Memorandum

To: ISO Board of Governors

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

Date: March 19, 2020

Re: **Briefing on MSC activities from December 7, 2019 to March 18, 2020**

This memorandum does not require Board action.

During the period covered by this memorandum, the MSC held a general session meeting by webinar on March 13, 2020.[1] The presentations and discussions are briefly summarized in the first section below. The MSC anticipates holding its next general session meeting in May, 2020.

General Session Meeting of March 13, 2020

The general session meeting had three major discussion topics: day-ahead market enhancements, system market power mitigation, and performance of congestion revenue rights.

Day-ahead market enhancements

This session began with a presentation by James Friedrich, Market Design Policy Specialist at the ISO. The focus of the presentation was on the relationship of the clearing of energy and reliability energy in the proposed enhanced day-ahead market.

- Energy prices and schedules are the outcome of clearing of supply offers and bid-in demand (including virtual supply and demand).
- Reliability energy prices and schedules are result of clearing of physical capacity offers only against the ISO forecast energy demand. A resource's capacity offers are in the form of minimum required payments for increments or decrements of output relative to energy schedules.

The cooptimization of reliability energy and energy schedules in the same market run means that their prices interact. By contrast, the present system of energy scheduling in the integrated forward market followed by a residual unit commitment to match scheduled capacity to forecasts means that (1) the residual commitment decisions do not affect energy

[1]All presentations and recordings of the meeting can be found at http://www.caiso.com/informed/Pages/BoardCommittees/MarketSurveillanceCommittee/Default.aspx

prices and (2) the sequential resource commitments might be much more costly to the day-ahead market than a cooptimized schedule.

Most of the presentation was devoted to a series of simple examples that showed different possible interactions of energy and capacity schedules, and the resulting prices. Discussion ensued among stakeholders, MSC members, and ISO staff addressing several issues. One issue discussed was the separate pricing of energy and reliability energy, and the settlement of virtual bids against prices for energy only, versus the settlement of physical resources and demand forecasts against both energy and reliability energy. Concern was expressed as to possible incentives for virtual supply to disguise itself as physical supply, thereby frustrating the goal of keeping operators informed about which resources are physical versus virtual. Another issue discussed was the goal of shifting fuel scheduling costs from longer-term resource adequacy contracts to the day-ahead reliability capacity bids. One stakeholder suggested that neither this issue, nor the perceived inefficiency of the present sequential energy-residual commitment processes, were economically important at the present time, but other discussants disagreed.

System market power mitigation

A presentation was made by Perry Servedio, Lead Market Design Policy Developer at the ISO that had two parts. First, Mr. Servedio reviewed the proposed mechanics of how system level market power would be identified and mitigated within the ISO balancing authority footprint, as well as groupings of areas including the ISO and neighboring areas when there is not congestion into the ISO. Second, Mr. Servedio discussed a possible expansion of the system market power mitigation to groupings of any two or more balancing authorities within the energy imbalance market, not just groupings involving the ISO

These two approaches would represent a significant evolution in the ISO's proposed approach to mitigating potential market power at the system level. The approach being considered at the beginning of the initiative in the fall of 2019 would have instead limited consideration and possible imposition of mitigation to the ISO balancing area, and then only during times when three of the major import interfaces were congested. The approaches presented at the March 13 meeting would instead recognize that system market power could be exercised by resources both within the ISO and in other areas, rather than focus on just the ISO area at times when imports are constrained.

In general, the new approaches would explicitly consider pivotal and fringe suppliers within a grouping of so-called "converged" balancing areas within the energy imbalance market for which between-area power flows were uncongested. Within a high-price converged grouping, a three pivotal supplier test would provide an index of whether there is a risk of market power exercise by comparing fringe supply against demand. In calculating pivotal and fringe supply, the test would consider ramp and unit commitment constraints on potential supply; calculations of pivotal supply would also consider load-serving obligations. Demand forecasts and net cleared imports into the uncongested grouping would also be factored into the calculations.

Subsequent discussion by stakeholders, MSC members, and staff concerned several questions. One stakeholder was concerned that consideration of non-ISO balancing areas

would magnify the uncertainties involved in applying the test, and argued that a conduct-and-impact framework would be subject to fewer uncertainties. The concern was expressed that the effect of extending system market power mitigation to consideration of groups of balancing authorities would discourage needed imports rather than lower costs for consumers. Mr. Servedio also described several questions that remain to be addressed if the general converged grouping approach was to be adopted. Examples include whether mitigation should be applied only to pivotal supply offers or all offers, and which if any import offers should be subject to mitigation.

Congestion revenue rights

Dr. Guillermo Bautista-Alderete, Director of Market Analysis and Forecasting at the ISO, presented an update on the performance of the congestion revenue rights auctions. In 2018 and 2019, three sets of changes to the ISO congestion revenue rights systems were implemented. Among other changes were the elimination of non-delivery paths from the auctions (Phase 1a), and the implementation of pro-rata funding of payouts to rights holders on a constraint-by-constraint basis and a reduction in the transmission capacity released in the annual auction (Phase 1b).

Since non-delivery paths were eliminated, the megawatt volume of rights bought in the auctions have decreased, although overall revenues have not appreciably decreased. The efficiency of the auctions, as measured by the ratio of overall auction revenue to payouts to purchased rights, has not measurably improved because of elimination of those paths, and was noticeably lower in the last few months of 2019. On the other hand, the Phase 1b pro-rata funding has increased the efficiency by decreasing payouts by 28% since January 2019, which on the other hand would affect the value of the rights as hedges against transmission costs. Dr. Bautista also noted what types of congestion revenue rights were most affected by the changes, and discussed the role of loop flows and model differences in constraint-by-constraint deficits.

Dr. Bautista noted that the apparent efficiency of the auctions would be greater, however, if instead the efficiency metric was based on the ratio of (a) the auction value of just the rights bought in the auction (without netting out the auction value of rights sold back into the auction) to (b) the congestion revenue payouts to those rights. An argument for this revision was that the original efficiency metric overstated the inefficiency because it accounted for the impact of rights sold back into the auction upon auction revenues (which generally lowered those revenues), but not the offsetting impact of the congestion revenues that would no longer be collected by those rights. The latter omission would usually result in an exaggeration of the impact of the auction on the payout. Calculations of auction efficiency for January 2019 and subsequent months confirmed that the revised metric showed less inefficiency. Future analyses by the ISO will quantify the revised efficiency metric for periods prior to 2019.