



**Comments of Pacific Gas and Electric Company on
Commitment Costs and Default Energy Bid Enhancements Working Groups**

Submitted by	Company	Date Submitted
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Pacific Gas and Electric Company (PG&E) appreciates the opportunity to comment on CAISO’s Commitment Costs and Default Energy Bid Enhancements stakeholder working groups held March 30 and April 20, 2017.

In the two working groups, CAISO discussed design options for enhancing proxy cost and default energy bid (DEB) calculations, adopting reference level processes similar to ones other ISOs currently have in place, changing components of bid structure, and developing dynamic mitigation of commitment costs.

Given the large scope of design options with varying levels of design and implementation complexity, PG&E recommends examining first the proxy cost and DEB enhancements proposed by the DMM in its Issue Paper Comments¹ and in its April 20th Working Group Presentation² which do not require significant design or implementation efforts and have been demonstrated to mitigate impacts of using lagged gas price indices in reference calculations. Other longer term market enhancements such as enhanced reference systems and dynamic commitment cost mitigation create additional design and implementation efforts and should only be considered to the extent that simpler enhancements do not resolve stakeholder concerns. PG&E appreciates CAISO evaluating longer term enhancements to its bid and mitigation designs, but also requests that the costs of implementing these long term design changes be measured against the projected benefits of these changes to stakeholders. PG&E also reiterates the importance of protecting against the exercise market power when increased bid and mitigation flexibility is considered. The following points are described in detail in the subsequent section:

1. PG&E supports the DMM’s recommendations and phased approach described in its initial Issue Paper comments and presented at the April 20th working group.
2. PG&E opposes OFO penalty adders or gas system non-compliance risk adders in proxy cost or DEB calculations. After-the-fact cost recovery mechanisms should only be provided for generators incurring penalties due to a CAISO dispatch order occurring after 4:00pm PT and before midnight (one hour prior to the close of the Intraday 3 gas scheduling cycle).

¹ “DMM comments on commitment costs and DEB enhancements”. November 18, 2016. California ISO – Department of Market Monitoring.

http://www.caiso.com/Documents/Briefingoncommitmentcostenhancementsanddefaultbidenhancements_K_Collins.pdf

² “DMM comments on commitment costs and DEB enhancements”. April 20, 2017. California ISO – Department of Market Monitoring.

http://www.caiso.com/Documents/Presentation_CommitmentCosts_DefaultEnergyBidEnhancements_KeithCollinsDMM.pdf



3. PG&E supports continued capability for suppliers to work with CAISO to develop resource-specific references and supports the development of an ex ante fuel cost update process in a second phase of this initiative, if needed
4. Developing costs and bid strategies for newer technologies is evolving, making a technology-agnostic approach to reference mitigation difficult at this time. Mitigation should be triggered by the detection of potential market power, but whether specific technology costs can be accurately calculated should also be considered.
5. PG&E has concerns about the implementation of dynamic commitment cost mitigation; the design must be thoroughly thought out, tested to ensure feasibility and effectiveness, and considered in tandem with increased bid and reference flexibility

Comments

1. PG&E supports the DMM's recommendations and phased approach described in its initial Issue Paper comments and presented at the April 20th working group.

PG&E believes DMM's proposed enhancements to proxy cost and DEB calculations should be pursued as part of a first phase of CC DEB E enhancements. There appears to be stakeholder consensus that the DMM's proposed proxy cost and DEB calculation enhancements will provide incremental benefits, and the DMM has demonstrated that proposed index updates will likely mitigate the majority of day to day variation in gas indices used to calculate proxy costs and DEBs. In particular, these calculation enhancements include:

- Permanently update day-ahead indices with ICE information prior to the day ahead market run
- Use Monday only trading information on ICE to update day-ahead market index (subject to an assessment of market liquidity)
- Update indices in real-time market with same day gas information (subject to an assessment of market liquidity)

PG&E recommends prioritizing DMM's proposed changes in a "Phase 1" as these enhancements may be sufficient to address stakeholder concerns about proxy costs and DEBs. Phasing the approach to this initiative will allow stakeholders to benefit from enhanced reference calculations in the short-term while continuing to vet longer-term design enhancements. PG&E suggests the following approach to this initiative:

- First, enhance proxy cost and DEB calculations per DMM's proposal; these changes will not require significant design or implementation efforts yet are demonstrated to benefit market participants by mitigating the majority of day to day fuel index volatility, supporting adequate cost recovery when mitigation takes place
- If needed, in a second phase, design a fuel cost adjustment process to address instances where default fuel price indices used in reference calculations do not adequately reflect supplier costs. Also consider clarifying and possibly enhancing existing processes that allow suppliers to tailor resource-specific DEBs such as the Negotiated Rate Option



- While PG&E has concerns about the feasibility of dynamic mitigation, CAISO could pursue this issue in a third phase if necessary

2. PG&E opposes inclusion of OFO penalty adders or gas system non-compliance risk adders in proxy cost or DEB calculations. After-the-fact cost recovery mechanisms should only be offered for generators incurring penalties due to a CAISO dispatch order occurring after 4:00pm PT and before midnight (one hour prior to the close of the Intraday 3 gas scheduling cycle).

PG&E opposes the inclusion of OFO penalty adders or gas system non-compliance risk adders directly in proxy cost or DEB calculations. PG&E does not believe allowing OFO penalty costs or gas system non-compliance risk adders in bids and references, and thereby assuring cost recovery of penalty charges through LMP revenues, incents behavior to avoid such penalties meant to preserve gas system reliability.

PG&E also notes that in 2016, FERC approved NYISO tariff revisions to give the ISO “authority to prohibit generators from including unauthorized natural gas costs and penalties in reference levels and to reject ex-post requests to recover costs associated with unauthorized natural gas use”³. NYISO defers to the local gas distribution company to define “unauthorized” gas use, but notes in its original filing that penalty natural gas may result from violation of terms of OFOs⁴. FERC states in its order, “As explained by New York LDCs, interstate natural gas pipelines and LDCs typically issue Operational Flow Orders during times of system constraint due to high natural gas volumes or when weather conditions combined with storage availability and potential upstream pipeline operational constraints result in stresses to the natural gas delivery system. When interstate natural gas pipelines and LDCs assess charges to generators under these provisions for unauthorized natural gas and penalty natural gas, it is just and reasonable to exclude those charges from a generator’s reference level in NYISO’s markets to protect the reliability of the natural gas pipeline system, as well as the transmission system.”⁵

PG&E opposes allowing penalty-related adders in reference levels, but PG&E believes the following practices are *acceptable* if a resource is operating during an OFO:

- Suppliers could reflect higher *commodity* costs in reference levels if fuel prices reflect scarcity
- Suppliers could seek after-the-fact cost recovery for OFO penalty costs incurred after 4:00pm PT and before midnight (one hour prior to the close of the Intraday 3 gas scheduling cycle and the end of the gas usage day) if responding to a CAISO dispatch in Real Time. Cost recovery is not advisable outside of this window, as generators have time to make nominations in accordance with existing tariffs and should have a cost interest in doing so.

³ Order Accepting Proposed Tariff Revisions Subject to Condition re New York Independent System Operator, Inc. under ER16-168. Docket Nos. ER16-168-000 and ER16-168-001. Issued February 18, 2016. Page 1.

⁴ New York Independent System Operator, Inc.’s Proposed Amendments to its Market Power Mitigation Measures regarding Physical Withholding and Reflecting Fuel Costs in Reference Levels; New York Independent System Operator, Inc., Docket No. ER16-168-000. October 29, 2015. Page 8.

⁵ Order Accepting Proposed Tariff Revisions Subject to Condition re New York Independent System Operator, Inc. under ER16-168. Docket Nos. ER16-168-000 and ER16-168-001. February 18, 2016. Page 19.



3. PG&E supports continued capability for suppliers to work with CAISO to develop resource-specific references and supports the development of an ex ante fuel cost update process in a second phase of this initiative, if needed

If short term reference calculation enhancements cannot adequately address supplier concerns about proxy cost and DEB calculations, PG&E supports developing a functionality to allow suppliers to update fuel costs used in reference levels in consultation with either the CAISO or DMM. PG&E supports a fuel cost adjustment functionality similar to a NYISO/MISO/ISO-NE approach where a supplier can submit to the ISO an adjusted fuel cost to be used in DEB and proxy cost calculations if default indices are not representative of supplier costs. This type of pre-market validation also provides a means for CAISO to comply with FERC Order No. 831. With a fuel cost update capability, CAISO should also develop a robust ex ante verification process which defines who is involved, timeline for adjustments and review, and specifics on documentation or calculations needed to verify costs ex ante and ex post if necessary.

Should a fuel cost update functionality be available, PG&E believes it is important to ensure suppliers are not consistently reporting fuel prices much higher than indices – suppliers should make every effort to procure fuel prudently. PG&E agrees with the DMM’s assessments in its Issue Paper comments⁶ that a system where a participant with market power in the energy market is only required to provide evidence of fuel purchased at a stated price, is not sufficient to incent economic fuel procurement. Suppliers with energy market power will have no incentive to report fuel prices less than its maximum quoted price or to search for more economic gas if it is guaranteed energy market cost recovery at higher fuel prices. An automated pre-market screen comparing submitted fuel price adjustments to index prices with some threshold tolerance would be an important component of a fuel cost update functionality.

PG&E also notes that today, resources can use the Negotiated Rate Option to tailor DEBs via consulting directly with the CAISO or DMM⁷. In working groups, it appeared that stakeholders did not know of or were not clear on how the Negotiated Rate Option is currently used. For suppliers who require tailored references, PG&E supports maintaining the Negotiated Rate Option and suggests this process be clarified and potentially expanded so suppliers can work with CAISO or DMM to develop tailored DEBs or proxy costs within clearly defined guidelines. PG&E expects this option would be most applicable to resources whose costs are primarily based on opportunity costs such as hydro resources with energy limits and storage resources.

PG&E does not support a bid-in cost based offer approach as this design relies on ex post reviews of costs rather than a pre-market screen of reasonable offer submissions. PG&E understands that having a policy and compliance incentives in place are meant to encourage appropriate submissions. However, PG&E is concerned that any disputed, misleading, or inadvertent

⁶ “Phase 2 of Comments on the Commitment Costs and Default Energy Bid Enhancements – Issue Paper”. December 12, 2016. California ISO – Department of Market Monitoring. Pages 3-4.

http://www.caiso.com/Documents/AdditionalDMMComments_CommitmentCosts_DefaultEnergyBidEnhancementsIssuePaper.pdf

⁷ “BPM for Market Instruments”. Version 44. California ISO. Section D.6.



offers would only be caught and addressed post-market, rather than being resolved before impacting market outcomes. PG&E does not believe the energy bid cap only is a sufficient backstop to all cost-based or market-based energy offer submissions. The bid-in cost based offer structure as PG&E understands would apply to commitment costs as well. Min Load, Start-up, and Transition costs do not have formal backstop bid caps; under a bid-in cost based offer approach there would be no “circuit breaker” backstop to catch misleading or inadvertent commitment cost submissions before these costs pass through to the market. A pre-market, automated check is important not only to catch offers submitted with intent to exercise market power, but to check for *any* inadvertent submission. PG&E favors a design in which CAISO can conduct automated ex ante screens of supplier offers to catch any inadvertent or misleading submissions before these offers flow into the day ahead or RT market.

4. Developing costs and bid strategies for newer technologies is evolving, making a technology-agnostic approach to reference mitigation difficult at this time. Mitigation should be triggered by the detection of potential market power, but whether specific technology costs can be accurately calculated should also be considered.

CAISO asks stakeholders in its Issue Paper whether a technology-agnostic approach should be a key design principle in this initiative. PG&E notes that technologies such as battery storage are still nascent in the wholesale market and PG&E continues to refine bidding strategies for these types of resources, making it difficult to develop prescriptive reference guidelines at this time. The introduction of new products and pricing mechanisms in the market also introduce new tradeoffs for storage and other resources whose offers are primarily structured around opportunity costs as opposed to indexed fuel prices or input costs. LSEs are also at times subject to new procurement mandates for specific technologies where resource operation may be subject to negotiated contractual provisions, introducing additional constraints and tradeoffs for those resources. CAISO should allow these contractual provisions for use limited resources to be reflected in opportunity costs calculations particularly where there has been regulatory view of the costs in an approved contract and where market power is not being exercised.

Additionally, bids may be constructed in such a way to manage resource limitations. PG&E also expects that new bid functionality for nascent technologies such as batteries will evolve over time through related stakeholder initiatives (eg. ESDER2), potentially changing the way costs for these types of resources will be reflected in bids.

Ultimately, there is not likely a standard algorithm or prescriptive cost development guideline that can be used across newer resources even of the same technology type. Non-conventional resources may require resource-specific tailored references because of unique constraints and opportunity costs. However, PG&E sees this as being the case regardless of the type of reference system used.

PG&E suggests that a technology agnostic approach to references and mitigation be triggered by a need to mitigate potential market power of resources currently not subject to mitigation. How well specific technology costs are understood should also be considered before developing



reference guidelines. In regard to identifying potential market power, PG&E believes the CAISO or DMM are in the best position to make this type of assessment as they have a market-wide view of supplier behavior, system constraints, and new interconnections.

5. PG&E has concerns about the implementation of dynamic commitment cost mitigation; the design must be thoroughly thought out, tested to ensure feasibility and effectiveness, and considered in tandem with increased bid and reference flexibility

PG&E believes the design of dynamic commitment cost mitigation should be thought out and tested thoroughly before committing to a design change. The design should be proven feasible and even simulated to ensure a mitigation scheme can adequately distinguish between competitive and uncompetitive scenarios. From an implementation perspective, if dynamic mitigation is applied to the unit commitment problem it is likely that dynamic mitigation will slow down the market optimization, requiring performance testing. From a market perspective, since mitigation would only trigger if uncompetitive conditions are detected and commitment cost offers would no longer be subject to bid caps, a robust mitigation mechanism becomes even more important to accurately identify uncompetitive scenarios. PG&E understands that much more discussion on mechanics of dynamic mitigation is needed.

Some questions PG&E still has regarding dynamic commitment cost mitigation are:

- How frequent is feasible for a commitment cost mitigation test to take place?
- How would dynamic mitigation interact with changes being contemplated in the RT Market Enhancements Initiative? If commitment decisions are moved to RTD, is a commitment cost and energy mitigation pass feasible in 5 minute interval granularity?
- Can dynamic mitigation detect instances where transmission constraints do not bind but a resource is needed to serve local load?
- Can the competitiveness of constraints other than transmission constraints be assessed (eg. MOC constraints, ramping needs, lack of flexibility in other local resources)?

Suggested discussion items for the May 23rd workshop:

- Provide more clarity regarding Negotiated Rate Option and discuss the possibility of expanding this process
- Revisit hourly commitment cost variation – scope out system and downstream impacts of different options; PG&E thinks it would be beneficial to discuss with stakeholders the implementation implications of different design options. For example, moving to a no load framework likely provides the greatest degree of flexibility for reflecting variation in both commitment costs and Min Load MWs. However, this change likely requires significant downstream changes such as changes to dispatch and pricing algorithms and settlement calculations. A cost-benefit discussion regarding hourly commitment cost variation would be valuable