Real-Time Imbalance Energy Offset (RTIEO)

Submitted by	Company	Date Submitted
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SCE appreciates the CAISO's efforts in addressing this crucial problem. The May 25th conference call shed some useful insights on this issue.

Proposals for Resolving RTIEO issue

Short Term Allocation Fix

1. *CAISO proposed Settlement Rule (Implemented with Emergency Filing if Threshold Reached) – conditionally supported by SCE*

    1) <u>The proposed trigger for an immediate emergency filing should be lowered to $15 MM of uplift over 30-days.</u> SCE requested details of the reasoning used by the CAISO to arrive at the threshold of $25 MM (and now $20 MM) for an emergency filing. SCE presented its own support for a threshold of $15 MM in its last comments and suggested that the CAISO review it. The revised straw proposal does not address this concern.
    The CAISO observed approximately $100 MM in Real Time Energy Imbalance Offset charges in 2010. That is about $8 MM on average per month. Meanwhile, January and February 2011 averaged at $18 MM.[1] It would seem reasonable that this threshold be set much lower than $20 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 threshold limit of $15 MM of uplift <u>attributable to all virtual trades at the interties</u> for an emergency filing.

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

2) <u>The rolling trigger for an emergency filing should remain in place after the implementation of any immediate fix.</u> Assuming the stakeholder process concludes and the CAISO files a proposal with the Federal Energy Regulatory Commission (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 \$15 MM[2] 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 Hour-Ahead Scheduling Process – Real-Time (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.[3]

3) <u>Position Limits on the Interties should be frozen until the final long-term solution is implemented</u>. 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) <u>As part of this immediate fix, the CAISO should expand cost allocation to physical transactions with changes in HASP.</u>
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 System Marginal Energy Cost (SMEC) and the HASP SMEC. Given the new proposal, it should be expanded to better address cost allocation to incremental physical HASP transactions. SCE had provided a numerical example with its past comments – we cite these comments for reference[4].

Finally, even if this settlement proposal is made via an emergency filing, we note that it will likely not prove to be a durable solution. We remain concerned that Scheduling Coordinator (SC) balanced positions will be avoided by having affiliates submit

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[2] Taking the average of last year's average monthly charge and January and February 2011 average monthly charge we have \$13 MM. To further accommodate the CAISO, SCE is rounding up to \$15 MM as a reasonable benchmark. Note that the correct pre-virtual bidding benchmark should actually be \$8 MM even though that is not being proposed.
[3] As mentioned by stakeholders during the May 4, 2011, 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.
[4] http://www.caiso.com/2b7c/2b7c802238230.pdf

counterpart positions or by using swaps with other entities in counterpart positions. Moreover, the CAISO's proposed solution would likely only work at the Corporate Entity level, similar to the Congestion Revenue Rights (CRR) clawback. Thus, even if an emergency filing happens, structural changes should follow as soon as practicable.

Intermediate-Term Structural Fix

1. *SCE continues to support "Pay as Bid" as an Intermediate Structural Change:*

   Per our comments on May 11, 2011[5], we envision this solution as follows:
   a. 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.
   b. Maintain all of the current HASP time-lines and bidding process, however, eliminate the HASP settlement for virtual bids and physical inter-tie transactions.
   c. 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.
   d. Pay all physical inter-tie transactions accepted in the HASP indicative process "as bid".[6] Differences between the "as bid" price and the RT price would be included as a credit/debit to the existing RT Imbalance Energy Offset.
   e. 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.
      v. 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

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[5] http://www.caiso.com/2b7c/2b7c802238230.pdf
[6] SCE supports allowing self-schedules in HASP under this proposal. These self-schedules will be pure price-takers to the Real Time market price, will receive/pay the Real Time price and would be ineligible for any BCR payments.

multiple reports with FERC indicating that imports were not materially impacted by the pay as-bid settlement[7].

We also note that, while not a complete solution, this proposal at least makes progress in reducing the uplift created by HASP transactions. In our view, any solution must make progress toward reducing the uplift caused by HASP transactions that is currently allocated primarily to load.

Under this approach, Virtual intertie bids would clear against the day-ahead and the *real-time* intertie price. To date, these real-time intertie prices have not been used for settlement or anything else. We ask that the CAISO verify that real-time intertie prices will reflect congestion, and that allowing "convergence bids" on the ties will in fact, allow day-ahead and real-time intertie prices to converge on the ties. Moreover, the CAISO should comment on how convergence would be impacted if they move forward with creating two prices (one for virtual and one for physical) on the interties. Virtual bids should only be allowed in cases where the software will allow convergence to rational and efficient prices.

2. *SCE strongly opposes paying "Bid or Better" due to clear arbitrage opportunities, previous abuses of this rules, and the increase in uplift it would create*

In its prior filed comments, SCE had presented the history of paying "Bid or Better" as a system that enabled arbitrage and creation of substantial uplifts. SCE reiterated these facts in its presentation of support for the "Pay as Bid" system, which replaced "Bid or Better"[8]. SCE strongly recommends that the documents referenced in the footnotes of these comments be reviewed while considering "Pay as Bid" vs. "Bid or Better" so the reader may understand why "Pay as Bid" was supported by the Market Surveillance Committee (MSC) as the replacement for "Bid or Better". We note that once exploitation of "Bid or Better" began, participants extracted $18.5 MM over the period of 172 days[9].

Finally, consider the "Bid or Better" methodology presented in the May 18, 2011, revised Straw Proposal. An accepted physical export would Buy at Min(Bid, RTD). An accepted physical import would Sell at Max(Bid, RTD). By importing and exporting equal capacities (Q), a market participant's benefit from the trade is $Q[\text{Max}(Bid, RTD) - \text{Min}(Bid, RTD)] = Q[|Bid - RTD|] > 0$[10]. This creates uplift which would more than likely be billed to load in spite of load having nothing to do with creation of these costs.

Pay as "Bid or Better" is unacceptable as part of any market solution.

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[7] 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

[8] http://www.caiso.com/docs/09003a6080/36/1a/09003a6080361a3d.pdf, http://www.caiso.com/docs/09003a6080/36/1d/09003a6080361dbc.pdf

[9] Page 2, http://www.caiso.com/docs/2005/05/23/2005052316140623511.pdf

[10] Unless Bid = RTD in which case |Bid – RTD| = 0. Either way, it's a non-negative value.

3. *Charging Non-performance in HASP – supported by SCE:*

   SCE supports Powerex's proposal to charge the real-time price (i.e., the replacement cost) to any failure to deliver on HASP schedules. SCE recalls that the Decline Threshold[11] of penalty costs in the CAISO tariff was intended as proxy for *force majeure*, and is currently set at 10%. We continue to support an exception for such events, but believe the current value of 10% is too high. We suggest changing it to 5%. Any non-performance beyond the 5% should be charged the full real-time replacement cost.

4. *Changes to the Allocation of Offset – conditionally supported by SCE*

   SCE supports changes in allocation of the offset contingent on recognition of cost-causation and allocation being driven by cost-causation. Any and all incremental HASP intertie transactions (virtual and physical) must bear the offset directly. We again note that physical incremental transactions created over $100 MM in uplift in 2010, but only paid a token amount of this charge since it was allocated to measured demand (primarily load). Thus, "deviations" are not the primary drivers of this uplift, rather it is HASP volume when HASP and real-time prices do not converge. This claim is consistent with what has been observed by the Department of Market Monitoring (DMM) over years of analyses of the problem[12]. SCE has pointed out this fact repeatedly in comments and during stakeholder meetings and calls.

   HASP Intertie trades, virtual and physical, regardless of the presence of deviating behavior, must foot the bill for the uplift they create.

5. *SCE does not support the proposal to "Enable Virtual Bidding to converge HASP-RTD Prices"*

   Powerex believes that internal virtual bids are liquidating in HASP instead of RTD due to insufficient accounting for virtual bids when considering forecasted demand. SCE does not believe this is the case. The CAISO incorporates for virtual bids when considering effective demand and SCE does not see a flaw in the CAISO's algorithm. However, we would like the CAISO opinion on PowerEx's assessment. Specifically, does the CAISO believe there is a flaw?

   Further, in its latest quarterly report, the DMM has, numerous times, explicitly stated that virtual bidding does not contribute to price convergence between the HASP and real-time markets[13]. The issue of price divergence requires a structural fix and eliminating the HASP settlement appears the only workable solution.

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[11] Page 4, https://bpm.caiso.com/bpm/bpm/doc/000000000000704
[12] http://www.caiso.com/2425/2425f4d463570.html
[13] Pages 4, 5, 19, 21, 34: http://www.caiso.com/2b88/2b888ac6a3a0.pdf

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 $15 MM, effective immediately
- 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", and self-schedules that would be pure price-takers to the real-time market price.
- any resulting uplift/downlift should flow to the RT Imbalance Energy Offset. We note we would be open to modification to the allocation to the RTIEO to better reflect cost causation as part of the intermediate solution.

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

Price Inconsistency Caused by Intertie Constraints

The dual constraints are required solely due to virtual bidding. If the CAISO opts for a "make-whole" payment to pay physical exporters when the dual constraint binds, then the uplift created by these payments should be exclusively funded by virtual inter-tie bidders. Any charge of such uplift to physical transactions would be contrary to cost-causation, and unreasonable.

We note, physical importers are already eligible for (Bid Cost Recovery) BCR payments. To the extent a BCR payment is the result of the dual-constraint, measured demand should not pay this uplift, but instead, virtual inter-tie transactions should pay this uplift. SCE supports uplifts arising from the dual constraints issue to be allocated solely to virtual bidding activity.

Finally, if the CAISO feels that this is impacting inter-tie transactions to the degree that it is causing a reliability issue, they should take immediate action. We note the CAISO's tariff empowers it to suspend/eliminate virtual bidding at any location if such bids create a reliability issue. Thus, the CAISO has authority to "turn off" virtual bids at the interties under these conditions.

SCE also suggests that the CAISO explore the following option: if both the physical constraints and the virtual constraints are binding in the scheduling run, then exclude all virtual bids on the ties from the market and in the subsequent pricing run. This effectively identifies the conditions that virtual bids may be problematic and thus need to be "turned off" at those locations and it should result in consistent prices, and will still allow virtuals to set prices under most circumstances.