

Comments on System Market Power Mitigation Draft Final Proposal

Department of Market Monitoring

July 14, 2020

Summary

DMM appreciates the opportunity to comment on the ISO's *System Market Power Mitigation Draft Final Proposal*.¹ The Draft Final Proposal includes a number of features that are designed to ensure that mitigation is only triggered when there is a significant potential for non-competitive market conditions and outcomes. Although DMM supports the proposal as an incremental improvement, we note the importance of the ISO's continued development of system market power mitigation in future phases of the stakeholder initiative. Specifically, DMM highlights the importance of expanding the system market power mitigation framework to include the day-ahead market, as well as broader areas of the real-time market by considering different groupings of EIM BAAs.

DMM suggests numerous changes to the Draft Final Proposal that may help ensure that mitigation is triggered when there is a significant potential for market power in the real-time market. Even with these changes, the proposed framework does not eliminate the potential exercise of system market power. However, the proposed framework with changes suggested by DMM in these comments are likely to offer significant protection from extreme and sustained exercise of system market power in the real-time market.

These comments include the following suggested changes:

- First, DMM suggests that the ISO reconsider the use of bilateral hub prices, both as a trigger to test for the presence of system market power, and in the calculation of the competitive LMP. The ISO's proposed use of bilateral hub prices assumes not only that the WECC area is competitive, but also that bilateral hub prices are free of other market power influence resulting from expectations of uncompetitive outcomes in subsequent markets. In the case that bilateral hub prices are found to be uncompetitive at times or in the future, the use of these prices as a threshold to trigger mitigation or to establish a competitive price leaves CAISO and potentially other EIM areas susceptible to market power.
- Second, DMM suggests that the ISO reconsider the requirement that the CAISO is in the highest priced EIM area to trigger the test for system market power. One possible alternative approach may be to test for system market power when CAISO is in the highest priced EIM area that has not failed the upward flexible ramping sufficiency test.

¹ *System Market Power Mitigation Draft Final Proposal*, California ISO, June 15, 2020;
<http://www.caiso.com/InitiativeDocuments/DraftFinalProposal-SystemMarketPowerMitigation.pdf>

- Third, DMM suggests that only the PG&E and SoCal Citygate prices be used as an input when determining the proposed cost-based thresholds and the competitive LMP used in bid mitigation. The ISO currently proposes to use the highest priced gas price hub applicable to the EIM outside of CAISO. This approach would allow CAISO system market power mitigation to be undermined by extreme gas price events outside of the CAISO that may occur in constrained areas or at relatively illiquid trading hubs.
- Fourth, if the ISO proceeds with a design that only tests for uncompetitive conditions in HASP, DMM recommends that the proposal be changed so all import supply is considered as potentially pivotal. Because the potential for uncompetitive conditions in the CAISO BAA may align with times when regional supply is tight, this approach will help to ensure mitigation from HASP is applied in subsequent 15-minute and 5-minute intervals in periods when a potentially limited number of import suppliers and CAISO generators may be able to exercise system market power.
- Fifth, DMM suggests changing the proposed approach for calculating the competitive LMP. The ISO is proposing to use the second highest EIM area outside of CAISO as an input to this calculation. This value may also be elevated and subject to market power. DMM suggests that the ISO consider replacing this portion of the competitive LMP calculation with the lowest EIM area price outside of CAISO.

In addition, DMM notes that the Draft Final Proposal states that that only generators within the CAISO BAA will be considered as potentially pivotal supply and potentially subject to mitigation. Import supply and EIM participating generation is proposed to be considered by default as fringe competitive supply and not subject to mitigation. This approach may limit the degree of market power mitigation in the CAISO and other EIM BAAs when market power exists in the CAISO as well as one or more neighboring EIM areas.

The following comments provide more detail on these recommendations and other elements of the Draft Final Proposal.

I. Triggering test for potentially uncompetitive system conditions

The Draft Final Proposal retains some elements of the Revised Straw Proposal, but introduces several additional criteria for triggering the test for potentially uncompetitive system conditions.

In the Draft Final Proposal, the ISO proposes to trigger the test for potentially uncompetitive system conditions when all of the following conditions are satisfied:

- The CAISO BAA is part of the highest priced group of EIM BAAs
- The marginal energy cost for the CAISO BAA is at least \$100/MWh
- The marginal energy cost for the CAISO BAA exceeds 110 percent of the hourly shaped highest day-ahead bilateral trading hub index price for the operating day
- The marginal energy cost for the CAISO BAA exceeds 110 percent of the marginal cost of a hypothetical gas-fired peaker in EIM

The Draft Final Proposal also proposes to only trigger the test for potentially uncompetitive system conditions in the HASP market run, with resulting mitigation carried through to the corresponding 15-minute and 5-minute intervals.

DMM appreciates that it may be appropriate to only trigger the test for uncompetitive system conditions when such conditions may reasonably be expected to exist. However, each of the trigger criteria in the Draft Final Proposal may warrant additional consideration. The use of well-justified thresholds to trigger the test for uncompetitive system conditions can help to minimize undermitigation.

Use of bilateral trading hub prices may undermine mitigation of system market power

The requirement that the CAISO marginal energy cost exceed 110 percent of the hourly shaped highest day-ahead bilateral price for the trade date may warrant reconsideration to avoid undermining the mitigation of system market power. The use of bilateral prices as a threshold to trigger the test for system market power mitigation may allow the exercise of market power in the CAISO BAA, as well as in some EIM BAAs.

The ISO proposes to use bilateral prices under the assumption that the broader WECC area is competitive and thus bilateral prices in this area must also be competitive. DMM notes that a primary purpose for developing system market power mitigation measures is to respond to anticipated changes to competitiveness in the coming years. Even in the case that the broader WECC is currently structurally competitive, there is no assurance that this will continue to be the case, or that there are not periods in the current environment where bilateral prices maybe uncompetitive.

Additionally, DMM notes that the exercise of real-time market power in the CAISO market may influence day-ahead bilateral prices in western markets. Virtual bids reflect expectations of real-time market prices in bids submitted to the CAISO day-ahead market. When real-time market power influences real-time price 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 day-ahead market as well. DMM discussed each of these issues in detail in earlier comments on the Straw Proposal.²

As stakeholders have noted, the majority of bilateral trading occurs before the opportunity to offer into the CAISO day-ahead market. Because of this, bilateral prices can be expected to reflect expectations of the CAISO day-ahead prices, which as described above may be influenced by the exercise of system market power in both day-ahead and real-time markets. In this way, even if the broader bilateral market is competitive, the exercise of market power in CAISO markets can influence bilateral market prices.

Finally, DMM notes that bilateral trading hub prices are published as multi-hour block prices. The ISO proposes to shape these prices into hourly values using representative CAISO day-ahead prices. This approach can result in an hourly price that may be very sensitive to ISO conditions – including potential market power -- on a given day, even if the bilateral price were otherwise competitive and free of CAISO market influence. One solution to this outcome may be to shape bilateral prices based on the average of CAISO prices in a sample of days. By considering an average hourly shaping factor, the potential impacts of extreme CAISO prices on any single day or small number of days would be muted.

Only testing when CAISO is in highest priced area can leave some market power unmitigated

As detailed in DMM’s earlier comments on the Revised Straw Proposal, the use of EIM transfer constraints rather than binding CAISO intertie constraints, and the consideration of the CAISO BAA as part of a larger area are improvements to earlier proposals.³ 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	LMP = \$1000/MWh
Group 2 – CAISO BAA, BAA2, 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

² *System Market Power Mitigation Straw Proposal – Comments by Department of Market Monitoring*, January 10, 2020: <http://www.caiso.com/InitiativeDocuments/DMMComments-SystemMarketPowerMitigation-StrawProposal.pdf>

³ *System Market Power Mitigation Revised Straw Proposal – Comments by Department of Market Monitoring*, May 4, 2020: <http://www.caiso.com/InitiativeDocuments/DMMComments-SystemMarketPowerMitigation-RevisedStrawProposal.pdf>

highest priced group. Although pricing outcomes in the highest priced group may be the result of a failed upward flexible ramping sufficiency test with frozen EIM transfers, and conditions in Group 2 may be uncompetitive, the potential market power in Group 2 would go unmitigated.

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

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

For the current phase of the initiative, the ISO may consider a simple modification such as triggering mitigation when CAISO is in the highest priced EIM area that has not failed the upward flexible ramping sufficiency test.

Reevaluate the need for hypothetical gas peaker price in conjunction with other thresholds, and consider using CAISO gas price indices if this threshold is retained.

One trigger the ISO proposes in order to execute the test for system market power is that the CAISO area energy price exceeds the cost of a hypothetical gas-fired peaker resource in EIM, with a 10 percent adder. The ISO explains that this threshold is included for the following reasons:

- This component ensures that mitigation is applied when gas peaker resources are the marginal resource. The ISO states that this is representative of when the system is experiencing high loads and there is potential for system-level market power.
- This price is representative of the highest price supply that would be available to be imported into the CAISO.
- This component ensures that the mitigation process will not incorrectly apply market power mitigation if there is a sudden gas price increase after the time that electrical price indices are published.

DMM agrees that gas peaking resources are most likely to be required in peak load hours, which are those most susceptible to system market power. However, given the other thresholds proposed by the ISO, DMM questions the need for this additional threshold based on a resource that may not be dispatched or be realistically available to the CAISO market.

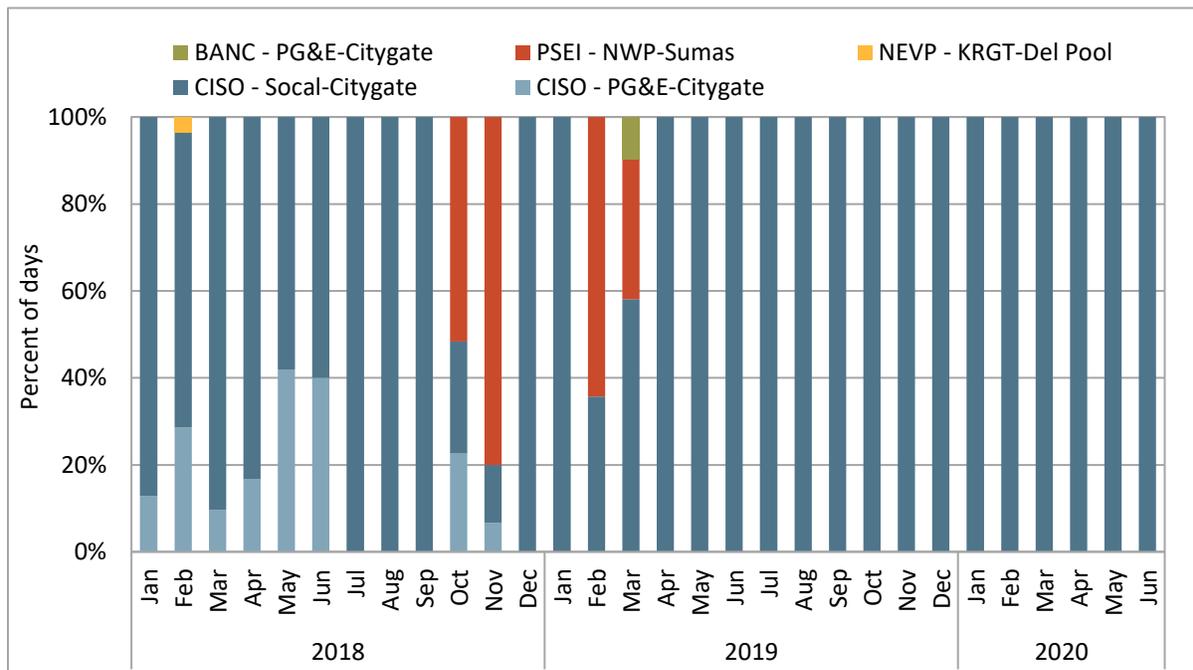
If the ISO proceeds with the use of a hypothetical peaker price as a threshold to test for system market power, DMM suggests the use of CAISO area gas prices at PG&E and SoCal Citygate may be more appropriate than considering the highest priced EIM gas price. This would ensure that

the considered gas price is based on a sufficiently liquid hub, while also avoiding the influence of extreme gas pricing events at potentially isolated hubs elsewhere in EIM.

Chart 1 below illustrates the percent of days by month in which a given CAISO or EIM area gas price hub had the highest prices. Chart 2 shows the highest CAISO and non-CAISO proxy peaker prices by day. These charts illustrate the potential impacts of extreme isolated EIM area gas price impacts that are likely irrelevant to the CAISO BAA, such as those following an explosion near the Sumas hub that resulted in periods of very high prices from October 2018 to March 2019.⁴

Chart 1 and Chart 3 also show that in the absence of such extreme events, prices in California are typically the highest and thus considering these prices will provide a relatively conservative estimate.

Chart 1. Percent of days in which gas hub had highest price in EIM area (CAISO hubs included)



⁴ For additional detail, see “Pacific Northwest sees highest daily natural gas spot prices in the U.S. since 2014”, U.S. Energy Information Administration, April 3, 2019. <https://www.eia.gov/todayinenergy/detail.php?id=38932>

Chart 2. Highest CAISO and non-CAISO based peaker price and system marginal energy cost (October 2018 through March 2019)

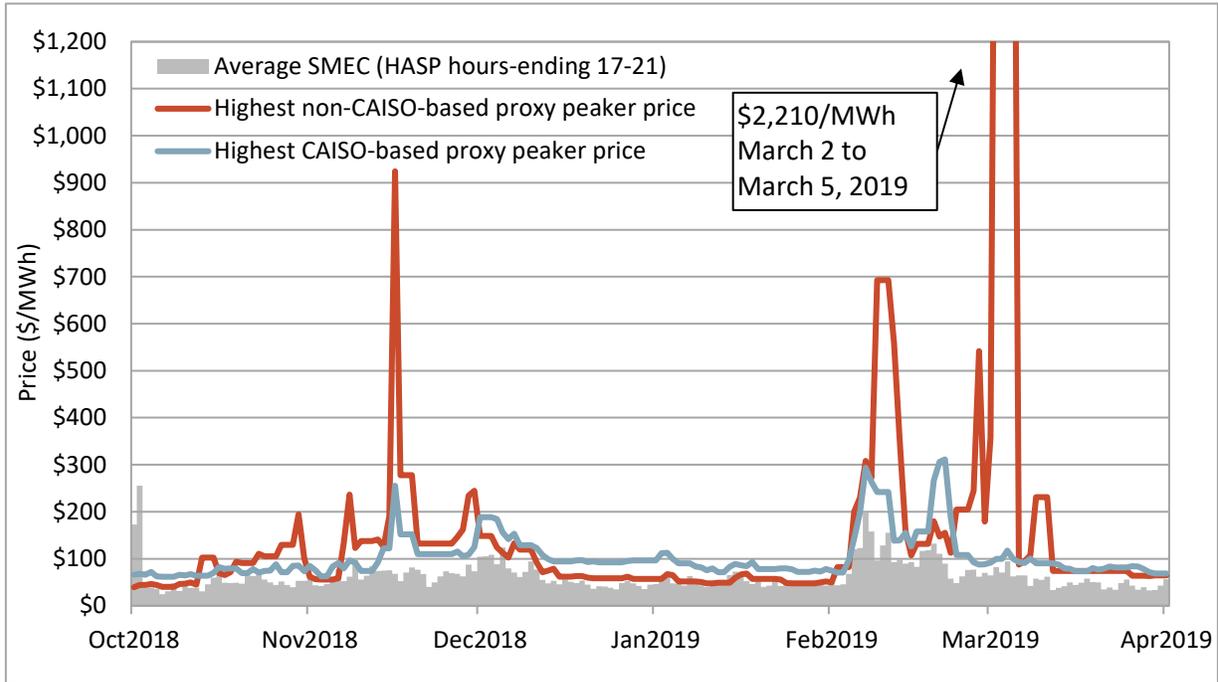
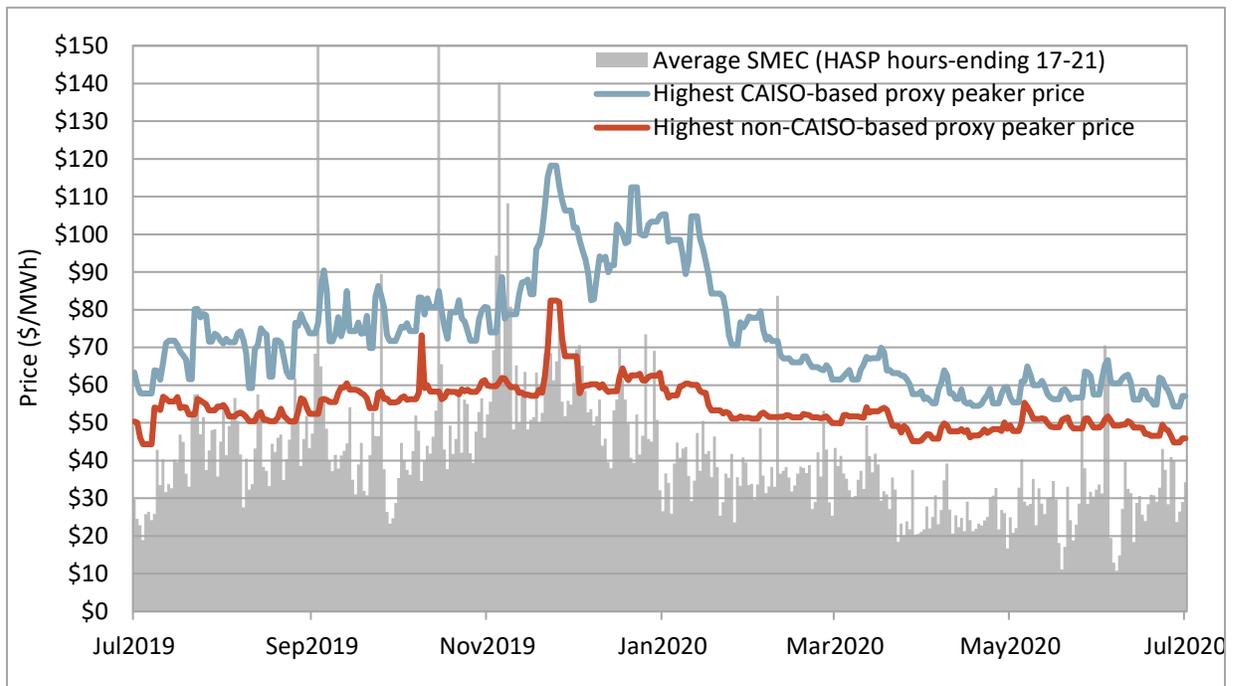


Chart 3. Highest CAISO and non-CAISO based peaker price and system marginal energy cost (July 2019 through June 2020)



A static threshold of \$100/MWh offers some protection from extreme market power, but allows some exercise of market power to persist

The ISO has proposed that the test for uncompetitive system conditions would not be triggered unless marginal energy prices in the CAISO area are at least \$100/MWh. The ISO explains that this threshold has been chosen because "... \$100/MWh seems to be a dividing line between somewhat typical day-to-day market prices and atypically much higher market prices."⁵

While DMM can appreciate that an impact threshold may be an appropriate feature for the system market power mitigation design, it is important to note that "typical" and "atypical or high" prices are a function of current gas prices.

Although there may be a value that is relatively static over a period of time and appears to be a dividing line between competitive and potentially non-competitive prices (\$100/MWh as proposed by the ISO), this is a reflection of relatively stable gas prices and resource mix over that time period. At times, prices well below \$100/MWh may be non-competitive, while at other times, prices above \$100/MWh may be competitive.

In the absence of a clear link to underlying fuel costs, generation mix, and market conditions, the static \$100/MWh threshold may allow the continued exercise of system market power at times. However, even as a static threshold, this value still offers a degree of protection against extreme and sustained exercise of system market power.

Undermitigation may occur when using some of the proposed thresholds to test for market power.

As discussed above, some thresholds proposed by the ISO may warrant additional consideration before being used as thresholds to test for potential system market power. The analysis below illustrates that some of the stated thresholds are rarely met. To the extent that the use of any of these thresholds is not well supported as an indicator of potentially uncompetitive conditions, undermitigation may result.

As noted above, the Draft Final Proposal describes four thresholds that each must be met to trigger the pivotal supplier test and potentially mitigate supply offers in HASP. Table 1 below shows the percent of HASP intervals by year in which each of the four thresholds are individually met, as well as simultaneously met.⁶ The frequency in which all of thresholds are met is low.

⁵ *System Market Power Mitigation Draft Final Proposal*, Pg. 25, California ISO, June 15, 2020: <http://www.caiso.com/InitiativeDocuments/DraftFinalProposal-SystemMarketPowerMitigation.pdf>

⁶ The results in Table 1 and Table 2 exclude CAISO fuel regions from setting the maximum gas price index. If CAISO fuel regions were included in the calculation, the proxy peaker threshold would be met less often.

Table 1. Frequency in which the proposed thresholds are met
(all intervals)

Year	Highest Priced Region Threshold	\$100/MWh Threshold	Bilateral Threshold	Proxy Peaker Threshold	All four thresholds met
2017	80.3%	1.2%	49.4%	15.2%	0.8%
2018	65.8%	1.9%	37.8%	10.8%	0.5%
2019	65.7%	1.9%	46.3%	5.4%	0.4%
2020*	78.3%	0.2%	55.9%	2.2%	0.1%

*January through June 2020 only

Table 2 looks at only the intervals when the HASP system marginal energy cost is greater than \$100/MWh. In these intervals, the frequency in which all four of the thresholds are met was around 25 percent of intervals during 2018 and 2019, and 64 percent of intervals during 2017 and 2020.

Table 2. Frequency in which the proposed thresholds are met
(marginal energy cost greater than \$100/MWh)

Year	Interval count	Highest Priced Region Threshold	\$100/MWh Threshold	Bilateral Threshold	Proxy Peaker Threshold	All four thresholds met
2017	423	67.8%	100%	94.3%	100.0%	63.8%
2018	655	59.8%	100%	56.8%	67.8%	27.3%
2019	650	71.8%	100%	50.8%	38.2%	23.4%
2020*	28	67.9%	100%	96.4%	100.0%	64.3%

*January through June 2020 only

The results in the tables assume that CAISO fuel regions are excluded from setting the maximum gas price index, as indicated in the Draft Final Proposal. If CAISO fuel regions were included in the calculation, the proxy peaker threshold would be met less often.

Mitigation applied only to HASP may not address potential market power in 15-minute and 5-minute markets for energy.

The ISO proposes to trigger and test for system level market power in the HASP market only. The ISO states that this is appropriate since hourly block imports provide competitive pressure on internal suppliers, while subsequent 15-minute and 5-minute markets would undervalue this competitive pressure. Both the MSC and the ISO characterized the issue of market power in the 15-minute and 5-minute market as market power for ramp. As an initial point, DMM notes that these markets are still energy markets, but on a different time horizon.

The ISO further states that when the supply available in the hour-ahead scheduling process passes the system market power mitigation test, it shows that there was a structurally competitive supply mix offered into the market in that hour. Finally, the ISO notes that triggering and testing for system market power mitigation in HASP is appropriate because

suppliers cannot change their bidding behavior in response to HASP, and that system conditions are not anticipated to change dramatically between HASP and the 15-minute and 5-minute markets. Changes in conditions need not always change dramatically between HASP and the subsequent real-time markets. At times, HASP and 15-minute market conditions can be quite different. This is sufficient for some generators to exercise market power in the 15-minute market as changes only need to occur in expectation, under certain conditions.

For example, consider peak net load hours on a day with high net load and an elevated degree of load and/or VER forecast uncertainty. If, in expectation, the 15-minute conditions will require more generation in a given interval than in HASP, there will be a potentially limited number of resources -- and almost no intertie imports -- available to meet that expected increase in 15-minute system conditions in the timeline of the 15-minute market run.

Resources that may be well positioned to meet this need, and recognize the expectation of differences in system conditions, may exercise market power in the 15-minute market. Such a resource would be expected to bid uneconomically such that it does not intend to be scheduled in HASP (i.e., the competitive pressures of hourly supply are not relevant), but rather the resource expects to be dispatched above HASP schedules in the 15-minute market on the uneconomic bids due to the change in system conditions.

Considering and addressing this potential source of market power can be important because of the potential for the resulting price impacts to pervade other ISO markets. Day-ahead prices are influenced by virtual bids which can be expected to reflect expectations of 15-minute real-time prices under given system conditions. To the extent that these expectations reflect real-time prices influenced by the exercise of real-time system market power, this real-time system market power can influence day-ahead pricing outcomes, even in the absence of direct market power in the day-ahead market.

Basing mitigation only on the HASP run raises the importance of considering import supply as potentially pivotal

If the ISO chooses to only test for system market power in HASP to reflect hourly block import bids, DMM considers this an incremental improvement over no system market power mitigation. However, the choice to mitigate only in HASP increases the importance of considering all import supply as potentially pivotal rather than assuming imports represent competitive non-pivotal supply by default.

When supply of electricity is tight around the west, the number of suppliers offering and the volume of supply offered at the CAISO interties may be limited. This creates the potential for those that do have available supply to exercise market power on the CAISO market. These conditions may also align well with instances where market power is most likely to be exercised within CAISO.

If the system market power mitigation design considers that import supply may be pivotal at times, mitigation in HASP only could potentially address many of the same instances of uncompetitive conditions in the 15-minute and 5-minute markets that follow.

Conversely, if hourly import supply is always considered non-pivotal, mitigating based only on the HASP market may overstate the true competitiveness in the subsequent 15-minute and 5-minute markets on days with tight supply conditions, increasing the frequency with which potential system market power goes unmitigated.

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.
- EIM supply controlled by CAISO generator affiliates, as well as 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 method of accounting for load serving obligation does not account for all incentives to exercise market power

The Draft Final 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.

The Draft Final Proposal states that:

Suppliers that also have load-serving obligations do not have an incentive to exercise market power for the amount of supply needed to serve their load because any increased supply revenue would be offset by increased costs to serve their corresponding load.⁷

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. This treatment departs from the notion of considering all supply in an affiliate's portfolio. Additionally, because this treatment is different for EIM generators which are similarly situated to CAISO generators in the real-time market, the approach may pose regulatory risk to the ISO.

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:

EIM suppliers that control generation outside of California generally also have large load serving obligations. These entities have a limited ability to withhold supply from the market in order to sell power at inflated prices because withholding supply from the market could raise the costs of meeting their own obligations or very slightly raise prices with large proportionate reductions in small net sales.⁸

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.

If the reason for treating EIM participating resources differently than similarly situated CAISO generators is the lack of an estimate of load serving obligation, DMM encourages the ISO to further explore whether or not there might be a workable approach to collecting the necessary data. The ISO has not presented or discussed any potential approach in the stakeholder

⁷System Market Power Mitigation Draft Final Proposal, pg. 32. California ISO, June 15, 2020: <http://www.aiso.com/InitiativeDocuments/DraftFinalProposal-SystemMarketPowerMitigation.pdf>

⁸ Ibid, pg. 34.

process before concluding that any estimate of an EIM supplier's load serving obligation would likely be unreasonably inaccurate.

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 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. This would also reduce regulatory risk by creating the same treatment for generators in the EIM and CAISO that are similarly situated in the CAISO real-time market.

Import supply and EIM supply controlled by CAISO generator affiliates should be considered capacity that may be withheld from entities' generation portfolios

The ISO proposes to consider un-cleared import offers up to import constraint (ITC) limits in the RSI calculation. The ISO further proposes to consider supply in an EIM area that may be grouped with CAISO in the highest priced EIM area. However, each of these sources of supply would be considered in the RSI as fringe competitive supply by default.

The Draft Final Proposal states that import bids likely represent fringe supply that is unable to exert market power, and that EIM area resources likely lack incentive to exercise market power due to contractual or load serving obligations. DMM suggests that this assumption may not always be appropriate, particularly when import supply or EIM area supply is offered by entities which also have large CAISO generation portfolios.

To maintain consistency with the concept of considering the full portfolio of an affiliate group for purposes of mitigation, the ISO should include ITC constrained import offers and affiliate EIM area supply that could be withheld when identifying potentially pivotal suppliers.

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 subsequent

proposals. DMM supports the ISO's efforts to develop an alternative CLMP for use in system market power mitigation. However, the Draft Final Proposal outlines two different approaches, and it is unclear which one the ISO intends to propose. The Draft Final Proposal Appendix A states on page 42 that the competitive LMP will be the power balance constraint shadow price of the next lowest priced EIM tier.⁹

However, an earlier section of the Draft Final Proposal on page 36 states that the competitive LMP for system market power mitigation will be calculated as the maximum of:¹⁰

- \$100/MWh
- The highest day-ahead hourly shaped bilateral electrical trading hub index price for the applicable operating day plus 10 percent.
- The costs of a hypothetical gas-fired peaker based on current gas costs plus 10 percent.
- The next highest marginal energy cost in the same market interval of a balancing authority area in the EIM (the CAISO has the highest cost when mitigation is triggered).

These values appear to be the same as those considered as required thresholds to trigger the test for system market power mitigation, and are therefore subject to the same potential issues discussed earlier in these comments.

The competitive LMP should be a representation of a competitive price that would result in the absence of market power. While it is possible that some of the values proposed by the ISO may be good estimates of competitive system prices at some times, for others the ISO has provided no justification beyond an assertion as to why the value may be an estimate of a competitive price.

Specifically, the competitive LMP proposed by the ISO can never be below \$100/MWh, with no supporting evidence of why this is typically a competitive price. The implications of this design feature may simply allow the exercise of system market power up to \$100/MWh, even when the pivotal supplier test is triggered and suggests uncompetitive conditions.

The ISO has already proposed that CAISO energy prices must exceed all of the values described before even executing the test for uncompetitive conditions. DMM suggests that once these criteria are met, the test is executed, and uncompetitive conditions are indicated, that a more conservative estimate of competitive LMP may be appropriate.

One potential modification to the proposed competitive LMP could be to use the maximum of these values and the lowest EIM price outside of CAISO that is greater than or equal to \$0, rather than the highest EIM price outside of the CAISO area. Eliminating the consideration of negative prices would avoid reflecting penalty prices and considering export constrained

⁹ *System Market Power Mitigation Draft Final Proposal*, pg. 42. California ISO, June 15, 2020: <http://www.caiso.com/InitiativeDocuments/DraftFinalProposal-SystemMarketPowerMitigation.pdf>

¹⁰ *Ibid*, pg. 36

regions while approximating the cost in the most competitive source of supply outside of CAISO.

IV. Mitigation applied only to internal generators jointly-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, it may be appropriate to consider offers from EIM participating resources in an EIM BAA grouped with CAISO as capacity that could be withheld in the RSI calculation. This is particularly true for any EIM participating resources that may belong to the portfolio of a CAISO internal generator. 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 expressed concern that mitigation of import supply may simply result in a drop in import offers. In the Revised Straw Proposal, the ISO further stated that as a practical matter, there is no methodology to calculate default energy bids for imports.¹¹

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 provides further comment on potential issues related to the import resource adequacy framework in comments on the Resource Adequacy Enhancements stakeholder initiative.¹²

¹¹ *System Market Power Mitigation Revised Straw Proposal*, pg. 38. California ISO, April 7, 2020: <http://www.caiso.com/InitiativeDocuments/RevisedStrawProposal-SystemMarketPowerMitigation.pdf>

¹² *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>