System-Level Market Power Mitigation
Initiative Scoping Document

I. Introduction

This document outlines what the CAISO believes should be the principles and scope for designing and implementing system-level market power mitigation in the CAISO market for the CAISO balancing authority area. This would serve as the basis for a policy development initiative in the event the CAISO determines it is appropriate to implement system-level market power mitigation. The CAISO will brief its Board of Governors at its November 2019 meeting as to whether it plans to initiate a stakeholder process to develop a system-level market power mitigation approach.

In a recent analysis, the CAISO found that there were 201 hours (just over 2 percent of the hours) in 2018 in which its supply mix was potentially uncompetitive.[1] The potential for system-level market power in the CAISO balancing authority area [2] is a significant issue because the CAISO's current market power mitigation provisions are based on the assumption that the CAISO market is competitive at the balancing area (i.e., "system") level. Because of this assumption, the CAISO market's only mitigation for system level market power in the CAISO balancing area are its energy bid caps. The CAISO market does not dynamically test for or otherwise mitigate for system-level market power in the CAISO balancing area. Also because of this assumption, the market power processes used for both the CAISO balancing area as well as the other balancing areas in the Western Energy Imbalance Market ("energy imbalance market") use a "competitive locational marginal price" calculated based on the prices within the CAISO balancing authority area.

A number of stakeholders advocate that it is imperative that the CAISO implement system-level market power mitigation for its balancing area to address the potential for the CAISO balancing area not being competitive at a system level. In contrast, a number of other stakeholders and the Market Surveillance Committee point out that the CAISO should consider and design system-level market power mitigation carefully to ensure it increases market efficiency while avoiding potential adverse outcomes such as discouraging robust supply and demand participation during tight system conditions.

[1] "Analysis of Structural System-Level Competitiveness in the CAISO Balancing Authority Area, Revised Version," September 3, 2019, http://www.caiso.com/Documents/RevisedWhitePaper-SystemMarketPowerAnalysis.pdf

[2] The remainder of this document refers to the NERC-defined Balancing Authority Area as "balancing area."

The CAISO recently published a whitepaper[3] presenting a conceptual market power mitigation design to address system-level market power in the CAISO's market. The CAISO intended the conceptual design to serve as the basis of discussion regarding the benefits and drawbacks of adding system-level market power mitigation to the CAISO market.

In the **Principles** section of this document, the CAISO outlines its market power mitigation design principles. Generally, the CAISO seeks an effective design that does not to deter supply and demand participation in its markets and does not deter long-term forward contracting.

In the **Scope** section, the CAISO explains that it would likely implement system-level market power mitigation in two phases if it determines it is appropriate to implement system-level market power mitigation. The first phase would be a relatively quick implementation in anticipation of tightening system conditions as indicated by the forecast capacity shortfalls in the CAISO balancing area.

[3] "System-Level Market Power Mitigation Conceptual Design Proposal," September 19, 2019, http://www.caiso.com/Documents/WhitePaper-SystemMarketPowerMitigation-Sep20-2019.pdf

II. Principles

Effective market power mitigation should result in energy prices that approximate the prices that would occur in a competitive market (*i.e.*, prices should reflect the marginal cost of the highest cost unit dispatched). Any approach should consider whether suppliers have the opportunity to exercise market power (i.e., when conditions are uncompetitive) because mitigation during actual competitive conditions may discourage supply and demand participation in the market. For example, suppliers may seek competitive sales elsewhere in the western interconnection rather than risk under-compensation through the CAISO's market. As for the demand side, potential mitigation of suppliers during actual competitive conditions may discourage demand from participating in the market and engaging in forward contracting.

The CAISO continues to believe that system market power is best addressed through long-term contracting, which includes the long-term procurement framework and resource adequacy requirements developed by the CPUC and other local regulatory authorities. These are an essential component of the protections against market power in the overall market design.[4] The CAISO's "damage control" bid caps also continue to be a component of the CAISO's system market power mitigation and take into consideration the overall competitiveness of energy markets.[5] FERC agreed the CAISO's overall market design was just and reasonable and noted that "if the CAISO believes the mitigation package along with strong market behavior rules and the must-offer obligation for resource adequacy generation is insufficient to prevent the exercise of market power, the CAISO can immediately request a change of one or more of the market power mitigation measures."[6]

Consequently, the CAISO proposes to use the following market power mitigation design principles when considering whether the current provisions are not sufficiently adequate to address any degradation of the competitiveness of energy markets and whether the

---

[4] MRT Transmittal Letter, FERC Docket No. ER06-615, at p. 40, http://www.caiso.com/Documents/MRTUTransmittalLetter.pdf (February 9, 2006).

[5] Although the FERC increased the "damage control" caps in Order No. 831, the increase is subject to cost verified incremental bids for internal resources, which provides a reasonable measure for ensuring system prices do not exceed the marginal cost of the highest cost unit dispatched. These protections are not present with regards to the CAISO market at the interties, where participants will be able to submit economic bids that exceed $1000/MWh up to $2000/MWh without cost verification. Therefore, the CAISO is considering cost verification procedures for intertie bids in a separate initiative.

[6] MRTU September 21, 2006 Order, Docket ER06-615, at P 1020 (116 FERC ¶ 61,274) (available at: http://www.caiso.com/Documents/September21_2006FERCOrderAcceptingCaliforniaISOComplianceFilinginDocketNo_ER02-1656-024_Amendment44-MRTU_.pdf)

CAISO must adopt additional market power mitigation process measures to address system market power:

- Energy prices should reflect the marginal cost of the highest cost resource used to meet demand. Energy prices should be competitive across the region when energy transactions are not limited by transmission capability.

- A supplier should not be forced to sell power below its offer price if it cannot exert market power. Supply offers should be mitigated to marginal costs to the extent supply has market power.

- The mitigation design should not deter robust market participation and long-term forward contracting. The design should maintain strong incentives for suppliers and consumers to economically participate in the CAISO's market and to enter into long-term forward energy contracts.

- Mitigation should be effective at mitigating the exercise of market power. A supplier should not be able to easily circumvent the effects of the mitigation.

III. Scope

The CAISO would likely implement system-level market power mitigation in two phases if it determines it is appropriate to implement additional measures to address system-level market power mitigation. It would do this so it could implement a first phase sooner than it could implement enhancements that are more comprehensive. A second phase would allow time to address more complex and/or contentious policy issues and more extensive system development.

a. Phase 1 scope

The CAISO outlines below its proposed scope for the Phase 1 implementation. The proposed preliminary approach for each scope item is based on the principles described above. This reflects the CAISO's preliminary thinking and is subject to modification and refinement in a stakeholder process. The proposed scope is:

- ***Implement system market power mitigation in the real-time market only.*** The CAISO proposes that the Phase 1 scope would address system-level mitigation in the real-time market only. There are structural limitations that make the real-time market particularly susceptible to suppliers potentially exercising market power and, as such, any design the CAISO would pursue would at a minimum apply to its real-time market.

  As discussed in the conceptual design proposal, the CAISO believes that real-time market mitigation will also add a significant level of protection against the exercise of market power in the day-ahead market. Elastic demand bidding and virtual bids in the day-ahead market serve as protection against system-level market power in the day-ahead market. Load can structure demand bids to limit the market from clearing at excessive price levels due to market power. Virtual bids can undercut high bid prices that are an attempt to exert market power and converge day-ahead market prices to real-time market prices – system market power measures would directly protect prices in the real-time market.

  The CAISO understands that there may remain an opportunity under this approach for suppliers to exercise system-level market power in the day-ahead market under certain circumstances. However, it is taking a careful approach to the scope of system-level market power mitigation because it does not want to deter robust market participation in the day-ahead market.

  The CAISO also believes there are many different aspects to consider regarding implementing system-level market power in the day-ahead market that may take longer to resolve than the Phase 1 policy development timeline. For example, the

CAISO and stakeholders will need to decide how the residual supply index calculations account for virtual bids and the appropriate quantity of demand to use in the residual supply index.

- ***Only mitigate for system market power if the CAISO balancing area is import constrained.*** The Phase 1 scope would determine the circumstances in which the market power mitigation process will consider the CAISO balancing area to be import constrained or whether import constraints must be binding to apply mitigation.

  As discussed in the conceptual design proposal, the CAISO believes market power mitigation is only appropriate when demand in constrained areas have been cut off from competitive supply outside of the constrained area because suppliers in constrained areas are insulated from outside competition. Losing access to competitive west-wide supply on a few of the CAISO's major interties may reduce competitive conditions within the CAISO balancing area. The CAISO believes a reasonable approach is for the CAISO to consider its balancing area to be import constrained if its three major interties (Malin, NOB, Palo Verde) are constrained.

  A stakeholder initiative would also consider the view of some stakeholders that the CAISO balancing area does not need to be import constrained to apply system-level market power mitigation.

- ***Use a residual supply index with a three pivotal supplier test to determine if the supply mix is competitive.*** The Phase 1 scope would consider the appropriate quantities of supply included in calculating the residual supply index used for system-level market power mitigation measures. In general, supply offers have certain limitations (such as whether import offers are limited by intertie transmission constraints) that the CAISO and stakeholders will need to consider. It may also be appropriate for the Phase 1 scope to consider whether a supplier's load serving obligations should be subtracted from its supply quantity in calculating its supply quantity used in the residual supply index calculation. This may be appropriate to more accurately identify suppliers that have an incentive to economically withhold supply from the market.

- ***Mitigate internal resource offers within the CAISO.*** Based on stakeholder discussions to date, the CAISO proposes that system-level market power mitigation would only apply to energy offers for resources within the CAISO balancing area.

The CAISO does not believe it should mitigate import offers because they are not supplied within a constrained area.[7] Only suppliers within a constrained area can exercise market power on demand in the constrained area. Further, as described in the conceptual design proposal, the CAISO reasonably presumes that the broader region from which suppliers source their power is competitive.

The CAISO also believes it is only necessary to mitigate supply offers within the CAISO balancing area rather than also mitigate supply offers within price-converged energy imbalance market balancing areas. The conceptual design proposal the CAISO previously published included a scenario in which the CAISO may have mitigated suppliers in energy imbalance market balancing areas when prices in those areas converged with the CAISO prices. Mitigating only the resources within the CAISO balancing area more closely aligns with the current energy imbalance market design and ensures the CAISO does not mitigate likely fringe suppliers that do not have an incentive to economically withhold from the market.

b. Phase 2 scope

The objective of Phase 2 will be to develop a broader system market power mitigation design that can be implemented over a longer timeframe. In phase 2, the CAISO plans to:

- Evaluate and potentially enhance the energy imbalance market mitigation design to allow energy imbalance market participants to be grouped together based on balancing area marginal energy costs. This design could follow the "tiered grouping" design discussed in the previously published conceptual design proposal.[8]

- Evaluate and potentially expand the system-level market power mitigation process to the day-ahead market. The initiative would consider the appropriate treatment of virtual offers and bid-in demand in the residual supply index. There may be related policy development that impacts the design of the mitigation process in the day-ahead market. The initiative would consider market designs being developed in the CAISO's *Day-Ahead Market Enhancements* and *Extended Day-Ahead Market* policy initiatives. In general, the introduction of other biddable capacity

[7] Provided the CAISO is considering separately in another initiative intertie bids above $1000/MWh should be cost verified as are internal bids once the CAISO increases the bid cap under Order No. 831.

[8] See last paragraph on page 17 "System-Level Market Power Mitigation Conceptual Design Proposal," September 19, 2019, http://www.caiso.com/Documents/WhitePaper-SystemMarketPowerMitigation-Sep20-2019.pdf.

products and the addition of more balancing areas to the day-ahead market will impact day-ahead market power mitigation design decisions.