

Comments on System Market Power Mitigation Revised Straw Proposal

Department of Market Monitoring
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Summary

DMM appreciates the opportunity to comment on the ISO's *System Market Power Mitigation Revised Straw Proposal*.¹ DMM is supportive of the ISO's pursuit of a system market power mitigation stakeholder process and is generally supportive of the straw proposal.

The Revised Straw Proposal represents a significant improvement from the earlier Straw Proposal. While DMM supports many elements of the Revised Straw Proposal, there are a number of topics that need significant clarification of specific details. Other elements would benefit from further enhancement or reconsideration. We offer additional detail in the sections below.

I. Triggering test for potentially uncompetitive system conditions

The Revised Straw Proposal has eliminated the requirement that a set of CAISO import constraints be binding before triggering the test for potentially uncompetitive conditions and system market power mitigation. DMM views this as a significant improvement from the December 11, 2019 Straw Proposal. The December 11 Straw Proposal proposed to only consider system market power mitigation when a set of CAISO import constraints is binding.

As DMM noted in supplemental comments on the Straw Proposal, the volume of import bids is often insufficient to result in binding CAISO import constraints. Even in cases where there are sufficient offers to result in a binding import constraint, offers may be concentrated among a small number of participants on some interties. These findings make it difficult to conclude that access to all major CAISO interties is competitive.²

Market power can stem from both geographic and temporal constraints. Because of this, uncompetitive system conditions can occur without binding import constraints. However, if the ISO chooses to require a binding import constraint, considering EIM transfer constraints as proposed in the Revised Straw Proposal may be an appropriate choice.

The revised proposal to test for potentially uncompetitive scenarios when CAISO is grouped with other EIM areas also represents an improvement from the Straw Proposal. However, this approach still may miss some potentially uncompetitive conditions when CAISO and the EIM BAAs with which it is grouped are collectively uncompetitive, but not the highest priced area.

¹ *System Market Power Mitigation Revised Straw Proposal*, California ISO, April 7, 2020: <http://www.aiso.com/InitiativeDocuments/RevisedStrawProposal-SystemMarketPowerMitigation.pdf>

² *System Market Power Mitigation Straw Proposal – Supplemental Comments by Department of Market Monitoring*, February 27, 2020: <http://www.aiso.com/InitiativeDocuments/DMMComments-Supplemental-SystemMarketPowerMitigation.pdf>

Use of EIM transfer limits can be appropriate to trigger test for competitiveness

Some stakeholders have expressed concern with the use of EIM transfer constraints to trigger the test for non-competitive conditions. These concerns are rooted in the notion that EIM transfer limits represent a small portion of overall import capacity into CAISO, and that there could be significant unused import capacity outside of EIM.

As discussed later in these comments, uncompetitive system conditions can occur without binding import constraints in a given market interval. However, to the extent that CAISO chooses to require a binding transmission constraint to test an area for competitiveness, EIM transfers may be a reasonable choice.

Under the Revised Straw Proposal, the RSI calculation will consider available import offers up to the import constraint limit as available supply.³ However, the volume of import offers on major CAISO interties is often below the import limit, and thus not sufficient to result in binding import constraints. Even when the import offer volume is adequate to result in a binding constraint, offers on many major interties are concentrated among a small number of participants.⁴

These findings suggest that access to transmission outside of CAISO required to reach CAISO interties should not be assumed to be competitive. Under these conditions, it would not be appropriate to require import constraints to bind in order to define a geographically constrained area in which there may be potential for system market power.

EIM transfer capacity may represent a significant portion of transmission that is competitive, with nondiscriminatory access to any EIM market participant, and accessible to incremental dispatch in the 15-minute and 5-minute markets. Some stakeholders have argued that EIM entities may have unused available transmission that they have chosen to not make available to the EIM market. However, this capacity is not accessible to the CAISO market and therefore not applicable to consider when evaluating competitiveness of a given market run.

Further, market power in transmission access could be exercised by selective withholding of transmission from EIM. The consideration of binding EIM transfer constraints to determine a constrained area for potential mitigation is the same standard currently applied to EIM BAAs. This standard is similarly appropriate for purposes of triggering a test for uncompetitive real-time system conditions for CAISO, or the CAISO BAA grouped with other EIM BAAs.

Market power can stem from both geographic and temporal constraints

A market is defined by both geography and time horizon. The existence of a binding transmission constraint to define a sub-area of a larger system is not a prerequisite for market

³ DMM's comments on the specifics of how import supply should be considered in the RSI calculation are presented in a later section of these comments.

⁴ *System Market Power Mitigation Straw Proposal – Supplemental Comments by Department of Market Monitoring*, February 27, 2020: <http://www.aiso.com/InitiativeDocuments/DMMComments-Supplemental-SystemMarketPowerMitigation.pdf>

power. The time horizon may be the limiting factor, particularly in the real-time market, leading to the potential for uncompetitive conditions over the geography of the entire system.

Some parties have noted at different phases of the System Market Power Mitigation stakeholder process that absent a binding transmission constraint to trigger a test for mitigation, CAISO is assuming the entire WECC is uncompetitive, and that the CAISO and EIM markets are the only options for market participation. Stakeholders have further noted that bilateral markets in the west are hourly markets.

The very limited volume of 15-minute dispatchable import offers to CAISO and current WECC scheduling practices also suggest that bilateral markets in the west are primarily hourly markets. However, on a 15-minute and a 5-minute basis, the CAISO and the Western EIM is the prevailing market in the western interconnection.

Thus, finding uncompetitive conditions in an interval of the 15-minute or 5-minute market is not the same as finding the entire WECC to be structurally uncompetitive. For example, in a given 15-minute or 5-minute interval of the real-time market, the ability to commit new resources is limited. The vast majority of imports are offered on an hourly basis and have no incremental availability in the interval.

Under these conditions, the area defined by the CAISO and any EIM BAAs with which it is grouped is effectively cut off from additional unit commitment and the majority of available import supply. On a 15 or 5-minute basis, this creates a potential source of market power for generation resources that are committed and rampable within the market interval.

This outcome is driven by the time requirements to commit additional generators, and inertia scheduling rules and bilateral trading practices of the WECC, rather than a binding transmission constraint. Nothing precludes this same outcome from potentially occurring over the entire real-time system inclusive of CAISO and all EIM areas.

Grouping the CAISO BAA with other EIM areas better represents the real-time system, and future enhancements should consider other groupings of EIM BAAs

In real-time, the system for the CAISO market includes not only the CAISO BAA but also all EIM BAAs. Earlier DMM comments noted the need to consider CAISO as part of a larger constrained area or group of EIM areas.

The current proposal is an improvement to the earlier proposal, which considered only the CAISO BAA when evaluating competitiveness for potential application of system market power mitigation. However, because the test for uncompetitive conditions is triggered only when the CAISO BAA is in the highest priced group of BAAs, this approach may leave some system level market power unmitigated.

Consider an example with the following three groupings of EIM BAAs, each defined by binding EIM transfer constraints:

Group 1 – BAA1 and BAA2; LMP = \$975/MWh

Group 2 – CAISO BAA, BAA3, BAA4, BAA5; LMP = \$950/MWh

Group 3 – BAA6, BAA7, BAA8; LMP = \$35/MWh

In this example, the proposed approach for system market power mitigation would not assess the collective competitiveness of Group 2, which includes CAISO, because CAISO is not in the highest priced group. Although conditions in Group 2 may be uncompetitive, this potential market power would go unmitigated.

DMM recommends that the ISO commit to considering the following enhancements to the proposed approach in phase 2 of the initiative:

- 1.) Expand system market power mitigation to consider the potential grouped competitiveness of other combinations of EIM BAAs that may not include CAISO; and
- 2.) Consider mitigation of potentially uncompetitive system conditions when CAISO may not be in the highest priced group of BAAs, as in Group 2 above.

II. Residual supply index calculation

DMM supports the general concept of a residual supplier index as a test for uncompetitive conditions and trigger for system market power mitigation. However, DMM suggests that the ISO reconsider some elements of the proposal and clarify other elements:

- The proposed method to account for load serving obligation does not consider all incentives to exercise market power.
- The ISO has proposed a policy that assumes offers from EIM participating resources always represent fringe competitive supply. The ISO should reconsider treating generators in EIM areas grouped with CAISO differently than internal CAISO generation in the RSI calculation.
- Withholdable import supply should be considered as part of an entity's supply portfolio when determining potentially pivotal suppliers, even if imports are not subject to mitigation.
- The ISO should clarify in more detail how supply and demand from EIM areas grouped with the CAISO BAA will be included in the RSI calculation.

The method of accounting for load serving obligation does not account for all incentives to exercise market power

The Revised Straw Proposal highlights the need to account for load serving obligations when determining potentially pivotal suppliers. The proposed approach is to estimate an entity's share of total demand forecast, based on a multiplier derived from a historical average of

metered load data. This estimated load serving obligation would then be subtracted from capacity that can be withheld in the RSI calculation.

The proposed approach may offer some advantages to only considering net buyer or net seller status. The approach may also help to facilitate similar treatment of generators across CAISO and EIM areas with which CAISO is grouped. However, DMM cautions that this approach will leave some potential exercises of market power unmitigated, and use of this approach should be monitored closely before considering as precedent for any future changes to mitigation procedures.

In the Revised Straw Proposal, the ISO states:

Large suppliers that also have large load serving obligations do not have incentive to withhold supply below the amount of load serving obligations because it may increase their overall costs.⁵

In a given interval, a supplier may not have incentive within that interval to withhold capacity beyond their imbalance load expectation for that interval. However, the assumption that a supplier has no other incentive to exercise market power beyond their immediate load serving obligation does not account for long-term incentives. For instance, a supplier may have incentive to raise market prices to benefit long-term generation contracts. These long-term incentives may outweigh any negative short-term cost impacts associated with the exercise of real-time market power.

The ISO should reconsider treating generators in EIM areas grouped with CAISO differently than internal CAISO generation in the RSI calculation.

The ISO proposes to treat supply from EIM participating resources in an EIM BAA grouped with CAISO as fringe competitive supply by default in the RSI calculation. Although EIM participating resources within the constrained area are similarly situated in the real-time market to CAISO internal generators, the proposal justifies the different treatment by stating:

Energy imbalance market suppliers that control large amounts of generation outside California also have large load-serving obligations. These entities likely have limited incentive to exert market power because it could raise the costs of meeting their own load.⁶

If the reason for treating EIM participating resources differently than similarly situated CAISO generators is because of assumed large load serving obligations, the need for separate treatment for EIM participating resources is unclear. The proposal has already outlined an approach to explicitly address the case of entities with large load serving obligations.

For EIM entities with significant load serving obligations, the outcome of either approach would likely be similar. When an EIM entity has a large load serving obligation, it is not likely that it would have enough remaining withheld capacity to be deemed a potentially pivotal supplier

⁵System Market Power Mitigation Revised Straw Proposal, pg. 30. California ISO, April 7, 2020; <http://www.caiso.com/InitiativeDocuments/RevisedStrawProposal-SystemMarketPowerMitigation.pdf>

⁶ Ibid.

over the area including the EIM BAA and the CAISO BAA. However, for an EIM entity that controls large amounts of generation in excess of its load serving obligation, the outcome may be significantly different.

The current proposal ensures an EIM supplier with significant generation and small or non-existent load serving obligation could never be deemed potentially pivotal, regardless of the quantity of capacity this entity could withhold from the real-time market. As such, this entity could never be mitigated for system market power. Applying the same load serving obligation adjustment as applied to CAISO generators would allow this supplier to be deemed potentially pivotal and subject to mitigation when appropriate.

In addition to the question noted above, DMM has several additional questions on the ISO's proposed approach for including EIM participating resource offers in the RSI calculation:

- Does the ISO propose to treat only EIM participating resources in the EIM BAA grouped with CAISO as fringe competitive supply (i.e., considering this as capacity that cannot be withheld), or does the ISO propose to consider the entire portfolio of the entity as fringe competitive supply?
- How does the ISO propose to treat the scenario where an EIM supplier also has internal CAISO generation? In that instance, would the EIM resources still be treated as capacity that cannot be withheld, while the CAISO generation would be considered as capacity that could be withheld?
- Does the ISO propose to only calculate withheld capacity for net sellers, as is currently done for local market power mitigation, with the load serving obligation adjustment as a supplemental measure? Or does the ISO propose to calculate withheld capacity for all sellers, using the new proposed load serving adjustment only?

Import supply should be considered capacity that may be withheld from entities' generation portfolios, even if the ISO proposes to not mitigate import offers.

The ISO proposes to consider un-cleared import offers up to import constraint (ITC) limits in the RSI calculation. Under the proposal, all import supply would be considered in the RSI as fringe competitive supply. The Revised Straw Proposal states that import bids likely represent fringe supply that is unable to exert market power.

However, this assumption may not always be appropriate, particularly when import supply is offered by entities which also have large internal generation portfolios. The ISO should include ITC constrained import offers by entities as supply that could be withheld when identifying potentially pivotal suppliers.

For withholdable capacity and any fringe competitive supply, import offers should only be considered up to the dispatchable level within the market interval. This treatment would be analogous to treatment of ramp constrained generating resources, where imports in 15-minute and 5-minute markets would only be considered up to the level at which they can be dispatched in the interval.

For hourly import offers, this implies that imports should only be considered at the cleared MW level in the 15-minute and 5-minute markets. Uncleared hourly import offers that are not dispatchable in the 15-minute or 5-minute market should not be considered as available supply in the 15-minute and 5-minute market RSI calculation, even if the applicable ITC is not binding.

Proposal needs additional detail on inclusion of supply and demand from EIM areas grouped with CAISO in RSI calculation

DMM requests that the ISO provide additional detail on the inclusion of supply and demand from EIM areas grouped with CAISO in the RSI calculation.

The Revised Straw Proposal states that demand for the EIM area would be included, but does not specify whether this will be full demand for the EIM area, or imbalance demand for the given market. Similarly, the proposal only mentions the inclusion of supply from EIM participating resources, but does not clarify treatment of supply from non-participating resources, or other base scheduled supply.

DMM requests the ISO to clarify how demand and supply from an EIM area grouped with CAISO would be considered in the RSI calculation. If all demand from the EIM area would be considered, all supply from the EIM area must also be considered. Failure to do so could result in significant overmitigation.

III. Competitive LMP (CLMP) when CAISO is non-competitive

The existing approach to calculating the competitive LMP (CLMP) would not be appropriate in situations when the proposed system market power mitigation design would deem the CAISO BAA uncompetitive. Because of this, the December 11 Straw Proposal had proposed to use only default energy bids when applying system market power mitigation.

In comments on that Straw Proposal, DMM suggested that the ISO consider whether there is a workable alternative approach to calculating a CLMP that would be appropriate when the CAISO BAA is uncompetitive. The ISO has developed such an approach in the Revised Straw Proposal.

DMM supports the ISO's efforts in the Revised Straw Proposal to develop an alternative CLMP for use in system market power mitigation. However, the Revised Straw Proposal paper outlines two different approaches, and it is unclear which one the ISO intends to propose. One such approach – the approach that the ISO also outlined in the stakeholder presentation on April 13, 2020 -- may be especially susceptible to the result of a CLMP that is too high and still potentially uncompetitive.

The ISO proposes to base the CLMP on real-time market prices outside the constrained areas. DMM believes that this general approach is more appropriate than an approach based on day-ahead bilateral prices. Day-ahead bilateral prices in the west may themselves be influenced by the exercise of real-time system market power in the CAISO market, which could undermine the intent of system market power mitigation in real-time.

Revised straw proposal shows two different calculations for competitive LMP.

The Revised Straw Proposal presents two approaches to calculating the CLMP, leading to some ambiguity on the approach the ISO is proposing. While each description proposes to take the minimum of the lowest uncleared constrained economic import bid, or a “Competitive EIM Price”, definitions of the latter component vary throughout the Revised Straw Proposal.

As described in the Revised Straw Proposal, on page 33, the Competitive EIM price would be calculated as “the lowest power balance constraint shadow price outside the highest priced region of balancing areas in the energy imbalance market”. A similar definition appears on page 34 of the Revised Straw Proposal. Conversely, on pages 22 and 34 of the Revised Straw Proposal, and in the April 13, 2020 stakeholder presentation, the Competitive EIM Price portion of the CLMP calculation is defined as “the power balance constraint shadow price of the next highest priced group of balancing areas within the energy imbalance market”.^{7,8}

As an initial matter, DMM asks the ISO to clarify which approach it intends to propose. If the ISO intends to propose the calculation that considers the Competitive EIM Price as that of the next highest priced group of EIM BAAs, this price may also be elevated and uncompetitive. This can occur when the second highest priced group of BAAs is collectively uncompetitive but would go unmitigated under the current design of EIM mitigation.

Additionally, DMM asks the ISO to clarify that references to BAA power balance constraint shadow prices intend to refer to the sum of the system power balance constraint shadow price and the BAA’s specific power balance constraint shadow price, rather than only to the shadow price of the BAA specific power balance constraint.

Using a day-ahead bilateral price could undermine mitigation of real-time market power.

Some stakeholders have proposed the use of shaped day-ahead bilateral prices as an alternative approach to calculate the CLMP. DMM notes that this approach may not be optimal as it could undermine the mitigation of real-time market power.

The exercise of real-time market power in the CAISO market may also influence day-ahead bilateral prices in western markets. Virtual bids reflect expectations of real-time market prices in day-ahead bid prices. When real-time market power influences such expectations, this can lead to the influence of real-time market power on day-ahead clearing prices. Additionally, mitigation only in real-time allows the potential for some market power to be exercised in the

⁷ *System Market Power Mitigation Revised Straw Proposal*, California ISO, April 7, 2020: <http://www.caiso.com/InitiativeDocuments/RevisedStrawProposal-SystemMarketPowerMitigation.pdf>

⁸ Presentation – System Market Power Mitigation Revised Straw Proposal, slide 14. California ISO, April 13, 2020: <http://www.caiso.com/InitiativeDocuments/Presentation-SystemMarketPowerMitigation-RevisedStrawProposal.pdf>

day-ahead market as well. DMM discussed each of these issues in detail in earlier comments on the Straw Proposal.⁹

As stakeholders have noted, bilateral trading occurs largely before the opportunity to offer into the CAISO day-ahead market. Because of this, bilateral prices can reflect expectations of the CAISO day-ahead prices, which may be influenced by the exercise of system market power in both day-ahead and real-time markets.

IV. Mitigation applied only to internal generators of potentially pivotal suppliers

The ISO proposes only to mitigate generation resources internal to the CAISO, with potential mitigation further limited to those resources belonging to the portfolio of a supplier that could be potentially pivotal. No mitigation is proposed for EIM participating resources within the EIM BAA that is grouped with CAISO, or for any CAISO intertie import offers, including import resource adequacy import offers.

As previously discussed, the logic for not considering EIM participating resources the same as CAISO generators when similarly situated in the real-time market is unclear. It may be appropriate to consider offers from EIM participating resources as capacity that could be withheld in the RSI calculation. It may be similarly appropriate to extend system market power mitigation to these resources when the RSI indicates uncompetitive conditions and the EIM supplier is found to be potentially pivotal.

Regarding the proposal to forgo mitigation of import offers, the ISO explains the concern that mitigation of import supply may simply result in a drop in import offers. The ISO further states that as a practical matter, there is no methodology to calculate default energy bids for imports.

DMM agrees with the need to appropriately capture resource costs when applying mitigation to any resource. Given the lack of a framework for import offers to submit three-part bids that reflect both energy and commitment costs, mitigation to an estimate of marginal energy cost may not always be appropriate.

Even in the absence of an established default energy bid approach and three-part bidding for import offers, DMM notes that the option of mitigating resource adequacy import offers which have a must-offer obligation to the ISO market should remain a policy option that is considered in various ISO and CPUC resource adequacy stakeholder processes.

This approach could be implemented by developing a highly conservative estimate of cost for these offers in order to mitigate the exercises of market power that have the most significant impact on prices. The estimate of cost could be further enhanced to the extent that the resource adequacy import is resource-specific. DMM is providing further comment on

⁹ *System Market Power Mitigation Straw Proposal – Comments by Department of Market Monitoring*, January 10, 2020: <http://www.caiso.com/InitiativeDocuments/DMMComments-SystemMarketPowerMitigation-StrawProposal.pdf>

potential issues related to the import resource adequacy framework in comments on the Resource Adequacy Enhancements stakeholder initiative.¹⁰

V. Additional comments

Not appropriate to allow exercise of market power for purpose of attracting import supply.

Some stakeholders have argued against system market power mitigation because of its potential to lower 15-minute prices on which real-time imports are settled. These stakeholders have noted that because import offers in HASP are settled on the 15-minute price, hourly block import offers in HASP will only materialize if importers expect the 15-minute price to cover the cost of providing the import. The outcome described by these stakeholders is that when expectations of 15-minute market prices are lower due to mitigation, importers lose incentive to offer into HASP.

Because the price on which HASP offers settle is that from a different market run than the one that clears the import offer, it may be expected that importers would offer based on expectation of the 15-minute price. It follows that an importer would not be expected to offer in HASP if the expected 15-minute price is below the importer's estimate of cost.

DMM does not believe it would be appropriate to allow market power to persist in the 15-minute market for the purpose of attracting import supply to offer in HASP. In the presence of system market power, mitigation may result in lower 15-minute prices due to increased efficiency in the market outcome when cost-based offers are used for internal generators with potential market power. If more hourly import offers are needed to ensure available flexibility from other resources in later market runs, the appropriate avenue to achieve this outcome is to accurately value this specific system need, rather than allowing any potential exercise of system market power to go unmitigated in order to achieve higher prices.

Support implementation in real-time market as incremental improvement

As noted in earlier comments on the Straw Proposal, DMM supports the implementation of system market power mitigation only in the real-time market as an incremental improvement. In addition to directly mitigating the exercise of system market power in the real-time market, mitigation in the real-time market can also partially mitigate market power in the day-ahead market. DMM supports the continued enhancement of system market power mitigation measures to extend to the day-ahead market in the next phase of the initiative.

DMM looks forward to hearing further discussion of the issues raised in these comments, and other related issues, by stakeholders and the MSC.

¹⁰ Resource Adequacy Enhancements Fourth Revised Straw Proposal – Comments by Department of Market Monitoring, April 21, 2020: <http://www.caiso.com/InitiativeDocuments/DMMComments-ResourceAdequacyEnhancements-FourthRevisedStrawProposal.pdf>