

Memorandum

To: ISO Board of Governors

From: Benjamin F. Hobbs, Chair, ISO Market Surveillance Committee

Date: March 17, 2021

Re: **Briefing on MSC activities from January 28, 2021 to March 15, 2021**

This memorandum does not require Board action.

Over this time period, the MSC held one general session meeting, on February 11, 2021, which was devoted to the ISO's proposed market enhancements for summer 2021 readiness. Subsequently, the MSC drafted an opinion on three of the components of the readiness initiative; the MSC adopted the final version of the opinion on March 8, 2021.¹ In particular, that opinion presents the MSC's analysis of the scarcity pricing, resource sufficiency test, and block import pricing components of the initiative. Another component of the initiative, which concerns priorities for export, load, and wheeling transactions, will be the subject of a draft opinion which is under preparation and will be considered for adoption in April, 2021.

In addition, the MSC has been drafting an opinion on the proposed minimum state-of-charge requirement for battery resources that are under resource adequacy contracts. Although this proposed requirement is part of the resource adequacy Phase 1 initiative, its proposed implementation has been moved up to June 1, 2021 so that the ISO would have this tool available to ensure that stored energy is available during evening net-load peak periods during the summer of 2021. That draft opinion is planned to be posted on March 17, 2021 and to be considered for adoption prior to the March, 2021 Board of Governors meeting.

Below are summarized the topics covered in the February 11, 2021 general session meeting, followed by a summary of the March 8, 2021 opinion on market enhancements for summer 2021 readiness.

1. General Session Meeting of February 11, 2021

The agenda of this general session meeting focused on the readiness initiative.

The meeting began with a presentation prepared by ISO staff, including James Friedrich, Danny Johnson, Danielle Tavel, Perry Servedio and Gabe Murtaugh. The presentation and subsequent discussions concerned the following components of the initiative:

¹ All opinions and presentation materials from MSC meetings available at:
www.caiso.com/informed/Pages/BoardCommittees/MarketSurveillanceCommittee/Default.aspx

- Export, load, and wheeling scheduling priorities within the California ISO system
- Resource sufficiency evaluation for balancing authority areas in the energy imbalance market
- Import market incentives, particularly make-whole payments for block imports scheduled in the hour-ahead scheduling process
- Real-time scarcity pricing enhancements that would address real-time energy price formation at times when load is armed for possible curtailment to meet contingency reserve requirements.
- Changes in the scheduling of reliability demand response resources, and allowing them to set fifteen-minute prices by treating them as continuous variables in the pricing run of the market processes.

In addition, the presentation discussed the minimum state-of-charge component of the resource adequacy enhancements phase 1 initiative, because of the need for this capability in order to be ready for summer 2021. The presentation also indicated that the initiative would not address mitigation of system market power.

Stakeholders, staff, and MSC members discussed all components, with particularly extensive discussion on the topics of scheduling priorities, scarcity pricing enhancements, system market power mitigation, reliability demand response resources, and management of storage state-of-charge.

2. MSC Opinion Concerning Market Enhancements for Summer 2021 Readiness

The opinion addressed three of the components of the readiness initiative that were to be considered by both the energy imbalance governing body and the Board of Governors of the ISO. A summary of the MSC's analyses is provided below for each of those three components in turn. Dr. Scott Harvey of the MSC presented this opinion to the energy imbalance market governing body on March 10, 2021.

2.1. Scarcity Pricing

The MSC agrees with the ISO's belief that the proposed pricing rule will set prices that will be more consistent with system conditions when the ISO is on the verge of controlled load shedding and ISO load is at risk of being shed within minutes were a major ISO generator to trip off-line. The pricing changes the ISO proposes to apply when it must rely on load armed for shedding to meet Western Electricity Coordinating Council reserve requirements will admittedly fall far short of implementing a true scarcity pricing design.

Nevertheless, those changes will address a critical limitation of the current pricing rules in time to reduce the potential need for load shedding as a result of inadequate supply during the coming summer. The MSC stated that it agreed with other commenters that these changes do not constitute a full scarcity pricing design, and the MSC expressed its support for the ISO moving forward with the effort to develop a comprehensive scarcity pricing design. However, the MSC also agreed with the ISO that some of the critical weaknesses of the current pricing rules need to be addressed with these changes in time to help avoid the need for load shedding during the

coming summer.

Earlier in the initiative, the ISO initially proposed to also set a \$2000/MWh price during load shedding conditions in real-time by using higher penalty parameters for the load balance constraint. The objective was to reduce the likelihood of the need for load shedding by increasing the incentive of load serving entities to schedule imports to cover their load, provide stronger incentives for importers to deliver power to cover their day-ahead market schedules, and more appropriately price both exports and wheel-through transactions. However, the MSC stated that it understood that there were complexities to implementing this design in combination with the as-yet unimplemented FERC Order 831 that have deterred the ISO from also implementing those changes for summer 2021.

2.2. Resource Sufficiency Test

The MSC expressed agreement with the ISO's view that energy imbalance market entities should not attempt to develop substantive changes in the way unit commitment decisions, start times and ramp constraints are accounted for in applying the bid range sufficiency test prior to this summer. In the view of the MSC, there are complex interactions between participation in the EIM dispatch and potential tests that account for ramp and commitment decisions that could have serious unintended consequences if any changes to the test are not carefully developed and tested.

A second recommendation was that any discussion of changes to the consequences of failing the various sufficiency test need to consider the following issues. First, what should the consequences be for a balancing area that has declared a state of emergency relative to a balancing area that might be leaning on the EIM in order to avoid needing to declare a state of emergency? Second, how should any changes in penalties be applied to balancing areas that fail because of flaws in the histogram approach presently used to set ramp targets or that fail a revised test that includes rules that apply to unit commitment decisions and ramp constraints that may be based on very simplified rules.

Third, the MSC recommended that if the uncertainty requirement is included in the bid range test, that the ISO and other energy imbalance market entities retain the ability to switch this feature off without delay if it proves to adversely impact EIM operations and reliability by frequently triggering failures that are not warranted by conditions.

Fourth and finally, the MSC recommended that the ISO provide a more detailed accounting of how it passed the bid range resource sufficiency test in the hours leading up to load shedding in August 2020. This will likely result in one of two outcomes, or some combination of the two. The first possible outcome would be that this outcome was consistent with the design of the test and the actions the ISO was taking. The second possible outcome is the identification of additional implementation errors that the MSC hopes could be corrected prior to the coming summer. In addition, the ISO should conversely attempt to understand the reasons that other energy imbalance market entities failed the test during critical times or at high rates, and verify that these failures were not due to some type of implementation error.

2.3. Make-Whole Payment Provisions for Imports in the Hour-Ahead Scheduling Process

The MSC's understanding is that the ISO would be able to implement a make-whole payment provision for the summer of 2021 that would guarantee that non-resource adequacy block imports would be paid at least their price offer. This would result in higher payments than under the present system in which those imports are settled instead at fifteen-minute prices, when the latter prices are below the block's offer price that was accepted in the hour-ahead scheduling process. The make-whole provision would only be applied when operating reserve deficiencies are anticipated or being experienced, so this is a relatively circumscribed application of make-whole payments for hourly block imports.

The MSC believes that this approach will be effective in eliminating the risk of imports being scheduled in hour-ahead scheduling process but being paid less than their as-bid costs, thereby eliminating a risk factor that can contribute to motivating reductions of non-resource adequacy imports to the ISO during highly stressed system conditions. The MSC cannot predict the magnitude of this impact, but states that they anticipate that the change will be at least somewhat helpful in increasing imports at such times.

The MSC also concludes that the risks of adverse market outcomes from strategic behavior, in the form of off-setting schedules or inflation of offers in order to increase make whole payments, are likely to be small, given the narrow set of circumstances in which the payments would be applicable. The MSC agrees that market behavior at such times should be closely monitored for such strategic behavior.

As a long-run remedy, the MSC encourages consideration of the implementation of an expansion of the hour-ahead scheduling process that would settle all import, export, and internal resource deviations from day-ahead schedules with 15 minute prices. Such an intraday market would eliminate the source of the price risk that this part of the initiative is addressing. That market would also enable the ISO and market participants to take advantage of the resource and load forecasts that are available a few hours before real-time and that are more accurate than the forecasts used in the integrated forward market. The creation of intraday markets in Europe is an example that could be followed by US markets if loads and suppliers were incented to make use of it.