Comments of Pacific Gas & Electric Company

FERC Order 764 Compliance Straw Proposal

Submitted by	Company	Date Submitted
Jonathan Taylor (415)-973-3731 Partha Malvadkar (415)-972-5842	PG&E	11/16/12

Pacific Gas and Electric Company (PG&E) appreciates the opportunity to participate in the California Independent System Operator's (CAISO) stakeholder process for the Federal Energy Regulatory Commission (FERC) Order 764 Compliance. PG&E believes that the use of binding 15-minute optimization awards will increase market efficiency while reducing market distortions and uplift costs. Even though there is need for further review of design elements and much work ahead, PG&E sees the preliminary design as a thoughtful starting point.

PG&E's Key Points are:

- PG&E recommends the CAISO leverage its next proposal and associated stakeholder meeting to assess key complexities in order to anticipate major impediments in the CAISO's 764 compliance design's direction and also to consider different compliance designs such as a 15-minute day ahead market.
- PG&E supports the settlement of virtual bids internal to the CAISO against 15 minute prices.
- Reactivation of virtual bidding at the interties should not be directly scoped as a part of this initiative.
- PG&E agrees PIRP may not be necessary in light of the proposed reforms
- PG&E recommends the CAISO examine whether existing cost-allocation methods for ancillary services and uplift costs follow cost causation principles.

Summary of the CAISO Proposal

The straw proposal discusses changes the CAISO plans to make to its real-time market to maximize the use of existing market functionality without creating seams issues with other balancing authorities. The proposal will introduce a 15-minute financially binding settlement within the real-time market that will apply to both intertie and internal resources as well as load.

The proposal would also implement real-time market (RTM) changes that were not possible before the order, including full 15-minute energy scheduling. The CAISO believes this is a superior option because it:

- Complies with Order 764 and allows for hourly schedules of intertie transactions to remain without price guarantees for the entire hour
- Addresses RTIEO issues that exist due to system condition changes between Hour–Ahead Scheduling Process (HASP) and Real-Time Dispatch (RTD) Optimizations.
- Addresses the issue of and would allow for reinstatement of Convergence bidding at the interties.
- Allows Variable Energy Resources to provide more frequent energy schedules using forecast updates and therefore obviates the need for Participating Intermittent Resources Program (PIRP).

I. PG&E Discussion

CAISO's draft Order 764 Compliance plan layers new market changes onto many existing functions. PG&E supports efforts to leverage existing capabilities where appropriate and appreciates the CAISO going beyond the minimal requirements included in FERC's rule. The various options to best address current market deficiencies warrant careful examination to ensure that reforms can be implemented reliably and affordably and that unintended consequences do not result.

1. Consideration of other options

PG&E agrees with the CAISO that the FERC requirement of 15-minute scheduling at the interties provides an opportunity for a broader look at related enhancements that should be made to the market process. For example, the expansion of 15-minute scheduling to the day-ahead market could address many of the market inefficiencies that exist today from hourly day-ahead schedules not accurately matching supply and demand during ramping periods. While this type of expansion is not strictly speaking a component of Order 764, it is related, and expanding 15-minute scheduling to the day-ahead market could provide benefits and address several problems the CAISO market faces today. A 15 minute day-ahead market should result in:

1. More Granular Day-ahead Schedules, which would allow generation to better match the large ramps anticipated in 2015 and beyond.
2. Fewer and Smaller Price spikes given that day-ahead schedules should more accurately reflect load and the day-ahead and real-time market models would be more closely aligned;
3. Overall, a more accurate market model

PG&E realizes significant technology limitations exist today that might prevent the new optimization process from completing a full day-ahead optimization in a reasonable time period and that there would be higher implementation costs; therefore if the CAISO does not wish to consider this expansion under the purview of Order 764 compliance, PG&E requests that the CAISO add expansion of the granularity of the day-ahead market to more closely match the real-time market to its roadmap.

2. PG&E Believes it is Appropriate to Settle Internal Virtual Bids Against 15 minute Prices and to Review Reactivation of Intertie Virtual Bids separately from 764 Compliance efforts.

PG&E agrees with the CAISO that with the implementation of 15-minute market settlement, liquidating all virtual bidding positions against the 15-minute market LMP is appropriate. Settlement against the 15-minute prices will hopefully support better price convergence between day-ahead and real-time prices, when compared with today's outcomes.

FERC-authorized the suspension of virtual bids on the interties because of exploitive trading patterns leveraging how virtual bids on the interties functioned within the CAISO's three settlement system in conjunction with cost-allocation of related driving uplifts to load. Since Order 764 Compliance may change fundamental market structures it is logical to consider how such changes could affect the reactivation of virtual bidding on the interties.

This initiative should not, however, include a reactivation of virtual bidding on the interties in its scope. Such an expansion of scope would be problematic for an array of reasons. Previous initiatives focused solely on reactivation of virtual bidding on the interties required intensive stakeholder effort yet yielded little progress. Even with the proposed repairs to one of the major structural flaws of intertie virtual bidding[1], its reactivation still requires resolutions to two design challenges, the dual-constraint problem and self-funding and cost-allocation issues. PG&E notes that both of the potential ideas for resolving the dual-constraint face serious opposition from multiple stakeholders. Moreover, the general effect of modeling of interties requires considerations, 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. Additionally, the potential role of virtuals or implicit virtuals to attempt to extract value via uplifts resulting from the composite Hour-Ahead congestion and RTUC intertie price requires assessment and perhaps safeguards. Lastly, reactivation at day 1 of implementation of 764 Compliance designs could mask market problems, delaying their discovery, reducing efficiency and increasing costs

3. <u>Policy Implications and Market Impacts</u>

A. Cost Allocation for Ancillary Services and Uplift Costs

The CAISO proposal should provide more granularity for scheduling, which should significantly reduce the need for market services to balance supply and demand. Similarly, eliminating binding energy awards and pricing components from the HASP should mostly reduce uplifts. PG&E supports efforts that reduce excess costs and uplifts.

While PG&E supports these efforts, the CAISO should evaluate new methodologies based on cost causation to address cost allocation of uplift payments and ancillary services in the market. While the reforms being pursued in this stakeholder process may mitigate some of the costs, PG&E supports a parallel process that would address assigning these costs more in line with cost-causation principles.

B. The CAISO's rationale for examining the Participating Intermittent Resource Program (PIRP) is sound.

PG&E agrees that the CAISO should examine whether PIRP is necessary in light of the reforms being proposed here. PG&E appreciates the CAISO improving the opportunities for variable energy resources to more accurately schedule their production closer to real time such that uninstructed imbalance energy can be greatly reduced.

C. Impacts of the interplay between hourly transmission reservations and 15-minute energy awards, coupled with composite pricing effects, need further reviews.

---

[1] 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.

The disconnection between hourly transmission scheduling and 15-minute energy awards may have noteworthy market effects. In addition to the uplift that may result from composite pricing, the use-it-or-lose-it treatment of hour-ahead transmission reservations and the spreads between hour-ahead and 15-minute transmission costs may drive bidding behaviors that do not promote market efficiency. While PG&E supports efforts to reduce uplift from the current HASP, the potential for new uplifts or distorted incentives in the CAISO Hour Ahead transmission reservation process requires detailed assessment.

II. Critical risks of the design should be assessed early on for fatal flaws.

Key design complexities should be explored early on in the initiative process to assess the feasibility and implications of the design. PG&E thus recommends that this stakeholder process frontload considerations of key complexities. This consideration should include a detailed break-down of current rules and precedents in order to better highlight difficulties, infeasibilities, or new needs. For instance, a shift to a 2.5 minute tagging timelines contrasts starkly from today's 40-minute timeframe such that tagging protocols could now require full automation. By understanding how and why tagging rules have evolved, and what systems changes would be needed (and if they exist), stakeholders can collectively offer robust input into the CAISO's design. While stakeholders are often highly informed, the CAISO should take additional steps to facilitate stakeholder education and level-setting for Order 764 Compliance.

Based on the straw proposal, areas for detailed discussion should include the following:

- Tagging rules and requirements
- Transmission reservation protocols, including the timing and rules for "releases" of transmission
- Potential compliance approaches for other WECC Balancing Area Authorities
- Hour Ahead solution parameters (e.g. for a 1 hour load target) vs. RTPD solution parameters
- Congestion pricing impacts in hour-ahead and Real-Time Unit Commitment (RTUC) markets given "withdrawn" bids.
- Approaches and protocols for "withdrawing" bids.

Technical Questions

A. Market Communication Software

PG&E would like further details about the market systems the CAISO is planning to develop to use in conjunction with 15-minute scheduling. Today, financially binding instructions are sent through the Automated Dispatch System (ADS) to market participants. These financially binding instructions are a product of the CAISO's RTD (5-minute market). The only medium that the CAISO has at its disposal for information transmittal in the 15-minute market is CMRI. Currently, CMRI is used to transmit Ancillary Service Awards and Flexible Ramping Product (Proposed), both of which are by products of the 15-minute market. Therefore, further clarity around how the existing tools can be used to transmit results of its 15-minute market to market participants is needed.

B. E-Tagging Requirements

PG&E does not believe that 2.5 minutes is sufficient time for market participants to be required to submit e-tags for energy flowing across an intertie, especially if they'll now be done four times an hour.

Currently participants have approximately 40 minutes to submit tags that cover the full hour.

- Intertie awards are made 45 minutes before the binding interval.
- E-tags are due 20 minutes before the binding interval.

Under the CAISO's proposed timeline, market participants would only have 2.5 minutes to submit tags and would have to do so four times an hour.

- Awards would be received at 22.5 minutes before the binding interval
- E-tags are still required to be submitted 20 minutes before the binding interval

This timeline does not seem feasible given the many requirements of submitting a tag and the necessity for check out on the tags without automated mechanisms being developed. PG&E believes further clarity and work with associated balancing authorities to produce an implementable timeline is likely needed to understand how this proposal can be implemented.

C. Removal of Hourly Bids from the 15-minute Market

At the stakeholder meeting, there was significant discussion about removing bids submitted at t-75 from the subsequent 15-minute market processes.

The reason stakeholders were concerned about this issue was because bids submitted for the hourly process are carried through to the 15-minute market. If a resource were to submit a bid at t-75 and not be economical, it would not receive an energy or transmission award. However, the same bid would be carried through to the 15-minute market optimization process. The CAISO stated at the stakeholder meeting that it would be possible for market participants that were initially uneconomical to receive an award in a later 15-minute market interval.

The concern is that the CAISO will make awards in the 15-minute market that are not feasible due to plant limitations and that participants will not have the transmission capacity to deliver energy. Therefore, PG&E seeks further information about how the CAISO proposes to address situations where a market participant receives a 15-minute award that cannot be met due to lack of transmission, infeasible plant operation and lack of time to submit an E-Tag.

D. Transmission Scheduling

15-minute energy scheduling may create problems or inefficiencies relative to the hourly transmission scheduling and has the potential to inefficiently allocate transmission capacity at the ties. One potential solution for this would be for the CAISO to co-optimize its market model with other Balancing Authorities to improve the use of intertie energy and transmission. Therefore, PG&E recommends the CAISO work to enable 15-minute transmission scheduling as well.

In addition, PG&E seeks clarification as to why the CAISO is allowing intertie resources to hedge against congestion on an hourly basis using the CAISO's new transmission reservation mechanism?