Macquarie Energy LLC

Comments on the "Price Inconsistency Caused by Intertie Constraints" Issue Paper and Straw Proposal.

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Macquarie Energy LLC (Macquarie) appreciates the opportunity to comment on the Price "Inconsistency Caused by Intertie Constraints" Issue Paper and Straw Proposal (April 27, 2011).

Background

Integrated Forward Market (IFM) is a component of the CAISO Day Ahead Market (DAM) run. Market Participants can bid at interties for physical imports, physical exports, virtual demand, and virtual supply by submitting monotonically decreasing or increasing economic or self schedule bids. IFM clears validated bids and issues awards for all supply and demand. In short, IFM:

1. performs Unit Commitment and Congestion Management
2. clears mitigated or unmitigated Bids cleared in the MPM-RRD as well as Bids that were not cleared in the MPM-RRD process against bid-in Demand, taking into account transmission limits and honoring other resource constraints
3. procures Ancillary Services to meet one hundred percent (100%) of the CAISO Forecast of CAISO Demand requirements

IFM determines DA schedules and AS Awards and related LMPs and ASMPs and optimally commits resources that are bid in the DAM. In determining Day-Ahead Schedules, AS Awards, and AS Schedules, the IFM optimization will minimize total Bid Costs based on submitted and mitigated Bids while respecting the operating characteristics of resources, the operating limits of transmission facilities, and a set of scheduling priorities

In performing its optimization, the IFM first tries to complete its required functions utilizing Effective Economic Bids without adjusting Self-Schedules, and skips Ineffective Economic Bids and adjusts Self-Schedules only if it is not possible to balance Supply and Demand and manage Congestion in an operationally prudent manner with available Effective Economic Bids (§31.3.1.1).

Interties

Market Participants can bid for physical export, physical imports, virtual demand bids, and virtual supply bids at selected CAISO interties. IFM clears the bids and optimizes outcome in line with principles described above. However, IFM imposes two additional constraints at interties to meet NERC Reliability requirements at each scheduling point.

The IFM optimization process enforces scheduling limit constraints on each intertie scheduling point to keep net of physical imports and exports within the limit. It also enforces a second constraint so that net of physical and virtual imports and exports must be less than or equal to the scheduling limit at the scheduling point. The shadow prices derived from the second constraint price run is incorporated into the final intertie LMP.

Enforcement of both these constraints during IFM runs ensures keeping the schedules within the scheduling limits at each scheduling points as required by the INT and IRO standards. Simultaneously, it may, at times, result in allocation of Export Schedules which are outside the submitted bid curves and settled at LMP which may be higher than the bid.

Implications

Participants engaged at interties exports are experiencing deviation of awards outside the bid curve submitted into the IFM. In many circumstances, the export bidders are forced to assume losses resulting from DAM awarded schedules. Under the current tariff (§11.8.5), Exports bids at interties are not eligible for Bid Cost Recovery (BCR) payments except for price corrections.

By not attributing BCR to revenue losing IFM physical exports awards pursuant to current rules, CAISO may undermine some of the very benefits market is trying to achieve at these selected interties. Few of the key concerns are outlined hereunder:

Financial uncertainty

The enforcement of binding constraints during the IFM scheduling and pricing runs results in financial uncertainty for bidders at interties. Under the current construct, the awards could be both above or below the bid curve based on the congestion shadow prices determined during the pricing run. The extent of the MCC deviation in not known until the market publishes DAM awards and LMPs. Therefore, the exporting entities may be looking at significant financial risk emanating from the IFM.

Liquidity

Markets are most efficient when there is a high degree of liquidity. Liquidity increases the market efficiency by reducing price volatility and enhances transparency. Market participants invest capital and assume risk on behalf of themselves, customers, and end users. If participants cannot measure and manage this risk, the ROI becomes inconsistent with the risk profile.

The current tariff, by allowing export awards outside the economic bids submitted at interties, discourages market participation by increasing the exposure to inconsistent prices which participants are unwilling absorb. In short, the DA awards at interties for exports, bind the participants to pay for energy which they never bid to buy from the CAISO DAM.

As a result, participants are potentially reducing their activities at the Interties in the DAM for exports. This has a cascading implication on how the interties are bid and optimized as fewer export bids are made while the market may still receive imports and virtual bids for these scheduling points.

The first outcome is that CAISO cannot clear the same amount of import and exports bids as it would if the exports would have matched or exceed imports for netting purposes during the scheduling run. This defeats the very purpose CAISO proposed in the Convergence Bidding design document that the proposed binding constraint in the IFM runs would result in import export netting allowing for a large number of bids at the interties.

Second, lack of export bids, in general, may result in divergence of pricing in the DA and HA markets. This also defeats the very tenant of Convergence Bidding as the prices, in general, will increase in the HA market. Thirdly, the uplifts may see an uptick as more real time resources will now be required to meet increased virtual INCs in the market.

Bidding principals

Implicit in bidding, is a contract to buy or sell underlying product if it meets participants' willingness to pay or receive within its bid price. Under the current market design, bids at interties could clear even if the LMPs are above or below the bid price. Specifically, exports are mandated to accept schedules even if the hourly LMP is outside their bid price curve. If the market participants are forced to accept uneconomic outcomes to meet reliability mandates, they must be made eligible for compensatory mechanism existing elsewhere in the tariff.

Current market design appears to be in deviating from tariff. Per §31.3, the IFM utilizes a set of integrated programs that: (1) determine Day-Ahead Schedules and AS Awards, and related LMPs and ASMPs; and (2) optimally commits resources that are bid in to the DAM (§31.3). Clearing intertie export schedules out side their bid curve raises questions regarding the optimal commitment of resources in the DAM.

Tariff issues

No explicit exclusion of export for BCR

CAISO tariff is somewhat unclear regarding the allocation of BCR to the intertie bids cleared uneconomically. Tariff does not explicitly exclude export bids cleared outside the bid curve for the BCR payments. However, it does not explicitly includes export bids for BCR payments either (§11.8.5).

Recent communications from the CAISO has stated that the export bids are not eligible for BCR payments. This appears to be inconsistent with the tariff position on eligibility of the exports bids to BCR payments.

Even playing field

Under similar circumstances, internal resources are made whole by the CAISO if they are called either to meet forecasted demand or reliability goals. Similarly, system resources importing energy at the same interties for the same hours are eligible for BCR payments. It's unclear why exports appear to be excluded in tariff from BCR payments when system resources and generators are made whole meeting the same market goals.

Secondly, exports and imports are netted at interties to meet scheduling limits to meet reliability standards. Similarly, both imports and exports (and virtual bids) are validated and mitigated (if required) before clearing in the IFM. Under the current market design, export bids needs to be at equitable level with other bids in the economic stack. Excluding exports from BCR provides uneconomic market signal to entities which are playing key role in keeping the system balanced under low load, high generation, high wind situations.

Proposed Solutions

Make whole by BCR for exports at interties

Export bidding entities will continue to face price risk under the current market construct. Given the discussion above, export schedules exposed to uneconomic allocation must be considered for BCR payments. This will address most of the issues identified above in the short term and make participants whole for the cost incurred from awards outside of the bid curve submitted into the IFM.

Conclusion

IFM market participants bidding in physical export bids at CAISO interties are exposed to financial risk resulting from awards allocated outside the submitted bid curve. This is impacting market liquidity, prices, and general CAISO market principles.

With the current fact that measured demand/export are treated differently from the system resources with respect to BCR, and overall policy push to encourage proper renewable integration, reduce self-schedules at interties, and manage reliability by encouraging proper market behavior, this paper proposes that CAISO revisits its make whole policies to allow both system resources, measured demand/exports eligible for the BCR payments.