
INTRODUCTION

PG&E appreciates this opportunity to provide comments on the CAISO’s convergence bidding whitepaper, entitled “Options for the Conceptual Design for Convergence Bidding.” PG&E believes that if convergence bidding is implemented it must be done with necessary safeguards. PG&E has commented on those safeguards previously,¹ and briefly restates them below. If the CAISO continues to support certain design elements for which it previously expressed a strong preference, many of PG&E’s initial concerns with convergence bidding are addressed. PG&E also appreciates the effort made on Cost Allocation and Credit and offers comments on that effort in the appendix to this document.

DISCUSSION

Initial Granularity of Convergence Bids

The CAISO’s proposal for introducing convergence bidding at the LAP level helps to mitigate several of PG&E’s concerns, including those connected to the dispatch of use-limited resources, the proper allocation of charges attributable to convergence bids, and the possible gaming of CRR hedging mechanisms, congestion and energy prices.

That said, PG&E continues to believe that it would be premature to implement virtual bidding at the nodal level. The additional complexity should not be added until some experience is gained with LAP level virtual bidding.

Prudent and rigorous design, appropriate market monitoring, and a cautious rollout are keys to a successful initiation of a virtual market. That cautious rollout includes limiting convergence bidding to LAPs.

PG&E’s initial comments on the stakeholder meeting and the CAISO proposal are below, which are subject to change based on discussions as further details of the design unfold.

PG&E Rejects a Rush to Nodal Virtual Bidding.

Proponents of full nodal virtual bidding urge the CAISO to follow the approach taken in other ISO/RTOs.

While generators might suffer moderately from lack of access to hedges that they do not currently possess, the cost implications for ratepayers are potentially more severe. Consequently, PG&E believes that a gradualist approach strikes the right balance between the risk to generation and the risk to load.

In addition, PG&E believes that immediately embracing full nodal convergence bidding would create a distraction from what is already expected to be a complex, challenging endeavor: implementing the MRTU market. Attempting to implement full nodal convergence bidding in Release 1A on top of MRTU would likely impede the timely development of a vigorous and stable two settlement wholesale market. This would be especially true if position limits were introduced with full nodal bidding, as PG&E believes that they should be. The focus should remain on the most important immediate goal: to implement MRTU.

PG&E Generally Supports CAISO Direction for the “Proposal to Initiate Convergence Bidding at the LAPs” (Section 4 of CAISO Proposal).

As just described, PG&E supports the CAISO’s approach to the implementation of convergence bidding, which, by allowing bidding at the LAP level, expands market participation while minimizing potential market tampering.

The CAISO’s recommended approach will allow benefits from convergence bidding to begin to be realized, while minimizing the potential for unintended consequences. LAP level bidding enables arbitrage between the Day Ahead and Real-Time markets, as intended, while reducing the risk that
unanticipated market design flaws will be arbitraged and gamed, as has occurred in other markets as market features such as nodal bidding and congestion revenue rights have been rolled out.

In the section titled “Bid Price-Quantity Pairs” (7.5) the CAISO has proposed an innovative three part control for virtual bidding:

- 10 segment Convergence Bids.
- SCs may bid only Supply or Demand at each LAP, but not both.
- Convergence bids cannot be price takers in the DAM.

These controls further simplify the need for monitoring and will help to maintain a stable market environment after Release 1A. PG&E supports these controls.

In sum, PG&E urges the CAISO to adopt the LAP Level convergence bidding design, including modifications to reflect PG&E’s comments.

**Market Monitoring**

PG&E reiterates its general concern about market monitoring, and urges that vigorous market monitoring of convergence bidding continue, even though the risks in the proposed CAISO market design appear to be small.

PG&E appreciates the efforts of the CAISO’s Department of Market Monitoring (DMM) in this stakeholder process, and believes that their participation has provided substantial benefits.

We expect that the DMM will have an even more critical role during the MRTU rollout and subsequent iterations. We request that the DMM continue to place a high priority on identifying inappropriate gaming, including any connected with CRR settlements and its relation to LAP level virtual bidding. While PG&E anticipates that the effect of LAP level virtual bidding on CRRs will be benign, this anticipation should be regularly tested.
CONCLUSION

PG&E favors the CAISO proposal for introducing convergence bidding at the LAP level. The CAISO’s LMP markets under MRTU must be shown to function properly before more nodal convergence bidding is introduced.

PG&E lauds the CAISO for its current work on and early consideration of convergence bidding.

PG&E looks forward to working with the CAISO and other stakeholders in establishing a workable initial convergence bidding design. For follow-up or questions, please contact Rich Mettling (415-973-1062) or Brian Hitson (415-973-7720).
Appendix: Cost Allocation and Credit

Cost Allocation

PG&E Comments on each of the Cost Allocation Provisions (Section 7.6) as proposed by the CAISO.

With respect to cost allocation PG&E’s basic premise is that physical and virtual bids should have equal treatment. PG&E has reviewed the Cost Allocation provisions of the CAISO proposal and generally agrees with them. Each of the issues discussed by the CAISO is addressed below, as are some additional charges not previously discussed.

Netting of Virtual Supply and Demand

PG&E agrees with the separate netting of virtual demand and virtual supply in each LAP. (Section 7.6.1) This will help ensure that costs are being allocated properly. Virtual supply and virtual demand bids may have asymmetric effects on costs associated with the IFM and RUC. Therefore, it is appropriate to estimate their costs separately rather than on a net basis, e.g., a virtual demand bid of 10 MW combined with a virtual supply bid of 20 MW, i.e., 10 MW of net virtual supply, may have a different impact on costs than a virtual supply bid of 10 MW in isolation.

IFM BCR Tier 2 and RUC Tier 2 charges.

PG&E agrees that neither IFM BCR Tier 2 nor RUC Tier 2 charges (Sections 7.6.1.3 and 7.6.1.4) should be allocated to virtual supply and virtual demand. Virtual Supply and Demand bidders are allocated their portions of the costs through the Tier 1 allocations.

Real-Time BCR charges

The CAISO has proposed that the Real-Time BCR uplift charges be allocated to measured demand only (Section 7.6.1.5). Since this will be developed further when tiered charges are implemented PG&E will reserve comment and address the issue in the future. PG&E believes that the subsequent detailed discussion of tiered charges may very well result in Real-Time BCR charges to virtual demand.
A/S Charges

PG&E agrees that virtual bids should not be charged an Ancillary Service Cost Allocation (Section 7.6.2). However, it is not clear from the CAISO’s proposal how virtual transactions could impact the optimization process. For example: what cost is incurred by participants when a long start unit is displaced by a cheaper virtual generation bid, and its ancillary services are lost to be replaced by those of other units with higher priced services. The CAISO should consider allocating the costs resulting from this displacement of low cost A/S in the DA market to virtual supply.

GMC

Although GMC charges are being discussed in a separate proceeding PG&E suggests that each of the following GMC charge codes be considered for application to Convergence Bids:

1) CC 4511 - GMC - Forward scheduling.
2) CC 4575 - GMC - Settlements Meting and Client Relations.
3) CC 4537 - GMC - Market Usage Forward Energy
4) CC 4536 - GMC - Market Usage Uninstructed Energy (Note: This is only suggested if the CAISO does not create another GMC CC to recover costs for virtual bidding.)

A GMC charge unique to convergence bids is desirable in order to pay for the infrastructure to handle the additional volume of bids. PG&E favors a charge for each bid segment submitted to the market. This strategy will tend to discourage complex bid structures and avoid those complexities in market monitoring. The size of this charge should be determined by assessing the cost of solving the LMP with the additional complications of Convergence bidding.

LDFs

Charges that arise from the change in LDF from DAM to the RTM are a function of the market structure. As such PG&E believes that virtual and physical load should share the cost.
Additional Charge Types

The following additional charges are not considered in the White Paper but are appropriate for application to Convergence Bids:

1) CC 8999 - Neutrality Adjustment
2) CC 4999 - Rounding Adjustment

The first was suggested as a byproduct of an unknown dollar amount that was not handled through an existing CC. With regard to the second, it is the Neutrality Adjustment in current market; however, in the MRTU world, it is a rounding adjustment.

Credit

PG&E’s Review of Credit Issues around Convergence Bidding Reveals that MISO Standards Suggested by the Most Recent Decision may not be Appropriate for California.

Conservative credit restrictions were typical at the start of Eastern Convergence bidding markets. They were then progressively relaxed as the market matured. This practice served to dampen the impact of market aberrations that could be exploited with virtual bidding and in PG&E’s view was a reasonable approach to credit requirements.

Specifically, PG&E suggests that the 80th percentile for the highest differential between the Day-ahead and Real-Time Locational Marginal Prices for 12 months be used to determine a market participant’s credit exposure, rather than the 50th percentile currently in force at MISO.