of the major structural flaws of intertie virtual bidding[2], its reactivation still requires sufficient assessment and resolution of the dual-constraint problem.[3] The effects of the CAISO's proposed dual-constraint solution need further review and mathematical assessment, particularly on the possible impacts on physical liquidity.[4] Third, reactivation of intertie virtual bidding is not required as part of FERC Order 764. There are no		

barriers to creating a separate initiative on intertie virtual bidding. Such an approach simplifies the task of Order 764 compliance.

Fourth, the timing of reactivation matters. Reactivation of intertie virtual bidding simultaneously with FERC Order 764 design implementation could mask market problems, delaying their discovery and increasing costs.

For all these reasons, PG&E maintains that reactivation of intertie convergence bidding be done separately from the Order 764 Design process in order to expedite Order 764 design's success and approval. Ultimately, reactivation decisions should be pursued cautiously, following assessments of market results under 764 and observations by DMM. Costs for uplifts associated with unproductive virtual bidding patterns have exceeded many millions of dollar.
It is important to note, finally, that Order 764's process does allow for an adjustment to settle internal virtuals at the new 15-minute RT market which should enhance the market benefits of these admittedly imperfect tools because the 15-minute market represents a system wide re-optimization not only of energy but also of Ancillary Services. It is thus a purer reflection of the DA solution and a more appropriate settlement period for virtuals, especially if virtuals are unable to resolve much of the ramping limitations in RT anyway.

[2] A market-wide energy and virtual bidding settlement every 15-minutes appears to resolve a key issue with intertie virtual bids under current designs, namely that intertie bids settle at HASP prices while internal bids settle at averages of the 5-minute prices.

[3] PG&E notes that both of the potential ideas for resolving the dual-constraint problem face serious opposition from multiple stakeholders. Moreover, the general effect of modeling of interties requires consideration, particularly since the CAISO has incurred $125 million dollars in Real-Time Congestion Offset uplift costs from July through October 2012 somewhat related to intertie modeling.

[4] In a stakeholder initiative run in parallel to the Real-Time Imbalance Energy Offset initiative, the CAISO has worked to resolve price inconsistency issues that are caused by enforcing the two intertie constraints implemented with convergence bidding. Under the current design, the CAISO enforces two constraints at scheduling points: (1) net physical schedules across each scheduling point, ignoring the accepted virtual schedules to ensure that the physical schedules are within the established scheduling limit for that scheduling point and (2) physical and virtual imports net of physical and virtual exports must also be within established scheduling limits.

CAISO Response

After the Intertie Settlement & Pricing Initiative was suspended, the ISO filed comments with FERC that the ISO would seek to address convergence bidding on the interties in this stakeholder initiative. The root cause of the suspension of convergence bidding on the interties has been addressed by settling both internal and intertie convergence bids based upon the 15-minute market LMP.

The ISO also believes that moving the real-time settlement internal convergence bids from RTD to the new 15-minute market will likely mitigate the concerns raised above for internal virtual bids since the 15-minute market can also commit resource to resolve congestion whereas RTD cannot commit resources. In any case, the ISO believes that any issues associated with virtual bids that are not specific to intertie virtual bids is out of the scope of the ISO's Order 764 initiative.

Improved VER scheduling practices could be used to replace PIRP

PG&E agrees with the CAISO that the PIRP program netting deviations within a month may not be necessary. Such changes might result in smaller uninstructed imbalance energy for VERs. Further, the elimination of PIRP could also provide better incentives for VERs to schedule accurately and to reduce their contributions to system-wide flexibility needs and to regional RUC procurement. For this reason and with the closer scheduling timelines proposed for FERC Order 764, PG&E supports the CAISO proposal to look at eliminating PIRP.

PG&E recommends that the grandfathering of existing PIRP resources should not be an issue that is discussed in this stakeholder process. This issue is separate from the market design elements as they relate to FERC 764.

CAISO Response

The ISO has held lengthy discussions with stakeholders regarding the issue of grandfathering. The ISO believes that maintaining the existing PIRP energy settlement provisions for resources that would be grandfathered is not needed under the new real-time market design because of the reduced exposure to RTD prices. However, the proposed modified PIRP program above should be maintained since many existing power purchase agreements require participation in PIRP or contain other references to the PIRP program. The ISO is willing continue discussions on grandfathering where operational characteristics of certain existing PIRP resources make the energy settlement provisions under the FERC Order 764 market design changes not appropriate .

Trade-offs between E-tagging timelines and between delaying market decisions until closer to real-time should be clearly defined and discussed.

PG&E reiterates its concern that 2.5 minutes may be insufficient under current methods for updating or completing e-tags required for energy flowing across an intertie, especially if this process is required up to four times an hour. CAISO should not move ahead of implementation capabilities of market participants and vendors. Specifically, the CAISO should provide insights on what are the actual changes needed support a 2.5-minute window and identify vendors that are developing such a feature.

The CAISO's Draft Final Proposal should specifically address these issues by detailing protocols, systems, and timelines for stakeholder discussion. Such details will be necessary for evaluation of any FERC Order764 Compliance plan. Specifically, the CAISO should detail the following:

- If transmission profiles change, how onerous is the e-tag update?
- Could these systems be upgraded to allow for less lead-time on both tag formation and on submission?
- What WECC or NERC governance structures should be involved in discussion of a move to a shorter tagging timeline?
- Could a panel of power marketers discuss how to improve tagging protocols in order to facilitate FERC Order 764 compliance?

Accommodations to tagging time-lines are important, but so is the need to ensure accurate load and VER forecasting by allowing key input timelines. If the CAISO identifies time-saving measures in its pre-market runs or tagging timelines, it should use such time to delay market decisions while also considering tagging needs. Additional time should not, de facto, go to increase timelines for tagging given that uplifts and market inefficient.

CAISO Response

In discussions with neighboring BAs, the suggestion was made to have the ISO update energy schedules based upon the 15-minute market to address this concern. The ISO has included this option in the Draft Final Proposal.

PG&E supports a design with no explicit transmission reservation

Removal of the previous proposal's Transmission Reservation concept improves the design by reducing complexity and the need to make and price decisions in advance of and somewhat disconnected from other binding optimization runs. Overall, this will improve efficiency.
By offering numerous flags and structures for intertie bids[5], the CAISO's design reduces seams and liquidity issues. Some of these structures should help with the transition to full 15-minute functionality on the interties. The goal of 15-minute functionality on the interties should remain a priority, even with presumed transition issues.

[5] Seven flavors of bids will be accepted for the interties: 1) Self-scheduled hourly block 2. Self-scheduled variable energy resource forecast 3. Economic bid hourly block 4. Economic bid hourly block with single intra-hour curtailment 5. Economic bid with participation in 15-minute market 6. Economic bid with participation in 15-minute market only if cleared in hourly process for block schedules 7. Dynamic Transfers

CAISO Response

The ISO agrees.

Participating Load and Proxy Demand Response Should be Allowed to offer Economic Block Schedules

In its Revised Straw Proposal, the CAISO proposes to provide Intertie resources with hourly block bidding and scheduling options including economic bid hourly block and economic bid hourly block with single intra-hour curtailment. PG&E also believes that these options should be made available to Participating Load (PL) and Proxy Demand Response (PDR) resources operating internal to the CAISO market as well as intertie resources. PG&E appreciates the efforts of the CAISO to encourage through market design the maximum participation (i.e. dispatchability) by all types of resources in both the 15-minute and 5-minute markets; however PDR and PL resources can share similar dispatch limitations with imports and exports. While program and capabilities for PDR and PL may evolve and expand over time (in response to greater need and market value of flexibility), PDR and PL resources can have current contractual or operational limitations that preclude most if not all intra-hour dispatchability.

Providing PL and PDR resources the same bidding options proposed for interties may increase bid participation and CAISO flexibility from these resources that would otherwise continue to be self-scheduled due to these dispatch limitations. The hourly block options should be made available to PL and PDR resources.

Consistent with resources on the interties that are not dispatchable on a 15 minute basis, such demand-side resources offering economic block scheduling internally should not be given uplift payments to the degree that the 15 minute prices are inconsistent with their economic bids.

CAISO Response

The ISO is only keeping an hour ahead process to accept block schedules because the ISO believes that entities within WECC will take time to move fully to 15-minute energy and transmission externally. If supporting hourly block schedules was not needed in real-time the ISO would not perform this process. The movement to 15-minute scheduling provides improved operational efficiency to integrate variable energy resources.

The existing PDR model allows market participants to set minimum run times. These mechanisms should be used to address the operational needs of demand response, not seeking to leverage an hourly process that will be eliminated when seams issues are eliminated. If additional demand response market enhancements are needed they should be prioritized through the market initiatives catalog process.
The CAISO Should Include a Discussion of the Energy Imbalance Implementation and How it Relates to FERC Order 764
In the Draft Final Proposal, the CAISO should provide the details of the Energy Imbalance Market (EIM) implementation with PacifiCorp and lay out how the EIM design and 764 would work in tandem with CAISO's market. The CAISO should also lay out an implementation timeline for the EIM and FERC Order 764 jointly so stakeholders can fully understand the implications of each proposal.
CAISO Response
The FERC Order 764 changes to the real-time market have been contemplated in the development of EIM. The EIM stakeholder process will commence with a straw proposal on April 4th with a Board decision planned for November 2013. The FERC Order 764 market design changes are planned for implementation in Spring 2014. The EIM will leverage these real-time market changes when EIM is implemented in October 2014.
Numerous settlement issues need assessment and consideration in the next proposal
Before finalizing the design, the CAISO should review several settlement details. Resolution of these details is possible but should be clarified through the stakeholder's process in order to allow appropriate assessment in advance of making tariff and BPM changes. 1. The pricing of RT Load deviations should be re-examined to provide better transparency into RT market issues. Currently all differences between load quantities scheduled in the day-ahead market and the final metered load position (i.e. RT load deviation) are settled at the 5-minute RT price corresponding to the load's scheduling LAP. Under the current FERC Order 764 proposal the ISO would instead price these deviations using a weighted average price based on the LAP-specific 15-minute and 5-minute LMPs and their corresponding dispatch volumes. PG&E is concerned that this change in pricing will reduce transparency to inefficiencies in and/or exploitations of the CAISO market process while doing little to minimize the risk and exposure to such issues. The current single market pricing process has allowed participants to use RT uplift allocation amounts to isolate intervals where there may be financial abnormalities and identify possible causes for detailed investigation. PG&E feels that this is a valuable process that offers clear visibility into market anomalies and that the new pricing proposal dilutes that visibility. PG&E requests that the CAISO continue to explore other mechanisms for pricing real-time Load deviations in order to maintain the current levels of pricing transparency while reflecting cost causation. Any such mechanism should attempt to include greater detail and visibility into how the proposed weighted average pricing and market uplifts will function when load forecasts in the RTPD period differ in direction from actual dispatch in the RTD and/or when congestion modeled in the RTPD process does not materialize in the RTD as expected.

While the CAISO has provided the single spreadsheet example detailing a simple, single-load scenario, PG&E feels that a detailed discussion of the approach and underlying principles would aid in understanding the incentives that result and potential uplifts.

2. RT Inter-SC Trade validation and pricing processes need to be re-examined and properly detailed. In its presentation slides, the CAISO proposed that all RT Inter-SC trades would be submitted as a single hourly value. Physical trades would then be validated against the binding 15-minute schedules and all trades would then settle at the corresponding 15-minute LMP.

   PG&E is concerned by the lack of consideration given to the RT Inter-SC trade process in the Revised Straw Proposal and asks that the CAISO clarify the entire trade process in its subsequent proposal. Specifically PG&E asks that the CAISO clarify the methodologies they have outlined for the physical clearing process and consider how the pricing of these trades would be balanced against the buyer's physical positions, especially if the buyer is using these trades to offset unscheduled RT load:

3. Clearing of Physical Trades: PG&E believes that adjusting agreed upon trade quantities after the submission deadline would impact the burdens and benefits between parties, as well as the financial settlement of energy under those contracts. The CAISO should consider these impacts in its next proposal.

   As was seen by market participants after the RT optimization modifications done by the CAISO on June 4th, 2012, additional conversions after the trade submission and clearing process deadline introduce considerable contract complexities. Typically, physical Inter-SC trades support energy deliveries from generators under bilateral contracts. Accordingly, parties may have allocated the associated costs of converted physical trades between each other for known scenarios, many times basing allocation on cost causation principles. Incorporating and additional intra-hour settlement into this Inter-SC functionality requires discussion.

4. Pricing Issues for trades used to mitigate real-time risk: The current RT market uses a single 5-minute LMP set to settle all RT positions for internal resources. Because load does not have the ability to schedule outside of the day-ahead market this single price process makes it possible for an LSE to use a RT Inter-SC Trade to offset the price risk for a fixed amount of RT load deviations. The revenues credited to the buyer for receiving the RT trade MWs will currently offset the cost for a corresponding quantity of RT load and insulate the buyer from any price volatility in the corresponding intervals. With the proposed change to RT load deviation pricing, this mechanism would be lost unless some additional mechanism is introduced to true-up the settlement items. PG&E requests that the CAISO consider how to create such a mechanism.

   PG&E believes that the proposed treatment of RT Inter-SC Trades represents a considerable change to the market and requests that the CAISO provide further explanation in the Draft Final Proposal.

CAISO Response

1. The load settlement example supports unlimited scenarios by changing the cell highlighted in

yellow in the spreadsheet. 2. Real-time inter-SC trades will remain an hourly product and will be settled at the average 15-minute price.		

Company	Date	Submitted By
Powerex Corp.	**February 26, 2013**	**Gifford Jung** **604-891-6040**
Powerex is supportive of 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).		
CAISO Response		
The ISO agrees that Order 764 makes reforms that allow the ISO to address inefficiencies under the current market design.		
Powerex is supportive of 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).		
CAISO Response		
The ISO plans to monitor deviations that may occur under the proposed design and would propose additional mitigating measures if they pose significant market inefficiencies.		
Powerex is supportive of the scheduling options for interties transactions		
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.

CAISO Response

No comment

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.

CAISO Response

The review of the CRR clawback rule is out of scope of this initiative.

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.

CAISO Response

The draft final proposal applies the hour ahead declines charge only to incremental imports and exports in the hour ahead process that through not delivering do not have exposure to either the 15-minute price or RTD. The ISO's proposed design is based on the premise that the applicable market appropriately determines the value of undelivered energy.

Powerex is Supportive, with Modifications, of 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 intertie 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 intertie 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 intertie 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 intertie awards Day Ahead, the CAISO has essentially nullified any argument to reinstate intertie virtual bidding on the basis of enabling SCs a mechanism to hedge future Real-Time supply at the IFM clearing price..

CAISO Response

The ISO believe the changes to the existing HASP reversal rule propose which will use the tagged energy schedule value at the start of the hour-ahead process address in part Powerex's concern. The ISO believes the HASP reversal rule provides an adequate disincentive to implicit virtual bidding. Implicit virtual bids submitted in the day-ahead market (i.e. an intertie schedule never tagged) can never be closed-out at a profit in the real-time market under the HASP reversal rule.

Powerex is Supportive, with Modifications : Not providing bid cost recovery or make whole payments for intertie 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 interties that are dispatched once in the hour; and
b. Include an hourly make whole payment for instructed intertie 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 interties. Powerex believes any bid cost guarantee or make whole payment to intertie 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 intertie 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.

CAISO Response

Bid cost recovery has been eliminated for all flavors of hourly block schedules.

Powerex is not supportive of the concurrent reinstatement of convergence bidding on the interties, 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 interties 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 interties 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.

CAISO Response

As described in the previous response. The ISO believe the changes to the existing HASP reversal rule propose which will use the tagged energy schedule value at the start of the hour-ahead process address in part Powerex's concern. The ISO also believes that moving the real-time settlement internal convergence bids from RTD to the new 15-minute market will likely mitigate the concerns raised above for internal virtual bids since the 15-minute market can also commit resource to resolve congestion whereas RTD cannot commit resources. In any case, the ISO believes that any issues associated with virtual bids that are not specific to intertie virtual bids is out of the scope of the ISO's Order 764 initiative.

Powerex is not supportive of 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.

CAISO Response

The ISO will limit 15-minute awards based upon the minimum external transmission schedule on the tag prior to running the 15-minute market optimization.

Powerex further recommends the CAISO 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.

CAISO Response

The ISO is not proposing any uninstructed deviation penalties as this time. The ISO's proposed design is based on the premise that the applicable market appropriately determines the value of undelivered energy.

Powerex further recommends the CAISO 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.

CAISO Response

The ISO believes that any issues associated with virtual bids that are not specific to intertie virtual bids is out of the scope of the ISO's Order 764 initiative.

Powerex further recommends the CAISO 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.

CAISO Response

The ISO plans to recommence the flexible ramping product stakeholder initiative which includes the integrated IFM and RUC after the FERC Order 764 design changes are submitted to FERC. This is currently planned for November 2013.

Powerex further recommends the CAISO 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. 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.

CAISO Response

This proposed initiative should be included in the market initiatives catalog process for prioritizations.

Powerex further recommends the CAISO 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.

CAISO Response

This proposed initiative should be included in the market initiatives catalog process for prioritizations.

Company	Date	Submitted By
Southern California Edison	**February 26, 2013**	**Jeff Nelson (626) 302-4834** **Aditya Chauhan – (626) 302-3764**

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.

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, 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 participants[3]. 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.

[3] Section 5.2.2. http://www.caiso.com/Documents/RevisedStrawProposal-FERCOrderNo764Compliance.pdf

CAISO Response

The Draft Final Proposal has eliminated BCR for all flavors of hourly block schedules.

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

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:

<u>15-minute space</u>: 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.
<u>5-minute space:</u> 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. <u>$30 is not the appropriate 15-minute price</u> – 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. <u>Load is overcharged</u> – 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.

CAISO Response

The hour ahead schedules decline charge only applies to incremental imports and exports that have not financial settlement (either 15-minute or RTD) if not delivered. . The ISO's proposed design is based on the premise that the applicable market appropriately determines the value of undelivered energy. Nevertheless, the ISO plans to monitor uninstructed deviations and would propose additional measures should they be contributing to market inefficiencies.

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 defined[4]. 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 grandfathering[5]. 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 reliability[6].

[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

CAISO Response

The ISO believes the PIRP program should be modified to reflect the ability to schedule more granularly and closer to actual flow. Since uninstructed imbalance energy is the difference between the meter and the forecast 7.5 minutes prior to flow, the ISO believes monthly netting of UIE is no longer necessary.

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

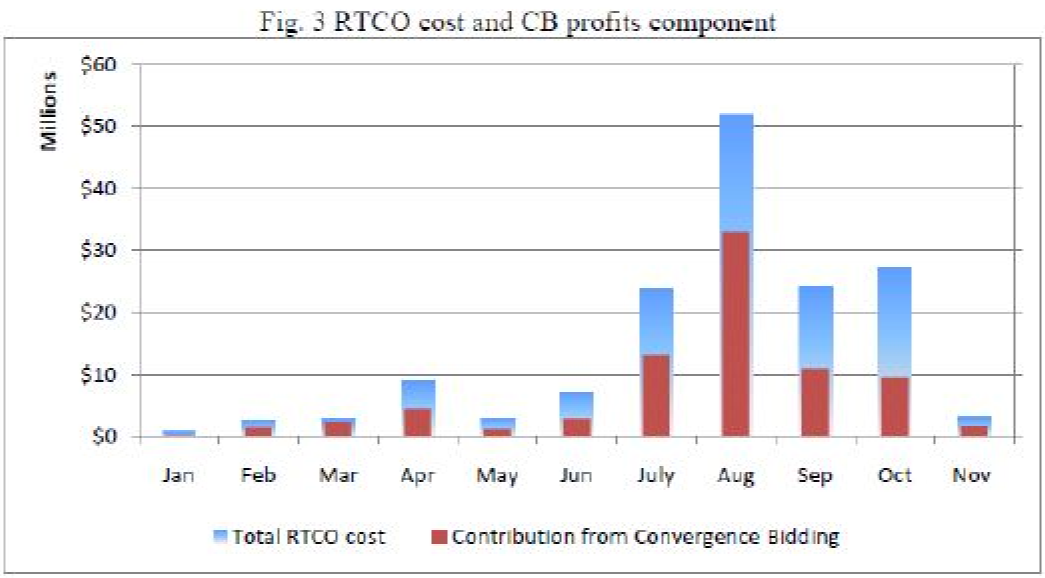
SCE has concerns about the impact on operations of the proposed 2.5 minute timeframe for submission of updated e-tags. SCE instead proposes a 5 minute timeframe for tag submission which is more practical to allow operational feasibility. We would hope the CAISO could "make up" for this by shortening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

CAISO Response

In discussions with neighboring BAs, the suggestion was made to have the ISO update energy schedules based upon the 15-minute market to address this concern. The ISO has included this option in the Draft Final Proposal.

Comments on Intertie Convergence Bidding
The CAISO must immediately resolve the excessive uplift created by Convergence Bids

Internal Convergence Bids now exploit internal congestion[7], 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 figure[9].



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).

[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

CAISO Response

This concern should be mitigated by moving internal nodes real-time settlement of convergence bid from RTD to the 15-minute market. The 15-minute market can use unit commitment to resolve congestion whereas the RTD market cannot. The ISO believes that any issues associated with virtual bids that are not specific to intertie virtual bids is out of the scope of the ISO's Order 764 initiative.

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 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.

[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

CAISO Response
After the Intertie Settlement & Pricing Initiative was suspended, the ISO filed comments with FERC that the ISO would seek to address convergence bidding on the interties in this stakeholder initiative. The root cause of the suspension of convergence bidding on the interties has been addressed by settling both internal and intertie convergence bids based upon the 15-minute market LMP.
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.
CAISO Response
The ISO will determine based upon bids which intertie transactions will be able to tag prior to the real-time market. The least economic schedules from day-ahead are the most likely not to clear the hour-ahead process. Thus even if the schedule was tagged DA it does not guarantee it would not be curtailed economically in the hour-ahead process.
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 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.
CAISO Response

a. The ISO is discussing our proposal with neighboring BAs and will continue discussion through the implementation phase.
b. The ISO has provided data showing the volume and pricing difference between RTPD and RTD with the straw proposal.
c. The ISO agrees

Company	Date	Submitted By
San Diego Gas & Electric	**February 27, 2013**	**Victor Kruger - VKruger@SempraUtilities.com**

SDG&E is concerned the CAISO is trying to solve too many problems in this single initiative.

From a systems implementation standpoint, eliminating HASP and creating a 15-minute market may engender the largest changes since MRTU. In light of this potential, the CAISO must not try and solve too many current problems in a single initiative, or the initiative risks becoming so complex that implementation will be dragged out for years.

SDG&E believes only what is needed for FERC 764 compliance and creating the 15-minute market should be contained in this initiative. Squarely addressing lingering issues like convergence bidding on intertie scheduling points and the elimination of PIRP are important objectives, however, they should be handled separately to avoid endlessly delaying Order 764 compliance. Any items not core to complying with FERC Order 764 should be evaluated against other needed market solutions to see if their priority justifies inclusion. In this vein, Indeed, convergence bidding on interties has a much lower priority for SDG&E than other CAISO issues, particularly the $95 million Real Time Offset uplifts from internal convergence bids in 2012. To be clear, SDG&E suggests not only stripping convergence bidding on interties from this initiative, also encourages the CAISO to address RTO uplift before devoting staff attention to that issue.

In this vein, SDG&E also questions the need for adding the option for a single intra-hour economic curtailment on real-time intertie bidding. The risk of creating additional uplift may be greater than the benefit of an intra-hour economic curtailment option. Perhaps this option can wait to be implemented until after experience with the 15-minute market is gained.

Participating Intermittent Resource Program (PIRP) in its current form is counter to cost causation principles. The straw proposal minimizes many of the risks PIRP was created to address. Uplift charges due to PIRP should be eliminated as soon as possible and this would also create the proper price signals to incent proper behavior. SDG&E supports the elimination of PIRP but does not want this issue to delay implementation of the far more important 15-minute market. Issues such as grandfathering could make eliminating PIRP a complex issue and may have to be handled in a separate initiative.
Finally, the elimination of the transmission reservation bidding and settlement is a significant positive step that helps avoid needless complications with dubious benefits. SDG&E commends the CAISO for fully analyzing this issue and ultimately rejecting it.

CAISO Response

The intra-hour schedule change for hourly block schedules should increase liquidity within the 15-minute market while the WECC migrate to fully 15-minute energy and transmission schedules. These schedule changes are not eligible for bid cost recovery.

The purpose of FERC Order 764 was to facilitate the integration of variable energy resources, as such, the improved scheduling opportunity for VERs does result in modification to the existing PIRP program.

After the Intertie Settlement & Pricing Initiative was suspended, the ISO filed comments with FERC that the ISO would seek to address convergence bidding on the interties in this stakeholder initiative. The root cause of the suspension of convergence bidding on the interties has been addressed by settling both internal and intertie convergence bids based upon the 15-minute market LMP.

Company	Date	Submitted By
Six Cities	**February 26, 2013**	**Bonnie S. Blair - 202-585-6905** **bblair@thompsoncoburn.com**

The Six Cities generally continue to support the implementation of 15-minute scheduling. The Cities also support the following specific elements of the Revised Straw Proposal

(i) The proposal to apply the 15-minute scheduling and settlements processes to both intertie and internal resources;
(ii) the proposal to eliminate the Participating Intermittent Resource Program ("PIRP") when 15-minute scheduling is implemented;
(iii) the proposal to not allow convergence bidding between the 15-minute market and Real-Time Dispatch ("RTD");
(iv) the determination in the Revised Straw Proposal to omit the previously proposed transmission reservation process from the market design changes; and
(v) the proposal to allow submission of Hourly Block Schedules.

CAISO Response

The ISO is proposing to modify PIRP not eliminate the program.

The Revised Straw Proposal fails to provide sufficient protection against expanded accumulation of excessive uplift costs

That failure is particularly problematic with respect to the ISO's proposal to reinstate Convergence Bidding at the interties simultaneously with the adoption of the 15-minute scheduling processes and the failure to include in the market redesign proposal adequate measures to discourage deviations from the ISO's dispatch instructions.

Order No. 764 does not address convergence bidding, and compliance with Order No. 764 does not require reinstatement of convergence bidding at the interties. During 2012, convergence bidding at nodes internal to the ISO's BAA resulted in approximately$60 million in net uplift costs imposed on load. Department of Market Monitoring Q4 2012 Report on Market Issues and Performance at 23 (Feb. 12, 2013). Even when internal Virtual Bids and intertie Virtual Bids are settled on the same basis, it seems probable that reinstatement of convergence bidding at the interties will inflate uplift costs even further at the expense of load. Resumption of convergence bidding at the interties is not necessary to implement 15-minute scheduling, and it should not occur as a matter of course when 15-minute scheduling is implemented. Instead, there should be an independent reevaluation of the convergence bidding structure both for internal nodes and for the interties with the objective of identifying and implementing revisions to the convergence bidding design to ensure that load is not forced to continue to support profits for convergence bidders through excessive uplift payments.

With respect to measures for discouraging deviations from ISO dispatch instructions, the ISO has emphasized the operational challenges that will occur as more Variable Energy Resources ("VERS") are integrated into the system. Given these anticipated operational challenges, it appears that compliance with the ISO's dispatch instructions will become increasingly more important to operational reliability. The ISO's Department of Market Monitoring and a number of stakeholders (SCE, Powerex, the Six Cities, and SDG&E) have urged the ISO to apply "worse of" pricing to intertie deviations from ISO instructions. The ISO has rejected those suggestions out-of-hand, apparently based on reluctance to depart from the market optimization results. However, deviations from the ISO's dispatch instructions are themselves departures from the market optimization results, and significant deviations may result both in unreasonable and unfair economic outcomes and in threats to reliability. In addition, while the ISO does not intend to allow convergence bidding between the 15-minute market and RTD, failure to implement a "worse of" pricing rule will have the effect of permitting implicit Virtual Bids between the 15-minute market and RTD, as several stakeholders have noted. Although the ISO's responses to the stakeholder comments suggest potential development of generally applicable penalties for uninstructed deviations at some unspecified time in the future, such vague temporizing is not good enough. Implementation of "worse of" pricing appears to be the most administratively straightforward measure for discouraging deviations from dispatch instructions. But if the ISO prefers consideration of deviation penalties on a comprehensive basis, that initiative should proceed in parallel with development of the 15-minute scheduling framework, and measures to avoid adverse incentives should be implemented prior to or at the same time as 15-minute scheduling.

In addition, although the Six Cities support the ISO's proposal to allow Hourly Block Schedules, the Cities do not support Bid Cost Recovery for hourly schedules. This is another example of unnecessarily expanding the potential for uplift costs. Because the option to submit 15-minute bids will be available and because 15-minute bids will provide greater value in meeting the ISO's operational needs, there is no apparent reason to extend Bid Cost Recovery to Hourly Block Bids.

The Six Cities also continue to recommend that LSEs be allowed the opportunity to adjust Demand schedules in the 15-minute market, providing LSEs the same opportunity to mitigate costs and manage exposure to allocated charges as the ISO proposes to make available to other market participants. The ISO's original response indicated that because the 15-minute process is part of the Real-Time market, allowing adjustment of Demand schedules would undermine reliability of service. The Cities noted in their January 8, 2013 Supplemental Comments, however, that even if the ISO's load forecast is the correct target against which to balance supply in Real-Time, it does not necessarily follow that allowing adjustments to Demand schedules in the 15-minute process would be inappropriate or undesirable. Allowing adjustments to Demand as part of the 15-minute process could create favorable incentives and enable allocation of cost responsibility that aligns better with cost causation. When the ISO is expanding opportunities for all other types of market participants to manage their exposure to costs through the 15-minute scheduling process, it is unreasonable to reject implementation of similar opportunities for load.

In their January 8, 2013 Supplemental Comments, the Cities advocated as a general principle that, in developing the details of the 15-minute scheduling process, the ISO should strive to apply cost allocation mechanisms that both encourage desired behaviors (e.g., compliance with dispatch instructions and approved schedules) and comport with the cost causation principle, with the objective of minimizing "peanut butter" treatment of undifferentiated uplift costs to the maximum extent possible. Although the ISO's response to the Cities' comments agreed with that principle, the Revised Straw Proposal does not come close enough to satisfying the principle.

CAISO Response

After the Intertie Settlement & Pricing Initiative was suspended, the ISO filed comments with FERC that the ISO would seek to address convergence bidding on the interties in this stakeholder initiative. The root cause of the suspension of convergence bidding on the interties has been addressed by settling both internal and intertie convergence bids based upon the 15-minute market LMP.

Hourly metered load is settled based upon the ISO forecast, there is no bidding our hourly metered load allowed in real-time.

Company	Date	Submitted By
Sacramento Municipal Utility District (SMUD)	**February 26, 2013**	**Gary Lawson - (916) 732-5802 Gary.Lawson@smud.org**

Unifying Ties

SMUD supports the CAISO's efforts to unify the ties with its internal load resources.
Adoption of 15-minute scheduling across the ties should significantly reduce forecast deviations and ultimately reduce uplifts.

CAISO Response

No comment.

Hourly Schedules at the Ties

SMUD believes that the CAISO could see reduced economic hourly block transactions at the ties due to the elimination of price certainty. WECC's Task Force recommendation on the proposed changes required in Order 764 was the augmentation of the hourly scheduling processes with 15-minute schedule changes while keeping the hourly service term as is today. Because the CAISO is proposing to eliminate the price certainty of the hourly market at its ties, and implement a "price taker" feature for Economic Bid Hourly Block schedules, this option will limit the liquidity of the market as some market participants may choose for a variety of physical and/or economic reasons not to respond to 15-minute price signals.

CAISO Response

The ISO is incentivizing movement to 15-minute energy and transmission, but still supporting hourly block schedules.

Dual Constraint

SMUD recognizes the complexity of solving the dual constraint issue, which in the past was the cause of physical export resources clearing at prices inconsistent with their submitted bid. SMUD agrees this issue needs to be resolved prior to the reinstatement of convergence bidding on the interties. However

SMUD does not support the CAISO's proposal to reject tags for awarded day ahead physical bids in certain circumstances driven by convergence bids. Although the CAISO expects circumstances in which tags would not be accepted for day-ahead physical intertie awards to occur infrequently, permitting this at all does not send the appropriate market signal. As the CAISO points out in the revised straw proposal this situation will occur under the same circumstances as the price inconsistency occurred under the previous design, which while infrequent, led to reduced confidence and transparency in the CAISO market. The current option proposed by the CAISO essentially forces physical bidders with no intention to participate in the virtual market to become convergence bidders by being required to purchase back their bid in real time. This will likely discourage participation and limit supply.
CAISO Response
The ISO is economically determining which DA tags should be accepted. As a result, the least economic day ahead schedule, or stated otherwise, the schedules that will be most likely economically curtailed in real-time are not allowed to tag. In addition, if the ISO does not accept a day ahead tag due to the physical only constraint, the schedule will not be subject to the HASP reversal rule.

Company	**Date**	**Submitted By**
Vitol Inc	**February 26, 2013**	**Kolby Kettler**

As an alternative to the "Proposal" Vitol would request the CAISO consider the following:

The CAISO would continue with both its DAM and HASP markets with enhancements that allow scheduling coordinators, who can be flexible on a 15-minute basis, the ability to "flag" their schedules for 15-minute intertie re-dispatch.

- The CAISO should allow for virtual bidding at the interties
- The CAISO should allow for BCR of both imports and exports
    - It should be noted that market participants have been entering into contracts based on the existing market structure that currently allows for BCR for imports. Removing BCR adds an element of risk to transactions that need to be reasonably managed. If BCR is determined to unjustly and/or unreasonably drive costs to certain scheduling coordinators, then the CASIO should make every effort in phasing out BCR over time versus removing a risk management tool.
- We applaud the CAISO for removing the unnecessary "Transmission" procurement process originally contemplated.

CAISO Response

The ISO is not offering bid cost recovery for hourly blocks. Intertie transactions that do not need to be self-scheduled in the 15-minute market are eligible for bid cost recovery. This is similar to internal generation that self-schedules a deviation to its day-ahead schedule. Self-schedules are not eligible for bid cost recovery.

BCR for Imports of Energy

- CAISO has stated that BCR does not impact the Real-time Imbalance Energy Offset Charge
- Vitol requests that the CAISO produce sufficient analysis to determine the potential BCR cost "savings" under the new CAISO proposal. Without this analysis we are unable to weigh the risks

related to reliability concerns, decreased liquidity and/or an increase in potential out of market solutions.
    - At this point, the CAISO has not articulated any significant benefit(s) of removing BCR for imports of energy. The current proposal will remove BCR for imports without understanding the market consequences and/or if significant benefits exist.

CAISO Response

This is comparing apples and oranges. One of the causes of the RTIEO results from difference between the market optimization in HASP and RTD. The ISO is not offering BCR to provide incentives to move to 15-minute energy scheduling and transmission external to the ISO. The requested analysis does not prove or disprove the value of making the proposed changes to the real-time market.

Declined Energy Penalty

- Vitol believes that the CAISO should not apply the Declined Penalty to schedules scheduled in the day-ahead market.
    - It's unclear why imports or external generation would be treated differently in levying a penalty for non-performance, while internal generation would not be held to the same standard.
- The CAISO should articulate why external generation should be treated differently than internal generation.
- We are of the opinion that the Declined Penalty is a legacy fine assessed in pre-MRTU and based on hourly requests for energy. We believe that the Penalty should be eliminated completely and not contemplated for day-ahead schedules.
- The CAISO has not produced a single significant benefit for applying this penalty to day-ahead schedules.
    - We request that the CAISO provide analysis as to any potential benefit(s).

CAISO Response

The declines charge only applies to incremental imports and exports that do not have any financial settlement (ie 15-minute or RTD) for not delivering.

One-time Intra-Hour Curtailment of physical schedules (including economic curtailments)

The CAISO has cited the following WECC standards, protocols, procedures and/or scheduling practices that would allow for economic intra-hour curtailments within WECC:

- ▪ INT-004-WECC-RBP-1, Tag Curtailments/Reload Responsibilities for Transmission Emergencies
- INT-005-WECC-RBP-1, Real-Time Interchange Schedule Manual Emergency Curtailment Procedures
- INT-010-WECC-RBP-1, Reliability Curtailments

Vitol has pointed out that the above curtailment procedures are intended for particular emergency situations and do not cover economic curtailments. Vitol requests clarification on this item.

CAISO Response

As the ISO has stated, we are utilizing existing business practices for used for reliability schedule changes. The ISO is not proposing a different business practice for economic schedule changes, but rather utilize the existing framework allowed for reliability curtailment.

WECC 764 Taskforce

The WECC taskforce continues in their "fact finding" process, and expected to make recommendations to WECC in March of 2013.

- The CAISO has the ability to provide a 15-minute option in scheduling physical power, in an effort to increase efficiencies throughout WECC. However, the CAISO's timeline is ignoring individual counter party's burden of evaluating system impacts, head count needs, and other vital components in facilitating a 15-minute market. BAs, TPs and others will be expected to provide a 15-minute option therefore, their systems will need to accommodate continued ramping of net interchange, the receipt of timely scheduled net interchange, an enormous number of tag adjustments, imbalance energy calculations, and many other aspects. Whereas there might not be significant changes within WECC's standards, protocols and/or procedures, the CAISO is ignoring the significant hurtles of implementation at the counter party level.

Vitol has a legitimate concern related to CAISO's understanding of tagging and curtailment options under the existing tagging rules, along with general concerns surrounding WECC integration, the application of legacy fines and a lack of purpose for removing BCR for imports.
We believe that the CAISO should continue moving forward with a 15-minute market by providing market participants, that can be flexible, the option to be flexible. It's our opinion that nodal prices should dictate market participant behavior. We are also of the opinion that mandating a 15-minute market without cost assurances from the HASP, is a significant risk adjustment within the power markets. We prefer the CAISO allow 15-minute prices (nodal prices) determine the value for being flexible, versus the CAISO place incremental risks, related to BCR, to force flexibility.

CAISO Response

The ISO continues to actively participate in the WECC taskforce and will work with neighboring balancing authorities as we move forward with implementation. It should also be note that approximately 50% of balancing authorities in WECC are FERC jurisdictional and subject to compliance with FERC Order 764.

Company	Date	Submitted By
Western Area Power Administration, Sierra Nevada Region,		Brian Sprague

TOR and ETC rights

Will TOR and ETC rights be considered in the merit order list rankings? Is there protection in place to ensure these rights are not compromised?

CAISO Response

The ISO is not proposing any change to TOR/ETC rights.

Will there be more examples forthcoming of how Load will be settled?
There was discussion at the last Stakeholder meeting on February 12th, 2013 of settling Load possibly two or possibly three times. What are the determining factors in how many times Load is settled? Will there be a separate Stakeholder session on the settlement calculations, the potential large increase in settlement billing determinants, and at what level these charges will appear when aggregated into the CAISO settlements system?
CAISO Response
Hourly metered load is settled at the weighted average price of the 15-minute market and RTD. The ISO will provide in settlements data the ISO forecast used to calculate the weighted average price.

Company	Date	Submitted By
Western Power Trading Comments	**February 26, 2013**	**Ellen Wolfe - 916 791-4533** **ewolfe@resero.com**

WPTF Supports Removal of the Transmission Reservation Aspect of the Proposal
We support the CAISO's recommendation to remove the transmission reservation aspect of the proposal; that element seemed to add complexity without significant benefit. We believe the proposed treatment of VERs as laid out in the straw proposal offers sufficient flexibility for the scheduling of those resources. While the VER schedule change features and priority mechanism for the 15-minute and block-hourly schedules still seems quite complex, WPTF has at this time no recommended solutions for further simplifications.
CAISO Response
No comment.
WPTF Urges the ISO to Host a Panel of Experts from Adjacent BAAs to Discuss the Proposal
WPTF universal concern across its membership about the proposal is the potential unworkability of this proposal with respect to adjacent BAAs. WPTF is concerned that both the timing and the energy schedule adjustments within the hour may be problematic to manage with adjacent control areas, and the proposal is not something that WPTF will ultimately support if in fact essentially no intertie schedules can participate in the 15-minute markets given adjacent BAA limitations. From time-to-time the ISO brings in outside experts to discuss ISO proposals. We believe that this policy design process is ripe for such a panel discussion and strongly encourage the ISO to create such a forum prior to the preparation of its Final Draft Straw Proposal. In particular, WPTF recommends the ISO seek participation from representatives from BPA, APS and SRP. Through such a panel we would hope the stakeholders and ISO could confirm whether or not any significant level of participation in the 15-minute market could be supported by adjacent BAAs. In addition, WPTF would like the following issues related to WECC practices addressed.

- How does 15-minute scheduling relate to current WECC protocols, procedures and standards related to scheduling practices, curtailments and energy adjustments? To what extent do the WECC protocols, procedures and/or standards address intra-hour or 1-time curtailment process, for reasons including economic?

- To the extent that the WECC rules and protocols allow for within the hour scheduling, please investigate the extent to which transmission providers can accommodate significant volumes of within the hour schedule changes? Will transmission providers have to make significant adjustments within their IT systems, calculations of imbalance, as well as, internal processes and procedures?

CAISO Response

The ISO continues to actively participate in the WECC taskforce and will work with neighboring balancing authorities as we move forward with implementation. It should also be note that approximately 50% of balancing authorities in WECC are FERC jurisdictional an subject to compliance with FERC Order 764.

WPTF is Undecided as to Whether Proposal Benefits Outweigh increased Burdens to WPTF Members

While we appreciate that the proposal offers the possibility of the benefit of a single financial settlement for the HA/15-minute market, the Order 764 proposal creates a number of burdens for different types of WPTF members. Further the proposal seems to shift burdens to the classes of membership within WPTF relative to the status quo HASP design. WPTF is undecided as to whether in its current form the proposal benefits outweigh the burdens. However, WPTF very much encourages further consideration of whether this shift in burden can be lessoned.

Generally, WPTF sees the following Pros and Cons of the proposed Order 764 scheduling design.

Pros	Cons
Conforms HASP/15-minute financial market across suppliers	For interties - does not match physical reality of hourly scheduling; shifts risks of CAISO HA to 15-minute market model changes and operator actions to intertie players For internal suppliers - does not match physical reality of 5-minute dispatch; shifts risks of CAISO 15-minute to 5-minute market model changes and operator actions to suppliers

As an organization, WPTF is undecided as to whether in its current form the proposal benefits outweigh the adverse impacts. However we do note that the proposal results in a significant shift of burden to the supply community that is currently born by the loads. In particular under the current HASP design, when the market model representations do not match between HASP and RT, or when the ISO operators take actions in HASP that cause impacts that do not support the ultimate RT needs, the costs accumulate in the RTIEO and are borne by loads. Whereas WPTF appreciates the benefits of a conformed price, the CAISO's draft proposal shifts the burden of the market model and operator actions to intertie schedules (15-minute price risk and no BCR) and internal suppliers (significant fraction of energy priced at 15-

minute price, though dispatched on hourly basis). Whereas the RTIEO cost allocation policy suggested that this somewhat uncontrollable set of costs be distributed to load, the shift in policy away from this approach does not seem sufficiently supported by the ISO in the its draft proposal. WPTF ask the ISO to address more explicitly the basis for this policy shift; as imposing this burden on WPTF members without a strong rationale is inappropriate. More importantly, WPTF encourages the ISO to consider means to moderate this shift in burden to intertie participants and internal suppliers.

CAISO Response

The ISO believes that it is necessary for WECC to move to 15-mintue schedule to integrate variable energy resources. In addition, it is important to incentivize imports and exports to provide 15-minute flexibility by not protecting real-time hourly block schedules which are unwilling to provide flexibility. The changes proposed in the draft final proposal results in interties and internal generation being treated similar with respect to their willingness to provide flexibility on a 15-minute basis.

WPTF requests Further Consideration of Declined Schedule Policies

WPTF asks the ISO to clarify the proposal with respect to the declined schedule charge. When does the charge apply and when does it not? Does it apply to hourly self-schedules and economic schedules equally, and if not why not? If the charge is applied based on the hourly advisory schedule, please explain why it is necessary or appropriate to apply a charge based on that outcome when the hourly advisory results not otherwise binding.

It does not seem appropriate to treat hourly block schedules differently from 15-minute schedules, especially in light of the fact that hourly schedules are already intended to be subject to 15-minute price risk, and that they are subject to RTD prices when not delivered.

It is unclear why it is appropriate to continue to treat interties differently from internal resources when under the proposal they will be subject to conformed prices under the ISO's Order 764 proposal. Please clarify why the ISO believes it appropriate to apply the charge to intertie transactions rather than simply subjecting them to RT prices.

CAISO Response

The declines charge only applies to incremental imports and exports that do not have any financial settlement (ie 15-minute or RTD) for not delivering.

WPTF Supports the ISO's Proposal to not use "Worse-of" Pricing

WPTF supports the ISO position that other mechanisms exist to dis-incent deviations, and we do not support the alternative proposal to layer on an additional punitive disincentive for deviations which would themselves move the market away from pricing energy at the market in which it was delivered.

CAISO Response

No comment.