



Comments of Pacific Gas & Electric Company System Market Power Mitigation September 20th Working Group

Submitted by	Company	Date Submitted
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PG&E appreciates CAISO’s Conceptual Design Proposal which furthers a much-needed conversation about how to thoughtfully implement system-level market power mitigation. Through the three working group meetings (in addition to two MSC meetings) on system market power issues, CAISO focused the discussion around how to construct measures to detect market power and details on the mitigation procedures when market power is detected—where, like in local market power mitigation, a default energy bid (DEB) is calculated based on variable cost of providing incremental energy. PG&E believes the discussion around system market power mitigation would benefit from a broader, conceptual framework on the tradeoffs associated with how strict the conditions for mitigation are and how precise or loose the mitigated resources’ bids would be.

PG&E offer comments to further this discussion and it can be summarized as follows:

1. PG&E would like to propose a broader, conceptual framework for CAISO and stakeholders to better consider the different tradeoffs associated with how strict the conditions for mitigation are and how precise or loose the mitigated resources’ bids should be.
 2. PG&E believes it is insufficient to only consider mitigating internal resources and should at least also mitigate import Resource Adequacy (RA) resources.
 3. CAISO should consider the cost and benefit of also applying system-level market power mitigation to the day-ahead market (DAM) instead of just the real-time market (RTM). At this time, PG&E believes mitigation in the DAM is needed.
 4. PG&E does not agree that all three major interties need to bind simultaneously as a necessary condition to consider the market as uncompetitive at the system level.
1. PG&E would like to propose a broader, conceptual framework for CAISO and stakeholders to better consider the different tradeoffs associated with how strict the conditions for mitigation are and how precise or loose the mitigated resources' bids should be.

PG&E believes that the current discussion would benefit greatly if CAISO take a broader view and consider a framework that allows stakeholders to evaluate different mitigation schemes. In our view, the discussion can be more productive if CAISO considers a wider range of possibilities rather than the current conceptual design proposal, which has very strict mitigation conditions (i.e., all three major interties simultaneously bind and RSI3 less than one) and very precise mitigation of internal bids (i.e., DEB calculated by technology type). Ultimately, there needs to be a flexible approach to more fully

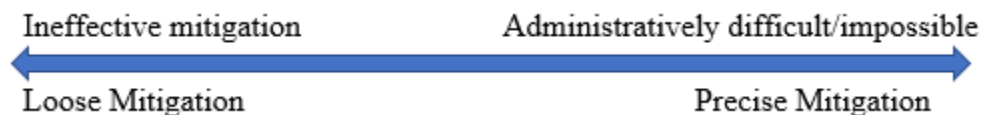
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considers the tradeoffs of different mitigation options. PG&E would like to propose the following framework to help guide the discussion around the pros and cons different system-level market power mitigation methods.

As referenced in PG&E's presentation at the July 15th Working Group Meeting, there are two key elements to market power mitigation: 1) method to determine the existence of market power and 2) mitigation measures (i.e., how to set the proper mitigated price).¹ In order to detect the existence of market power, one can implement a very strict trigger—where mitigation measures are only prompted when there are severely uncompetitive conditions and high likelihood that non-competitive bids will set the system price. On the other side of the spectrum, one can enact of a very broad trigger, where mitigation measures are prompted whenever the market fails a broad competitive test and then use loose default energy bids with ample headroom. Strict trigger limits the chance of falsely identifying the presence of market power (referred to below as a Type I Error) but increases the chances of failing to identify market power when it exists (referred to below as a Type II Error).



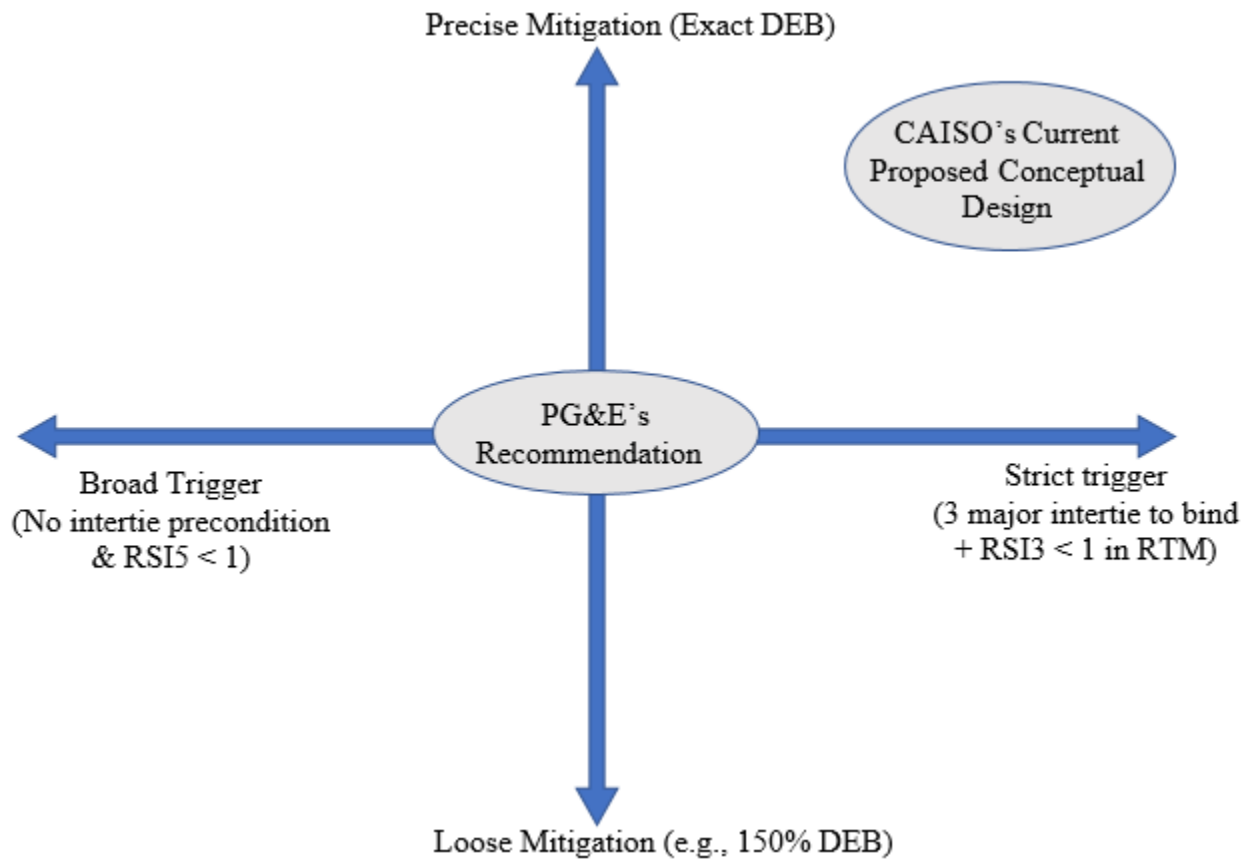
In determining the proper mitigation measure, there is a spectrum of options with different tradeoffs. On one side, one can try to enact very precise mitigation—setting the price to a cost-based default energy bid (DEB) that the CAISO has determined reflects the variable price of incremental energy. While this is desirable, it is often administratively challenging to agree on an accurate DEB. Inefficient dispatch could result if there was frequent market power mitigation from loose competitiveness criteria and precise mitigation with potentially inaccurate DEBs. To account for this, the CAISO could enact loose mitigation measures on resources that builds in additional headroom to account for uncertainty and eliminate possible dispatch below a resources true marginal cost (e.g., bid mitigated to 125% of DEB).



The purpose of this stakeholder initiative should be centered on having a robust and thoughtful discussion amongst stakeholders on the proper balance between these two elements. In our view, CAISO's current proposal is too overly focused on strict triggers with precise mitigations. PG&E recommends that CAISO considers mitigation options with broader triggers and looser mitigations to properly balance tradeoffs. The CAISO's proposal considers mitigating only the resources that for which it can calculate an exact migration—leaving out resources that could exercise market power simply because it cannot calculate an exact mitigation. It is important that we work together through these tradeoffs move forward these discussions to determine a system market power mitigation design that can protect ratepayers from the extreme market outcomes that were seen in 2017 and 2018. PG&E's recommendation is a trigger that mitigates when $RSI3 > 1$ with no intertie precondition.

¹ [PG&E Presentation – System-Level Market Power Working Group – Jul 15, 2019](#)

Mitigation should apply to all internal resources and import RA in the DAM and RTM. Mitigation should be applied if bid exceeds 125% of DEB.



2. PG&E believes it is insufficient to only consider mitigating internal resources and should at least also mitigate import Resource Adequacy (RA) resources.

CAISO's current proposal only considers mitigating resources within CAISO's balancing area. PG&E believes mitigating internal resources is necessary but not sufficient. At a minimum, CAISO should also ensure that import RA should also be mitigated when the trigger for determining system-level market power has been met. Even though there is a current CPUC proceeding looking to clarify import RA rules, CAISO should itself consider market rules that ensure that RA imports are mitigated to prevent the potential exercise of market power and ensure that the system is benefitting from the capacity payments it is making.²

Arguments that it is impossible to properly mitigate imports and calculate a proper default energy bid (DEB) for them is misguided for two reasons. First, as PG&E outlined in the introductory section, it is possible to construct a mitigated price for imports that includes enough headroom for resource uncertainty. Second, if a supplier outside of the CAISO balancing area received RA payments, that supplier should be making that capacity available in the CAISO energy market via competitive bids. Behavior to the contrary constitute as the exercise of market power, and CAISO, as the market

² [CPUC Proposed Decision Clarifying Resource Adequacy Import Rules](#)

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operator, have a duty to prevent such behavior by mitigating those bids to its approximate incremental variable cost.

3. PG&E CAISO should consider the cost and benefit of also applying system-level market power mitigation to the day-ahead market (DAM) instead of just the real-time market (RTM). At this time, PG&E believes mitigation in the DAM is needed.

PG&E disagrees with CAISO's proposal to apply system-level market power mitigation only to the real-time market (RTM). All of the tests that the CAISO and DMM produced regarding the competitiveness of the CAISO system was based upon day-ahead market bids, not real time. It seems to be contradictory and a waste of time to do analyses on the day-ahead market, only to come out with a conceptual design proposal that says market power is not an issue in the day-ahead market because of virtual bidding and demand participation. While mitigation in the RTM in concert with convergence bidders may help mitigate sustained, consistent, and predictable high prices, PG&E believes the CAISO should pursue system-level market power mitigation in the Day-Ahead Market (DAM) for the following two reasons.

First, PG&E disagrees with CAISO's presumption that "virtual bidding participation in aggregate would be effective at combating market power on a balancing area-wide basis in the day-ahead market." This would only be true if virtual bidding consistently converges the prices between the DAM and RTM. However, as CAISO referenced in its Price Performance Analysis Report³, convergence sometimes narrows the gap between DAM and RTM prices, but in other cases, they increase the gap. There are many factors impacting price between these two fundamentally different markets and given that the majority of load is still cleared in the DAM, system-level mitigation must be applied to the DAM to be truly effective.

Second, by limiting market power mitigation to apply only in the RTM, CAISO has restricted the effects of that mitigation measures because much of the unit commitment decisions, especially for long-start units, occur in the DAM. The mitigation for unit commitment is a central element to effective mitigation. The real time market can only mitigate from resources that have already been dispatched by the day ahead market, which may not include the most efficient and cheapest resources if there is not mitigation in the day-ahead market. Some of the largest units on the system are slower starting units and would need to be correctly mitigated in the day-ahead market to be available in real time in the event that they bid uncompetitively in uncompetitive system conditions. It would be helpful for CAISO to clarify how CAISO intends on addressing unit commitment concerns if it only considers RTM mitigation measures.

4. PG&E does not see the requirement for all three major interties to bind as a necessary precondition to consider the market uncompetitive.

PG&E appreciates CAISO's considerations around what defines the competitiveness of a market. In the CAISO's conceptual design proposal, system-level market power mitigation would only apply if all three major interties (Malin, NOB, and Palo Verde) are binding. PG&E does not see this requirement as necessary to consider the market uncompetitive. CAISO does not have complete visibility on all the constraints limiting competitive supply. However, CAISO does have visibility into

³ Price Performance Analysis

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the bids submitted, so CAISO should have triggers based on bids rather than on whether the ties are binding or not.