Stakeholder Comments
System Market Power Mitigation – Working Group

Submitted by	Company	Date Submitted
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SCE appreciates the opportunity to provide comments on the CAISO System-Level Market Power Mitigation – Working Group that was held on September 20, 2019, during which the CAISO presented its Conceptual Design Proposal[1]. SCE's comments are summarized as follows:

- The CAISO should launch an initiative dedicated to development of system market power mitigation rules;
- The approach of basing a mitigation trigger on the criterion of three largest interties simultaneously binding (or alike) is not consistent with underlying power engineering principles that would truly indicate when the CAISO balancing area (BA) is import constrained;
- An intertie could be binding simply due to transmission maintenance work such as during non-summer months, while system market power issues are most likely to occur under heat wave conditions in California or the entire west;
- Available transmission capacity (i.e. on interties) may not represent competitive external supply that is available to the CAISO BA as the supply conditions throughout the west are tightening – this phenomenon is different for a local area where available transmission capacity generally means available supply (external to the area) that can compete with the supply located in the area;
- For these reasons, SCE recommends that the CAISO should continue to explore the alternative approach that was used in the prior CAISO and DMM analyses, i.e., the approach of applying a three-pivotal supplier test to the entire bid stack including internal and external supply; and
- The CAISO should directly address system market power issues in its main market, i.e., the day-ahead market (DAM), rather than relying on the approach of mitigating only the real-time market (RTM).

1. The CAISO should launch an initiative dedicated to development of a system market power mitigation mechanism

SCE supports the CAISO's effort in presenting a conceptual design proposal to advance the discussion on this topic. The importance and necessity of having a structurally competitive market,

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

as well as the fact of tightening supply conditions in California, has been discussed and well documented in stakeholders' comments[2]. The CAISO should make this effort a high priority. SCE has requested and continues to request that the CAISO launch a stakeholder initiative dedicated to developing a system market power mitigation mechanism and finding solutions to issues that have been identified. Once the initiative is created, the CAISO can consider merging prior conversations and findings (e.g. from prior workshops held on May 6, 2019, July 15, 2019 and September 20, 2019) within the new initiative.

2. Comments on the CAISO Conceptual Design Proposal

1) The proposed mitigation trigger needs further consideration

The CAISO Conceptual Design Proposal appears to follow the general process of detection of system market power based on a pre-defined criterion (i.e. mitigation trigger), followed by applying mitigation to supply bids. This aspect of the proposal seems reasonable, especially when system-level market power mitigation is intended to be dynamic, consistent with how the local market power mitigation is implemented.

Regarding the proposed mitigation trigger, the CAISO suggests conditioning the trigger on CAISO BA's import constraints. In particular, the CAISO states that a reasonable approach is to consider the CAISO BA import constrained if the three major interties (Malin, NOB, Palo Verde) are simultaneously binding. During the workshop discussion, the CAISO staff indicated that the CAISO is open to relax this criterion and could consider, for example, when two of three major interties are simultaneously binding. SCE believes that if the CAISO continues with this approach, it's critically important to appropriately define the condition when the CAISO BA is import constrained.

i. From the power engineering perspective, the CAISO BA could be import constrained when *any one* of its interties is binding

The most significant issue of using the criterion of three major interties, or a combination of any two of the three, simultaneously binding is that it is inconsistent with underlying power engineering principles that would otherwise truly indicate when the CAISO BA is import constrained. The CAISO markets run based on the Extended Full Network Model to ensure the market solution is power flow feasible. This means the CAISO BA could be import constrained if any one of its interties is binding (unless the binding intertie is radially connected to the CAISO BA, which would

[2] See comments from CPUC, DMM, PG&E, SCE, and the Six Cities on July 15, 2019 System Market Power Working Group (available at http://www.caiso.com/Pages/documentsbygroup.aspx?GroupID=2EE3A42B-CA9C-4D78-8101-FE6D06A980A2). See comments from CPUC, DMM, PG&E, SCE, SDG&E and the Six Cities on May 6, 2019 System Market Power Analysis (available at http://www.caiso.com/Pages/documentsbygroup.aspx?GroupID=F474FBB1-47A3-4B47-97EF-E31D640C3F48).

be an exceptional case)[3]. When only a subset of interties is chosen as a mitigation criterion, it's possible that the mitigation criterion will not be capable of capturing periods when the market is structurally uncompetitive. To prevent such outcome, this approach would require the mitigation criterion include *all* interties.

In addition, when an intertie is binding, it may be due to some associated transmission work. Since transmission work is mainly planned and scheduled outside summer peak months and/or peak hours, a binding intertie due to transmission work does not necessarily indicate a situation where there is a market power at the CAISO system.

2) It is incorrect to assume there will be competitive supply available on interties, such that no mitigation is needed when interties are not binding

Under the Conceptual Design Proposal, there will be no mitigation when interties are not binding. To conclude that no mitigation is necessary when interties are not binding, one of the following assumptions must hold:

a) The CAISO market is structurally competitive at all times such that there is no market power at the CAISO system level including when interties are not binding,
b) System market power at the CAISO BA can be mitigated by competitive external supply available at interties,
c) The CAISO chooses not to mitigate system market power at the CAISO BA[4].

Neither of the first two assumptions hold. Both the CAISO and DMM have assessed and concluded that there are hundreds of hours when the market was structurally uncompetitive during 2018. The assessment clearly demonstrates that the supplies on the interties during those uncompetitive hours are inadequate to provide substitution to those of three largest suppliers. To the contrary, it's likely to observe system market power issues under Summer heat-wave conditions, including those when the entire west may experience high temperatures. Under those conditions, the supply in the entire west can be tight, regardless of transmission capacity available to import power. Under those conditions, the market is likely to be less competitive in the absence of market power mitigation.

[3] Use a modified three-bus example drawn on page 134 of the CAISO BPM for Market Operations. Assume there are only one generator and one load: Generator 1 and load at Bus 3. Line 1-3 will become bind first and Lines 1-2 & 2-3 will never bind even all lines have same capacity. If one chooses Line 1-2 or Line 2-3, or Lines 1-2 & 2-3 collectively, as the mitigation trigger, then the network will never be constrained, thus system market power will never be tested. This example demonstrates the importance of including all interties in the mitigation trigger. The CAISO BPM for Market Operations is available at https://bpmcm.caiso.com/BPM%20Document%20Library/Market%20Operations/BPM_for_Market%20Operations_V62_clean.doc.

[4] E.g. when CAISO believes any mitigation will not make positive market outcomes if the western interconnection is not competitive, see the Presentation, at 25.

Regarding the third assumption, since the CAISO market, different than the rest of the western interconnection, settles all market purchases and sales based on the marginal clearing prices, the cost impact to the consumers served by the CAISO market can be quite different than the rest of the western interconnection. The CAISO tariff must comply with FERC requirements that the market rates are just and reasonable.

3) The CAISO should address any system market power issue in its main market directly, rather than relying on mitigating only RTM

The Conceptual Design Proposal proposes that system market power mitigation does not need to be applied to DAM at this time, since there are financial players (i.e. non-physical entities) and elastic demand in the DAM, in addition to a concern such mitigation may discourage supply participation in the DAM[5]. This is contrary to both CAISO and DMM's analyses that had shown that the DAM was not structurally competitive in 2018 – even with Convergence Bidding and elastic demand.

The importance of a structurally competitive DAM, thus the need for system market power mitigation where the market is not structurally competitive, cannot be over emphasized for several reasons:

a) Convergence bidding has not been shown as successful in converging DAM and RTM. What has been shown is that there continues to be significant divergence between DAM and RTM, even with the presence of convergence bidding.
b) There are certain differences in the design of DAM and RTM, including different optimization horizons, limitation in committing long-start units, and the uncertainty in load and renewable forecasts. Due to these differences, a competitive RTM may not lead to a competitive DAM.
c) The RTM has access to the resources in the EIM region that the DAM does not. From this perspective, the amount of imports serving the CAISO BA in the DAM can be lower than those in the RTM.
d) The vast majority of financial transactions have been conducted in the day-ahead market. If the CAISO's main market can't be guaranteed to be structurally competitive, the issue should be dealt with directly.
e) The approach of mitigating only RTM can lead to a disincentive to schedule load in the DAM. The DAM is the only market that optimizes resources across a day (e.g. 24 hours) and that economically commits and schedules resources to meet the morning and evening peaks within the 24-hour horizon. When a substantially higher amount of load is cleared in the RTM compared to the DAM, it can lead to a lower system efficiency in resource commitment and scheduling and therefore higher costs to consumers.

[5] The Presentation, at 14-15.

3. SCE recommends that the alternative approach that was used in the prior CAISO and DMM analyses should be considered.

Given the issues discussed above associated with the proposed approach in the Conceptual Design Proposal, SCE recommends that the CAISO should explore the alternative approach that was used in the prior CAISO and DMM analyses, i.e., the approach of applying a three-pivotal supply test to the entire bid stack including internal and external supply. When such test fails, bids will be mitigated. SCE understands there is difficulty in applying bid mitigation for non-resource specific imports, for which SCE has provided its initial thoughts[6]. In particular, the approach of applying system market power mitigation to internal supply and import RA can be practically more viable than the approach of identifying the conditions when the CAISO is import constrained based on congestion on random-selected interties[7]. SCE suggests these and other issues should be further explored under an initiative that the CAISO should launch immediately.

[6] SCE Comments on July 15, 2019 System Market Power Analysis Workshop, at 6-8, available at http://www.caiso.com/Documents/SCEComments-SystemMarketPower-Jul152019.pdf.

[7] In addition, likely any system market power mitigation mechanism would need to address the topic of non-RA import mitigation (implicitly or explicitly).