Impact of Convergence Bidding on Real-Time Imbalance Energy Offset

Submitted by	Company	Date Submitted
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SCE appreciates the opportunity to provide comments on the Impact of Convergence Bidding on Real-Time (RT) Imbalance Energy Offset Proposal and on the presentation and discussions during the May 4th web conference. SCE also appreciates the substantial time and resources devoted by the California Independent System Operator (CAISO) to address this issue. The Department of Market Monitoring (DMM) has followed this issue methodically and highlighted the seriousness[1] of the situation in its quarterly reports. This problem spans over years with an impact of will over a hundred million dollars and affects millions of ratepaying customers. In contrast, the price inconsistency due to intertie constraints originated a few months ago with an effect of hundreds of thousands of dollars affecting a few market participants. SCE does not see these issues as comparable nor sees any compelling reason they should be grouped together.

The core of the problem driving uplift

SCE is concerned that the CAISO's proposal to address uplift is, in effect, solving the wrong problem. At issue is not an operational artifact that will gradually be solved over time as the CAISO improves various internal processes. Rather, we have a market structure in conjunction with incorrect cost allocation which results in behavior that neither converges market prices nor produces market efficiency. Rather, it creates a permanently exploitable opportunity.

At its core, the CAISO has a structural issue in which parties that create uplift are not required to pay the uplift. In this case, participants utilizing the HASP market, with both virtual and physical transactions, create uplift that is then applied to measured demand (load and exports), even though measure demand likely has no role in creating the uplift. In actual operations the bulk of this uplift flows directly to load. This proposed solution does not address the market allocation rules of the Imbalance Energy Offset cost, but rather attempts to minimize the amount of dollars that may end up in the Imbalance Energy Offset melting pot. Since SCE's load represents about one-third of the CAISO's grid, the end result is that our customers pay about a

[1] Most recently on pp18-24 in http://www.caiso.com/2b1f/2b1f838819910.pdf

third of the uplift even if they had nothing to do with creating this cost. Moreover, the CAISO market structure includes a HASP settlement and a HASP price that will never perfectly match real-time prices. As a result of both the market structure and allocation of uplift, the current situation is neither just nor reasonable. The magnitude of the monetary impact requires the CAISO to take rapid action.

Moreover, the CAISO's proposed solution would likely only work at the Corporate Entity level, similar to the CRR clawback. As a result, we are concerned the application of the proposal may prove too limited to be durable and effective.

We note the CAISO proposal addresses a mere symptom of the core issues, and does nothing to address the true illness. While we can support addressing symptoms as an immediate stop-gap action, that support is conditional on also having an actionable, and near-term plan to address the actual root causes. Given this structural problem, two general solutions should be pursued: 1) allocate the uplift back to the parties that create it, and 2) make market structure changes that eliminate or significantly reduce the cause of the uplift.

While the CAISO's proposal pursues approach 1, it falls short and requires modifications (proposed here) to get closer to that goal. Unfortunately, the CAISO does not suggest any structural changes to eliminate the cause of the uplift. We feel that a structural solution should be pursued and implemented in the very near term. We suggest such a method below that could be implemented relatively quickly, and could serve as a durable stop-gap until a "final" solution to the HASP design is worked out in the Renewable Integration process. However, given the material dollars in uplift, we support a modified version of the CAISO's proposal as an immediate "band aid" while our suggested structural change is implemented.

<u>In summary, the core proposal must be enhanced if it is to be a viable short-term fix while the CAISO works on implementing structural changes.</u>

Short-term Fix

While we see the proposal as a step in the correct direction to help address the uplift created by "paired" virtual bids, the proposal should be enhanced and implemented immediately. We would support such a filing with the following enhancements:

1) <u>The proposed trigger for an immediate emergency filing should be lowered to $15MM over 30-days.</u> The CAISO observed approximately $100 million in Real Time Energy Imbalance Offset charges in 2010. That is about $8 million on average per month. Meanwhile, January and February 2011 averaged at $18 million.[2] It would seem reasonable that this threshold be set much lower than $25 million given the data at hand. Further, SCE cannot support this threshold on the "imbalance energy offset attributable to balancing and offsetting virtual intertie supply and virtual internal demand" as proposed by the CAISO. The uplifts to the energy offset are not solely from this balancing as was discussed by various stakeholders during the web conference. Hence, SCE proposes an enhanced core proposal as well as a lower

[2] http://www.caiso.com/2b45/2b45792d10230.pdf

threshold limit of $15 million attributable to all virtual trades at the interties for an emergency filing.

2) The rolling trigger for an emergency filing should remain in place after the implementation of any immediate fix. Assuming the stakeholder process concludes and the CAISO files a proposal with FERC, the effectiveness of that proposal should be monitored. If total uplift costs (both from SC balanced and residual balanced bids), as shown in Figure 2 Page 7 of the whitepaper, exceed $15MM[3] in a rolling 30-day period, the CAISO should make an emergency filing with FERC to suspend Virtual Bids at all interties. A major criticism of the current proposal is that parties trying to capture the HASP-RT spread will have a strong incentive to not submit "SC balanced" virtual bids in order to avoid the new cost allocation. If they are successful, the quantity of "SC balanced" transactions will decrease, but the total uplift charge may not change or could even increase.[4]

3) Position Limits on the Interties should be frozen until the final long-term solution is implemented. We remain concerned that increasing position limits on the interties may result in a material increase in the associated uplift. As a result, current position limits of 5% of the intertie Operating Transfer Capability (OTC) should remain in-place on the interties until the implementation of a final solution. Further, from an analytical perspective, it will be problematic to determine if any solution works, while making multiple changes. Having the market accommodate the implementation of any proposed solution while simultaneously increasing the position limits will obscure the interpretation of market results. If, for example, uplifts were to increase after implementation of a solution, it would be difficult to determine if the increase was due to other virtual bidding strategies or due to the increased position limits.

4) As part of this immediate fix, the CAISO should expand cost allocation to physical transactions with changes in HASP.
On the April 4, 2011 conference call, the CAISO indicated they had not proposed a cost allocation to physical HASP transactions because a previous stakeholder effort failed to produce workable results. However, in this straw proposal, the CAISO has introduced a new concept of cost allocation based on a quantity times the difference between the RTD SMEC (System Marginal Energy Cost) and the HASP SMEC. Given the new proposal, it should be expanded to better address cost allocation to incremental physical HASP transactions.

For example, consider example 3 in table 2 of the straw proposal. Those values are tabulated below:

[3] Taking the average of last year's average monthly charge and January and February average monthly charge we have $13MM. To further accommodate the CAISO, SCE is rounding up to $15MM as a reasonable benchmark. Note that the correct pre-virtual bidding benchmark should actually be $8MM even though that is not being proposed.

[4] As mentioned by stakeholders during the web conference, parties could enter virtual supply and demand offsetting transactions through affiliates or outside of affiliates through swaps. These were just a few of the concerns discussed by stakeholders on the web conference.

Table 2 Example 3			
HASP SMEC	$	30.00	
RT SMEC	$	35.00	
Internal Virtual Demand (MW)			100
Intertie Virtual Supply (MW)			50
DA Import-HASP Import (MW)			50
Balanced Amount (MW)			100
Charge to Entity	$	500.00	

We can support moving forward with this approach if the following modification is made. Consider the same example, except now the DA Import – HASP Import (MW) increases to 90MW. In addition to the $500 shown above, this participant should receive an additional charge for the "residual" 40MW of HASP transactions that is creating uplift, but is not captured in the current proposal. This would be an *additional* charge of $200. That is (RT SMEC – HA SMEC)* (DA Import – HASP Import), not accounted for in the first calculation, = ($5/MWh*40MWh) = $200. Of course, the same principle would apply for HASP export changes consistent with the examples show in Table 3 when HASP > RTD.

Table 2 Example 3 - Modified			
HASP SMEC	$	30.00	
RT SMEC	$	35.00	
Internal Virtual Demand (MW)			100
Intertie Virtual Supply (MW)			50
DA Import-HASP Import (MW)			90
Balanced Amount (MW)			100
Charge to Entity Due to Balanced Amt	$	500.00	
Add'n HASP Deviations (MW)			40
Charge to Entity due to Deviations	$	200.00	
Total Charge to Entity	$	700.00	

Intermediate-Term Structural Fix to the imbalance energy offset problem

The CAISO proposes to develop a long-term solution in the Renewable Integration process. We can support using that time (likely years to design and implement) to find the "best" solution, if and only if we have a workable and durable temporary structural fix in place in the interim.

As such, we propose an "Intermediate-term" solution to serve that bridging role. Under this approach, the CAISO would implement a modified version of their cost allocation proposal immediately, and at the same time would begin implementation on the "intermediate" structural solution for implementation as soon as practical (e.g., 4 months later). The structural "intermediate" solution would then replace the temporary "short-term" cost allocation proposal.

SCE's "Intermediate" Structural Proposal:

i. Move all virtual bid settlements to RT and Day Ahead (DA). Specifically, virtual transactions on the interties would settle against the RT rather than HASP.
ii. Maintain all of the current HASP time-lines and bidding process, however, eliminate the HASP settlement for virtual bids and physical inter-tie transactions.
iii. The HASP process would determine "indicative" prices used to select which HASP inter-tie transactions were accepted (e.g. bids to sell below the indicative price would be accepted, bids to sell priced above the indicative price would not be accepted). This is identical to the current HASP clearing mechanism used today to determine which bids clear the HASP market.
iv. Pay all physical inter-tie transactions accepted in the HASP indicative process "as bid". Differences between the "as bid" price and the RT price would be included as a credit/debit to the existing RT Imbalance Energy Offset.

Advantages of this proposal:

i. At its core this "intermediate" proposal is a change in the HASP settlement only. All other processes, time-lines, charge codes, and uplift calculations remain in place. As a result, this should be implementable in a relatively short time frame (e.g., 4-6 months).
ii. It eliminates the need for any special or new uplift charges to virtual transactions, whether SC balanced or residual.
iii. Since the HASP settlement is eliminated, there is no longer a HASP-RT spread to capture. This completely *eliminates* current virtual uplifts of concern.
iv. While uplifts created by physical transactions selected in HASP are not completely eliminated, by paying transactions "as-bid", this can only reduce uplift relative to the current treatment of HASP transactions. Again, this is not intended to be the final, "best" long-term solution, but it improves the status quo. Paying HASP transactions as-bid will not deter physical participation since buyers and sellers have price certainty – they are paid their bid. Moreover, the CAISO has precedent in paying HASP "as- bid". The FERC approved CAISO

"Amendment 66" on April 7, 2005. Under this amendment, intertie transactions were paid "as-bid". The CAISO filed multiple reports with FERC indicating that imports were not materially impacted by the pay as-bid settlement[5].

Comments on other feasible intermediate-term solutions

During the conference call, the CAISO asked stakeholders to provide comments on other proposals not addressed in the whitepaper. Below we comment on several options mentioned on the call:

i. Appropriately allocate the RT Imbalance Energy Offset based on causation (to both Virtual and Physical participants).
   a. Pros – If done properly, this solution ensures a just and reasonable allocation of costs. Proper allocation should address current strategies that capture the HASP-RT spread, but avoid paying the resulting uplift. Requires only a settlement rule change, no bidding or timeline changes are needed. Can be implemented immediately (settlements can be corrected during later cycles while software is developed/implemented).
   b. Cons – May result in price/payment uncertainty to incremental uses of HASP (both physical and virtual).

ii. Move all Virtual Settlements to Day-ahead and Real-time, but make no other changes.
   a. Pros – Eliminates the uplift of issue created by virtual transactions (balanced pairs of virtual transactions and virtual intertie transactions when HASP prices diverge from RT). Allows virtual intertie transactions to continue.
   b. Cons – Does nothing to address similar uplift created by physical transactions in HASP. Creates incentives for "implicit virtual bids" on the interties to capture HASP/RT spread. Prevents virtual hedges of HASP transactions.

iii. Eliminate HASP settlement.
   a. Pros – This is the only permanent and reliable fix to the uplift created from HASP-RT spreads. The CAISO has noted that there should be *no expectation* of ever achieving complete price convergence of the HASP and RT markets. Eliminating the HASP settlement eliminates the possibility of a HASP-RT spread.
   b. Cons – Requires some new methodology of settling physical HASP transactions, thus the new settlement proposal has the potential to negatively impact physical imports/exports. However, as mentioned earlier, previous pay "as-bid" settlements did not have a negative impact on import/export transactions. Other settlement methodologies may work

[5] http://www.caiso.com/1f7c/1f7c8d5038d20.pdf, http://www.caiso.com/237e/237ecf1857890.pdf, http://www.caiso.com/2376/2376e7b95c4f0.pdf , http://www.caiso.com/1f8a/1f8a99464d0b0.pdf, http://www.caiso.com/1f90/1f908b1444020.pdf

just as efficiently; however, the pay "as-bid" methodology is proven.

iv. Eliminate intertie virtual bidding.
    a. Pros – Eliminates the uplift created today via balanced virtual bids.
    b. Cons – Increases incentives for implicit virtual intertie bids. Reduces hedging opportunities for intertie transactions.

Conclusion on HASP-RT imbalance energy offset proposal

The CAISO's proposal should include both a 1) short-term, temporary cost allocation rule, and 2) an intermediate structural change that will supersede the cost allocation rule as soon as practical.

The CAISO cost allocation proposal should be modified to:

- lower the threshold for an emergency filing to $15MM
- monitor results after implementation and file an emergency filing to suspend virtual transactions at the inter-ties if a cost threshold is reached
- freeze the current inter-tie position limits
- use the proposed methodology to allocate costs to certain physical HASP transactions.

Per our "intermediate" proposal, the CAISO should begin implementation of a structural change that:

- moves all virtual settlements to DA and RT
- maintains the current HASP time-line and bidding process, but eliminates the HASP settlement
- instead of a HASP settlement, physical HASP transactions should be paid "as-bid"
- any resulting uplift/downlift should flow to the RT Imbalance Energy Offset

Finally, the CAISO should pursue a final, "best" solution for HASP as part of the Renewable Integration process.

Price Inconsistency Caused by Intertie Constraints

SCE is uncomfortable with the CAISO's proposal to create different settlement Locational Marginal Prices (LMPs) for physical and virtual awards. Given the existing problems with settlements at different prices at the interties, SCE strongly advises against implementation of this proposal without a more through vetting of possible unintended consequences. We remain concerned that different prices at the same location will encourage behavior to profit from price differences, and will likely create additional uplift in the process.

SCE instead suggests that the CAISO present this proposal in detail to the Market Surveillance Committee (MSC) for their analysis and recommendations. We note that this issue is separable from the HA-RT imbalance energy offset issue. The two issues can proceed on different filing and implementation time-lines, and the dual constraint issue should not be allowed to slow down progress on the HA-RT imbalance energy offset issue.