

# Comments on Market Enhancements for Summer 2021 Readiness Draft Final Proposal

Department of Market Monitoring

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## I. Summary

The ISO Department of Market Monitoring (DMM) appreciates the ISO's efforts to facilitate as much discussion as possible given the accelerated timelines needed to develop the ISO's *Market Enhancements for Summer 2021 Readiness Draft Final Proposal (Proposal)*.<sup>1</sup> DMM provides comments on the following aspects of the ISO's Draft Final Proposal:

- **Scheduling priorities.** DMM supports the ISO's proposed changes to the prioritization of exports, load, and wheeling transactions for summer 2021. The proposed changes to both exports and wheeling priorities represent incremental improvements that should enhance the reliability of the CAISO BAA for summer 2021 and beyond, while better aligning the CAISO market rules and practices with those of other BAAs. Currently, unlike other BAAs, the CAISO affords all wheeling schedules a higher priority than native load. The ISO proposes to change its procedures to assign wheeling schedules the same penalty price as CAISO load. With these changes, the ISO will still afford many (if not most) wheeling schedules a higher priority than other BAAs give wheeling schedules utilizing hourly transmission service. When power flowing over congested transmission within the CAISO is needed to meet CAISO area load downstream of this congestion, the current proposal will still prioritize hourly wheeling transactions—that do not have long-term rights to CAISO transmission—over positively priced resource adequacy resources which would need to flow over the same constraints in order to serve CAISO load. DMM's understanding is that other WECC balancing areas and RTOs would not give hourly wheels priority to flow over congested transmission whose capacity is required to avoid shedding downstream native load. DMM recommends that the ISO continue to work on issues of transmission priorities for wheeling transactions to make its market rules and practices as equivalent as possible to those of other BAAs in the west which do not operate market-based processes.
- **EIM capacity tests.** DMM supports the ISO's proposed changes to the EIM capacity test. These changes will make the capacity test more accurate and should reduce the number of instances in which the CAISO area passes the capacity test when insufficient capacity is actually available. The ISO proposal is limited to changes that can be implemented by this summer. DMM also supports the ISO opening a new stakeholder initiative to review all aspects of EIM resource sufficiency tests.

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<sup>1</sup> *Market Enhancements for Summer 2021 Readiness Draft Final Proposal*, California ISO, February 18, 2021.  
<http://www.caiso.com/InitiativeDocuments/DraftFinalProposal-MarketEnhancementsforSummer2021Readiness.pdf>

- **Import compensation.** DMM supports the ISO proposal to compensate hourly block import bids clearing the hour-ahead scheduling process at the maximum of each resource's bid or fifteen-minute market price during very tight system conditions. This enhanced compensation should effectively address market participant concerns that real-time hourly block imports will not offer power to CAISO during tight system conditions because of the risk that market revenues will not meet their offer price.
- **Scarcity pricing:** Under the proposal, when the ISO arms load (i.e. prepares to shed load in a controlled manner if needed) to serve as contingency reserves and then releases non-spinning reserves into the energy supply stack, the ISO will set the bid price of reserves added to the energy supply stack at the energy bid cap. DMM supports this proposal as a way of helping to ensure that prices are relatively high when system conditions are extremely tight, such that controlled dropping of load needs to be relied upon for operating reserve. This proposal is an extension of how contingency only reserves are priced when these resources are called upon to provide energy.
- **Reliability demand response resources (RDRR).** DMM supports all of the ISO's proposed RDRR changes as another way of helping to ensure that prices are relatively high when system conditions are extremely tight, such that emergency demand response resources are needed to meet system loads.
- **Energy storage resources.** DMM does not oppose the ISO's revised proposal for utilizing a minimum state of charge constraint for energy storage resources. The ISO has pared this proposal down significantly, so that functionality would only be used on days with RUC infeasibilities. On these limited days, operators would also have the option to eliminate the minimum stage of charge requirements in real-time. DMM's understanding is that in the absence of this proposal, operators would still have the authority to effectuate the exact same outcomes through less transparent manual dispatches. This proposal will be taken to the Board under the Resource Adequacy Enhancements initiative. DMM will provide more detailed comments on this proposal under that initiative.
- **System market power mitigation.** DMM understands that the ISO will not be able to implement the current system market power mitigation proposal by this summer. DMM recommends that the ISO prepare a contingency plan involving a much simpler system mitigation scheme that the ISO could implement quickly in conjunction with an emergency tariff filing in case significant system market power conditions materialize this summer.

More detail on these aspects of the Draft Final Proposal are provided below.

## I. Comments

### Schedule priorities

DMM supports the ISO's proposed changes to the prioritization of exports, load, and wheeling transactions for summer 2021. The proposed changes to exports and wheeling priorities represent incremental improvements that should enhance the reliability of the CAISO BAA, while better aligning the CAISO market rules and practices with those of other BAAs. While the proposal for wheeling priorities is an improvement over the status quo, the proposal still appears to allow higher scheduling priority for wheeling transactions than for CAISO load in a way that is dissimilar to other BAAs. This leaves the possibility for wheeling schedules to contribute to CAISO reliability challenges in summer 2021 and beyond.

DMM recommends that the ISO continue to work on making its transmission priorities for wheels more equivalent to those of other BAAs. Based on DMM's understanding of transmission procedures in other BAAs, this would involve two changes. First, the ISO would offer an option for wheeling transactions to purchase firm transmission on a long-term basis, as is offered in other BAAs. Second, the ISO would establish priority access to transmission for CAISO load relative to hourly wheeling schedules (which have not purchased firm transmission on a long-term basis) through alternative penalty prices or other means.

### *Export and load priorities*

The ISO proposes to allow equal scheduling priority in the market software between CAISO load and PT exports supported by non-RA capacity contracted to an outside entity. DMM generally supports the ISO's proposed approach. Specifically, DMM supports the policy requiring that for an export to have PT scheduling priority, the export must be supported by a non-RA resource that is physically available, has submitted bids in real-time, and has been forward contracted by an entity outside of CAISO. This should eliminate the possibility of an export receiving PT status in real-time simply because the export cleared the RUC process.

DMM supports the following elements of the Draft Final Proposal which appear to be intended and necessary to achieve this overall market design objective:

- Exporters will be required to re-designate the supporting non-RA resource in real time in order to maintain PT export status in real-time, even if the export clears RUC (i.e., the ISO will no longer automatically grant PT status in real-time just because an export cleared IFM or RUC).
- The scheduling coordinator (SC) of a designated resource will be notified that the resource has been designated to support a PT export, and that by allowing the resource to be designated, the SC attests that the capacity has been forward contracted by an outside load-serving entity (LSE).

- Capacity contracted by a CAISO LSE cannot be used to support a PT export – which avoids the possibility of an entity designating capacity on CAISO RA resources above net qualifying capacity (NQC) as supporting a PT export.
- Energy-only resources and imports are not allowed to be used to support PT exports.
- The SC of a designated non-RA resource is required to rebid the resource in real-time to ensure the availability of the resource.
- If the MW bid into the real-time market from the designated resource is less than the MW of PT export from the resource clearing in the RUC process, the ISO will only give PT priority on the export in real time up to the amount of bid in MW from the designated resource.
- By allowing a resource to be designated, the SC attests the resource is capable at time of bid submission of supporting an hourly block schedule in the relevant operating hour equal to the PT export quantity.

On the general issue of prioritizing exports, DMM supports the ISO working toward an approach that is consistent with other WECC BAAs. There appeared to be general agreement that the related business practices presented by Idaho Power at the January 12, 2021 workshop are representative of other WECC BAA practices. Idaho Power’s stated business practice is to curtail native load before exports of capacity contracted to outside entities, or before exports supported by day-ahead sales of their own capacity.<sup>2</sup> If this is the expectation of WECC trading parties, DMM encourages CAISO to work with other WECC BAAs to document this standard in BAA OATTs and make this a clear written standard.

While it may be the general practice and intention of other WECC BAAs to support exports before cutting load, DMM’s understanding is that OATTs of other western BAAs still allow for curtailment of network and firm transmission on a similar priority to native load if needed for reliability, and for manual dispatch orders of any generator in the BAA to provide energy to maintain reliability.<sup>3</sup>

Although the exercise of these OATT provisions may not be common, these provisions appear to allow for the possibility that, in an electrical emergency and where not prohibited by other contractual agreements, an export’s transmission could be curtailed while the resource

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<sup>2</sup> Export and Load Scheduling, Idaho Power Company, January 12, 2021:  
<http://www.caiso.com/InitiativeDocuments/IdahoPowerPresentation-MarketEnhancements-Summer2021Readiness-Jan122021Workshop.pdf>

<sup>3</sup> For example, see OATT of Idaho Power: Section 13.6 - “Curtailment of firm transmission service”, and Attachment O – Energy Imbalance Market, Section 6.3.2 “Manual dispatch”:  
[https://www.oasis.oati.com/woa/docs/IPC/IPCdocs/IPC\\_OATT\\_Issued\\_2020-10-26.pdf](https://www.oasis.oati.com/woa/docs/IPC/IPCdocs/IPC_OATT_Issued_2020-10-26.pdf)  
 Stakeholder discussion in the ISO’s Market Enhancements for Summer Readiness 2021 Stakeholder Workshop on January 12, 2021 suggest that this may be a representative example of the operating practices of other BAAs in the west.

supporting the export could receive a manual dispatch instruction to continue generating to maintain reliability of the BAA.

DMM views the ISO's proposal as analogous to the OATTs of other BAAs to the extent that other WECC BAAs maintain any right in their OATT to curtail transactions of transmission customers to maintain stability and reliability of their transmission systems. The ISO's proposal appears to allow similar provisions for export curtailment and continued market dispatch of internal generation, also in an environment where many actual curtailment decisions are manual and the result of other business practices.

Additionally, the ISO notes that it would be difficult to implement checks to guarantee contracting, availability of supporting capacity, and other assurances of capacity backing PT exports by summer 2021. This fact further supports that PT exports are appropriately prioritized equal to CAISO load. These checks would be essential if it were the documented standard of other WECC BAAs to prioritize exports of outside contracted capacity over native load and CAISO adopted a similar standard.

### ***Wheel through scheduling priorities***

Currently, the sum of market penalty prices on the import and export portions of a wheel-through transaction in the CAISO market results in wheels receiving a higher scheduling priority than CAISO load. The ISO is proposing to adjust penalty prices on the import portion of wheeling transactions such that the sum of wheel import and export components results in a scheduling priority equal to that of PT exports and CAISO load.

DMM supports the proposed changes to no longer afford wheeling schedules a higher priority than load in the market optimization as an improvement that supports reliability for summer 2021 by making ISO rules more similar to those of other BAAs. However, DMM does not view the ISO's proposal as a long-term solution to establish appropriate priorities of wheeling transactions relative to CAISO load.

The ISO's proposal still leaves open the possibility of reliability challenges in summer 2021, as it does not develop a process by which CAISO load can establish priority over wheels:

- The ISO's proposal establishes priority over wheels for import bids less than \$0, when such imports are needed to meet CAISO load. However, currently only CPUC jurisdictional import RA is required to bid at or below \$0/MWh. Further, a bid of exactly \$0/MWh would result in equal cost to curtail the wheel or curtail the import and corresponding amount of CAISO load.
- The ISO's proposal still allows the potential for wheels to create internal congestion, which could prevent needed CAISO internal generation from reaching load. For example, a self-scheduled wheel coming into CAISO at Malin and leaving CAISO at Palo Verde could cause congestion on Path 26 between northern and southern California. Under the ISO's proposal, this could lead to displacement of internal generation in northern California that bids its marginal cost above \$0/MWh when this generation is needed to serve load in

southern California. This may lead to the need to curtail load in southern California as a result of the internal congestion created by the wheel transaction.

### **CAISO transmission access for wheeling transactions is more flexible and significantly different from other BAAs**

Other BAAs and many other ISO/RTO markets have a process for load serving entities to establish high priority network transmission service for the purpose of ensuring their load can be served. Other BAAs also have a process to assess excess transmission capacity, and for entities to purchase long-term transmission access for wheeling and interchange transactions at the desired priority. The CAISO market design lacks any such practice to prioritize transmission service for the purposes of serving CAISO load, or for other entities to procure long-term high-priority transmission as desired, at their expense.

The current paradigm of the CAISO market allows significant scheduling flexibility to market participants wishing to wheel energy through the CAISO transmission system. This flexibility exceeds that of other ISO/RTO markets and other BAAs in the west. While other areas require transmission to be procured and reserved in advance to facilitate interchange or wheel through transactions, CAISO market participants only need to receive a market award (economic or self-scheduled), and pay only congestion charges and the wheeling access charge (WAC). CAISO transmission not under TOR/ETC or other grandfathered agreement is made available at equal priority to all market participants who receive a market award.

The process for transmission procurement and scheduling in the CAISO market on an hourly basis is significantly different from BAAs outside of CAISO. As DMM understands, the transmission scheduling priority typically available to hourly wheeling transactions that have not procured long-term firm service in other BAAs is more commonly available as a non-firm product, with significantly lower scheduling priority than firm network or point-to-point service.

The Draft Final Proposal appears to be an improvement that is likely to enhance reliability for summer 2021, within the confines of the current market design. As described in the Draft Final Proposal, in order to achieve equal scheduling priority with CAISO load, the export portion of a wheel transaction will have PT export scheduling priority, while the import leg will have a penalty price of \$0/MWh. This results in the optimization cost of meeting CAISO load being equal to that of serving the wheel.

This approach also contributes to reliability of the CAISO system by prioritizing CAISO load under specific circumstances. This approach implies that when imports that are self-scheduled or bid below \$0/MWh, combined with the penalty parameter on CAISO load, the cost of curtailing the import and CAISO load will exceed that of the wheel. This effectively establishes a priority for self-scheduled imports or imports with bids below \$0/MWh when import

congestion occurs, and the market optimization is faced with a decision to allow those imports to displace wheels, or to curtail CAISO load.<sup>4</sup>

However, the proposal does not fully provide for the need of CAISO load to have access to the highest level of transmission scheduling priority when needed most. As noted above, the ISO's proposal still allows for the possibility that self-scheduled wheels may create congestion that displaces CAISO RA resources needed to serve load downstream from the congestion in the CAISO BAA. Further, it does not create a process for other entities to procure long-term, high priority wheeling service through the CAISO BAA.

### **Further improvements**

While the ISO's proposal is an improvement for summer 2021, DMM recommends that the ISO continue to work on making its transmission priorities for wheels more equivalent to those of other BAAs. Based on DMM's understanding of transmission procedures in other BAAs, this would involve two changes.

First, the ISO would offer an option for wheeling transactions to purchase firm transmission on a long-term basis, as is offered in other BAAs. DMM recommends that the ISO work toward a process and common business practice by which other entities can purchase long-term, high-priority access to CAISO's transmission system, funding studies and upgrades where needed to facilitate such service.

Second, the ISO would establish priority access to transmission for CAISO load relative to hourly wheeling schedules (which have not purchased firm transmission on a long-term basis) through alternative penalty prices or other means. DMM recommends that the ISO consider alternative penalty price structures that place clearer priority on CAISO load when needed for reliability.

Finally, DMM understands that in practice many curtailment decisions are made manually as the result of operations practices and procedures. DMM recommends that the ISO continue to refine these procedures to ensure appropriate prioritization of CAISO reliability needs.

### **EIM capacity and sufficiency tests**

DMM supports the ISO's proposed changes to the EIM capacity test. These changes will make the capacity test more accurate and should reduce the number of instances in which the CAISO area passes the capacity test when insufficient capacity is actually available.

DMM supports the ISO and stakeholders exploring broader changes to the design that could better disincant balancing areas from leaning on each other while still enabling the efficiency of inter-balancing area trades. DMM understands that due to the complexity of these issues and the compressed timeframe for the summer readiness initiative, the ISO is constrained to

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<sup>4</sup> For delivery year 2021, the California Public Utilities Commission (CPUC) began requiring all CPUC jurisdictional import Resource Adequacy (RA) resource bids to be submitted at or below \$0/MWh. The ISO's Draft Final Proposal then ensures that CAISO load has access to all available import RA capacity bid below \$0/MWh when needed to meet demand. The Draft Final Proposal eliminates the possibility that a wheel transaction would displace import RA capacity that is bid below \$0/MWh and is needed to avoid CAISO load shedding.

making limited changes to the capacity test in this initiative. DMM supports the ISO starting a separate initiative as soon as feasible to consider more comprehensive changes to the EIM resource sufficiency tests.

### **Import and export market incentives during tight system conditions**

DMM supports the ISO proposal to compensate hourly block import bids clearing the hour-ahead scheduling process at the maximum of each resource's bid or fifteen-minute market price during very tight system conditions. This enhanced compensation should effectively address market participant concerns that real-time hourly block imports will not offer power to CAISO during tight system conditions because of the risk that market revenues will not meet their offer price.

Ensuring hourly block imports receive at least their offer price on an hourly basis under very tight system conditions avoids issues with netting bid cost recovery over the day. This settlement is also similar to how manually dispatched imports are settled. Hourly block schedules received higher payments at fifteen-minute market prices than they would have if they had been paid the hour-ahead scheduling process prices over the third quarter of last year.<sup>5</sup> With the proposal removing the risk that imports could get paid below their offer price in any given hour during tight system conditions, the ISO proposal should provide sufficient protection to incent hourly block imports to offer to CAISO during these tight system conditions.<sup>6</sup>

### **Short term scarcity price enhancements**

Under the ISO's proposal, when the ISO arms load (i.e. prepares to shed load in a controlled manner if needed) to serve as contingency reserves and then releases non-spinning reserves into the energy supply stack, the ISO will set the bid price of reserves added to the energy supply stack at the energy bid cap. DMM supports this proposal as a way of helping to ensure that prices are relatively high when system conditions are extremely tight, such that controlled dropping of load needs to be relied upon for operating reserve. This proposal is an extension of how contingency only reserves are priced when these resources are called upon to provide energy.

Figure 1 shows DMM's estimate of the periods where load was armed as reserves and non-spin capacity was released into the market. Please note these estimates have not been verified by the ISO. Overall DMM estimates that the proposed policy would have been in effect for over eight hours over these three days.

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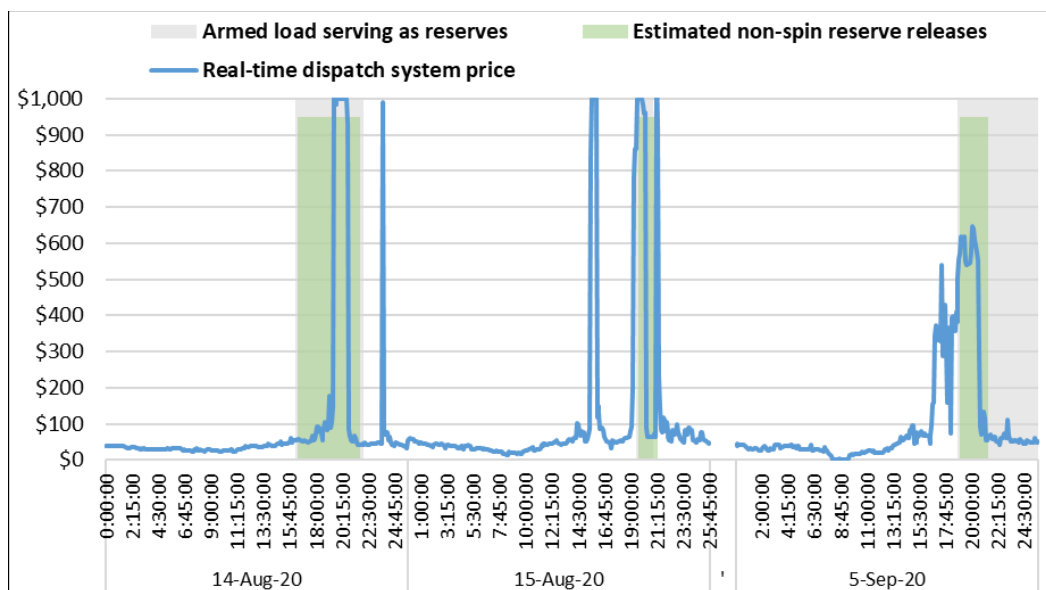
<sup>5</sup> Department of Market Monitoring *Q3 2020 Report on Market Issues and Performance*, February 4, 2021 p.5: <http://www.caiso.com/Documents/2020ThirdQuarterReportonMarketIssuesandPerformance-Feb4-2021.pdf>

<sup>6</sup> Structural barriers still appear to exist to all imports participating in the fifteen-minute market. Given that some imports will only offer to CAISO in real-time as hourly block resources, a better market design solution in theory would entail implementing a full hour-ahead market, in which all load, generation, and imports would resettle their day-ahead awards in the full hour-ahead market. The huge time and costs of implementing such a market make this option unrealistic in practice. Therefore, the ISO's proposal to offer hourly bid cost recovery only under very tight system conditions is a reasonable compromise in the near term.



DMM asks that the ISO clarify that resources whose awarded reserve capacity is released when load is armed will not be charged for “buying back” this capacity.

**Figure 1. Arming load serving as reserves and released non-spin reserves August and September, 2020<sup>7</sup>**



### Reliability demand response resource dispatch and real-time price impacts

DMM supports all of the ISO’s proposed RDRR changes as another way of helping to ensure that prices are relatively high when system conditions are extremely tight, such that emergency demand response resources are needed to meet system loads.

### Storage Resources

DMM does not oppose the ISO’s revised proposal for utilizing a minimum state of charge constraint for energy storage resources. The ISO has pared this proposal down significantly, so that functionality would only be used on days with RUC infeasibilities. On these limited days, operators would also have the option to eliminate the minimum stage of charge requirements in real-time.

DMM’s understanding is that CAISO operators have the authority to manually dispatch batteries such that resources are charged sufficiently to meet day-ahead schedules regardless of this proposal. Therefore, in the absence of this proposal, operators would still have the authority to effectuate the exact same outcomes through less transparent manual dispatches. From this perspective, the ISO’s policy is effectively a more transparent explanation of a manual

<sup>7</sup> Approximate intervals based on DMM estimates that have not been verified by the ISO.

dispatch tool the operators would have at their disposal for dispatching batteries during very tight system conditions. However, this method of constraining batteries may not be the most efficient option. Therefore, DMM continues to recommend that the ISO continue to seek ways to improve their processes for issuing exceptional dispatches to storage resources for this summer and to address shortcomings in current processes that DMM identified in prior comments on RA Enhancements.<sup>8</sup>

This proposal will be taken to the Board under the Resource Adequacy Enhancements initiative. DMM plans to provide more detailed comments on this proposal under that initiative.

## **System market power mitigation**

In the Draft Final Proposal, the ISO states that it no longer plans to move forward with system market power mitigation for summer 2021. Among the supporting reasons for this decision, the ISO states:

Because of the lack of evidence that suppliers have exerted system-level market power even under the most constrained of conditions, it is unreasonable to continue pursuing a system market power rule this summer...<sup>9</sup>

While not explicitly referenced in the ISO's Draft Final Proposal, stakeholders, the ISO, and the MSC have each, on separate occasions in the past, referenced DMM's price-cost markup analysis as evidence that prices were competitive and as evidence that system market power mitigation may not be needed. While this metric suggests that more competitive bidding by market participants may not have significantly affected pricing outcomes in the day-ahead market, DMM cautions against accepting this metric as evidence that system market power is not needed.

This metric is an analysis of day-ahead prices only. The focus of the ISO's system market power mitigation proposal is exclusively on the real-time market. The competitiveness of day-ahead and real-time markets can be different, with pricing outcomes driven by different factors. No similar analysis has been done on the real-time market.

Further, other indicators such as bid-cost markup of CAISO generators and the system level residual supplier index test suggest that structurally uncompetitive system conditions are present with increasing frequency, and that generators positioned to exercise system market power bid at times significantly above cost. Under these conditions, the successful exercise of system market power may occur.

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<sup>8</sup> *Comments on resource adequacy enhancements draft final proposal – phase 1*, DMM, January 21, 2021, pp. 8-10: <http://www.caiso.com/Documents/DMMCommentsonResourceAdequacyEnhancements-DraftFinalProposalPhase1-Jan212021.pdf>

<sup>9</sup> *Draft Final Proposal - Market enhancements for summer 2021 readiness*, California ISO, February 18, 2021, pp. 13: <http://www.caiso.com/InitiativeDocuments/DraftFinalProposal-MarketEnhancementsforSummer2021Readiness.pdf>

DMM recommends that for summer 2021, the ISO develop a highly simplified form of system market power mitigation that could be implemented quickly through emergency filing if needed. Such an approach could rely on a greatly simplified trigger to test for and establish the presence of uncompetitive system conditions (e.g. based on net load level or forecasted supply/demand conditions). Under these conditions, mitigation could be implemented by inserting an estimate of marginal cost for all CAISO resources. For example, this approach could utilize the default energy bids currently used in local market power mitigation plus some configurable margin or adder.

This type of approach would not be intended as a long-term approach to system market power mitigation, but would provide a valuable tool for the ISO in case significant system market power conditions materialize this summer.