Memorandum

To: ISO Board of Governors

From: Anna McKenna, Interim Vice President of Market Policy and Performance

Date: April 19, 2021

Re: **Decision on market enhancements for summer 2021 readiness – load, export and wheeling priorities**

This memorandum requires Board action.

EXECUTIVE SUMMARY

Management proposes changes to the ISO market rules regarding the priorities the market places on serving ISO load, exports, and transactions wheeling through[1] the ISO system when the market encounters constraints and must manage price-taker bids.[2] These changes result from an expedited stakeholder initiative the ISO conducted in response to last summer's supply shortages to prepare for summer 2021. Management believes the proposed enhancements fairly balance the need to serve load in the ISO balancing authority area (BAA) reliably and provide open access transmission service.

First, Management proposes that price-taker exports not explicitly backed by capacity designated solely to serve external load, referred to as low-priority recallable exports, awarded day-ahead market schedules will have a lower priority than ISO load in the real-time market. The ISO will continue to provide price-taker exports explicitly backed by capacity designated to serve external load, referred to as high-priority non-recallable exports, equal priority to ISO load in the real-time market. However, under today's practices a low-priority recallable export scheduled in the day-ahead market has a higher priority than load in the real-time market. This creates the possibility that a low-priority recallable export is served by ISO resource adequacy capacity, which is

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1 Wheeling through schedules are schedules for energy flowing into and out of the ISO BAA transmission system to serve load outside the ISO BAA. Market participants submit wheeling through transactions to the ISO market as paired import and export as price-taker bids or economic bids. The market schedules both the import and export leg for the same amount.

2 A price-taker bid or a self-schedule is a market bid a scheduling coordinator submits to the ISO that indicates a quantity in MWhs but does not specify a price. This indicates the scheduling coordinator is a price-taker. Essentially, price-taker bids or self-schedules are requests the market schedule the transaction irrespective of the market price. In the real-time market, price-taker bids or self-schedules are also day-ahead market schedules for which the market participant has not re-submitted an economic bid.

intended to serve ISO internal load. This proposal removes this unintended outcome and further aligns the market rules with Federal Energy Regulatory Commission precedent that exports supported by ISO resource adequacy capacity are essentially non-firm, recallable sales.

Second, Management proposes several rule changes regarding the designation of capacity backing high-priority non-recallable exports. These changes will better ensure capacity sold to ISO load serving entities is not backing high-priority non-recallable exports. Further, they will ensure designated capacity backing high-priority non-recallable exports is available and physically capable of sustaining the export in real-time so the ISO does not have to support the export using its resource adequacy capacity.

Finally, Management proposes to establish different scheduling priorities in the day-ahead and real-time market for two categories of wheeling through transactions– a priority price-taker wheel and a non-priority price-taker wheel. If the market exhausts economic bids, the market optimization may have to adjust price-taker bids also known as self-schedules based on the scheduling priorities in the tariff. Scheduling priorities are a factor when the market cannot find a feasible solution. This occurs when there is insufficient supply to meet overall demand on the ISO grid, including exports, or when imports and price-taker wheels compete for transmission capacity. The adjustment process can, among other things, reduce imports, exports, wheels, and demand bids. Management proposes that in such circumstances priority price-taker wheels will have the same priority as ISO load and high-priority non-recallable exports. Non-priority price-taker wheels will have a lower priority.

Management proposes to define a priority price-taker wheel as a wheeling through self-schedule backed by a firm power supply contract to serve an external load serving entity's load for the entire month and corresponding monthly firm transmission to the ISO border. The scheduling coordinator for the priority price-taker wheel must notify the ISO it meets these requirements 45 days prior to the applicable month. This aligns with the deadline for ISO load serving entities to make their monthly resource adequacy showings. The proposed requirements demonstrate an external entity depends on and is committed to using the ISO transmission to serve its load similar to ISO load serving entities.

Management also proposes that when the transmission system is constrained and priority price-taker wheels are competing with other schedules (*e.g*. resource adequacy imports), the ISO will conduct a real-time market schedule adjustment process to allocate transmission capacity pro rata. The proposed wheeling through scheduling priority changes will sunset May 31, 2022. The ISO will be considering longer-term solutions to address these issues. Management believes this interim solution is balanced and fair, particularly given stakeholders' polarized positons. It offers reasonable native load protections, while recognizing certain external BAAs may be relying on wheeling through the ISO to serve their load this summer.

Management is presenting these proposed changes to the EIM Governing Body under its advisory role on April 19, 2021.

> ***Moved, that the ISO Board of Governors approves the proposals for load, exports, and wheel through market scheduling priorities as described in the memorandum dated April 19, 2021; and***
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> ***Moved, that the ISO Board of Governors authorizes Management to make all necessary and appropriate filings with the Federal Energy Regulatory Commission to implement the proposal described in the memorandum, including any filings that implement the overarching initiative policy but contain discrete revisions to incorporate Commission guidance in any initial ruling on the proposed tariff amendment.***

BACKGROUND

A historic heat wave affected the western United States for several consecutive days in mid-August 2020, causing energy supply shortages that led to two rotating power outages in the ISO footprint on August 14 and 15. The *Final Root Cause Analysis: Mid-August 2020 Extreme Heat Wave* report documents these events.[3]

The ISO initiated an expedited stakeholder initiative in response to these events to prepare for summer 2021, prevent supply shortfalls, and more fairly address supply shortfalls if they occur. This stakeholder initiative, *Market Enhancements for Summer 2021 Readiness*, produced several market enhancements and an interconnection rule enhancement the ISO Board of Governors approved in March. Management deferred seeking board approval on a final set of enhancements regarding the priorities the market uses to schedule ISO load, exports, and price-taker wheels, so it would have more time to work with stakeholders to finalize its proposal. This memorandum addresses these enhancements.

PROPOSAL

Based on analysis of last August's events, Management proposes three sets of market rule changes regarding the priorities the ISO market places on serving ISO load and honoring price-taker exports and wheels.

Management believes these changes will more fairly allocate supply if the ISO market cannot meet both ISO load and scheduled exports. They will also more fairly allocate transmission capacity when there is insufficient transmission capacity in the real-time to accommodate both wheeling through schedules, imports, and other energy flows.

[3] California Independent System Operator, California Public Utilities Commission, and California Energy Commission. Final Root Cause Analysis: Mid-August 2020 Extreme Heat Wave. January 13, 2021.

The following describes these changes.

Export priority

Management proposes that low-priority recallable exports receiving a day-ahead market schedule will have a lower priority than ISO load in the real-time optimization. Today, all exports receiving a schedule the day-ahead market automatically have a higher scheduling priority than load in real-time based on what is found to be feasible in the residual unit commitment process of the day-ahead market, even though they may be supported by resource adequacy capacity dedicated to serve ISO load.

The residual unit commitment process cannot preclude ISO resource adequacy supply from supporting a low-priority recallable export. This can result in allowing the day-ahead market to use ISO resource adequacy capacity to support low-priority recallable export. Because conditions may change, the ISO may need the ISO resource adequacy capacity to meet ISO load in the real-time market, even if it did not find it needed such capacity in the day-ahead market. Management's proposal ensures that in real-time the ISO can use ISO resource adequacy capacity to serve internal load if necessary. The proposed change appropriately affords low-priority recallable exports supplied through the market a lower priority than ISO load in the real-time to better ensure supply used to serve these exports does not come from ISO resource adequacy capacity.

The proposed change is foundational to ensure the real-time market will curtail low-priority recallable exports to avoid the export of ISO resource adequacy capacity during tight system conditions. The proposal also still ensures high-priority non-recallable exports that have secured capacity solely designated to serve external load in advance receive a real-time market priority equal to ISO load.

Designation of capacity for high-priority non-recallable exports

The ISO market rules provide price-taker exports supported by capacity designated to serve external load, *i.e.*, high-priority non-recallable exports, the same priority as serving ISO load (and a higher priority than low-priority recallable exports).

Management proposes several rule changes regarding high-priority non-recallable exports. These changes will better ensure capacity in the ISO BAA backing these exports (1) was not sold to a ISO load serving entity, even if it is not shown on a load serving entity's resource adequacy plan in a given month, and (2) is actually available and physically capable of supporting the high-priority non-recallable export schedule in the real-time market. The changes also include tariff clarifications to account for derates of resources that have part of their capacity supporting high-priority non-recallable exports.

These rule changes will require the scheduling coordinator for a resource designated as backing a high-priority non-recallable export to confirm it has sold the capacity only to the exporter and not to an ISO load serving entity. In addition, the rule changes will specify that the designated capacity must be deliverable.

Management proposes to require the scheduling coordinator for a high-priority non-recallable export and the scheduling coordinator for the designated capacity backing it to coordinate to ensure the high-priority non-recallable export does not exceed the amount the designated resource can support. The rule changes will also specify that if the designated resource is a variable energy resource, the high-priority non-recallable export quantity can be no greater than the resource's forecasted output.

Management also proposes the designated resources supporting a high-priority non-recallable export must participate in the residual unit commitment process up to the high-priority non-recallable export self-scheduled quantity. This requirement is comparable to the requirement that ISO resource adequacy capacity participates in the residual unit commitment process and ensures the capacity designated to serve the high-priority non-recallable export is committed in the residual unit commitment process if necessary. Similar to ISO resource adequacy capacity, the designated resource will be required to participate in the residual unit commitment process at a $0.00/MWh bid up to the high-priority non-recallable export scheduled quantity. Absent this requirement ISO resource adequacy resources could end up supporting the high-priority non-recallable export instead of the resource that was designated to support it.

In addition, Management proposes that the scheduling coordinator for capacity designated to serve a high-priority non-recallable export must submit energy bids to the real-time market for any capacity backing the export that did not receive a day-ahead market energy schedule. This rule is necessary to ensure the designated resource is available to meet the high-priority non-recallable export, which is intended for external load.

Finally, Management proposes tariff clarifications regarding the treatment of resource derates when only a portion of a resource's capacity is ISO resource adequacy capacity. Derates can affect both a resource's capacity sold to ISO load serving entities and the capacity sold to external entities. The proposed clarifications provide that if a derate occurs, the ISO will allocate the derate to the resource's ISO resource adequacy capacity and non-ISO resource adequacy capacity based on the scheduling coordinator's guidance to the ISO. The proposal will allow the ISO to obtain the information necessary to allocate capacity derates properly and effectively among the various types of capacity. This will enable the ISO to accommodate prorated high-priority non-recallable export exports following unit derates.

Wheel-through price-taker transactions

Management proposes several market rule changes regarding price-taker wheeling through schedules. Management proposes to establish two categories of wheel-

through price-taker schedules: a priority price-taker wheel and a non-priority price-taker wheel. Priority price-taker wheels would have the same scheduling priority in the ISO market as import self-schedules needed to serve ISO load. Non-priority price-taker wheels would have a lower scheduling priority than ISO load and priority price-take wheels.

Management also proposes a pro rata schedule adjustment process that would be conducted after the hour-ahead scheduling process runs in the real-time if the hour-ahead scheduling process run was infeasible. This pro rata schedule adjustment process would allocate constrained transmission capacity between the priority price-taker wheels and imports designated as ISO resource adequacy imports.

Wheeling through schedules can affect the ISO's ability to serve native load when they use constrained transmission capacity. The higher priority currently afforded to wheeling through schedules through the ISO market parameter settings is a particular concern if high demand/tight supply conditions occur across the West this summer. Wheeling through transactions not only could limit imports from serving ISO load, they could limit resource adequacy resources in Northern California from serving internal load. This priority is not required under the ISO tariff. Consistent with the treatment of low-priority non-recallable exports discussed above, Management will modify the ISO market parameters to no longer provide wheel through transactions higher priority than ISO load.

Other BAAs have processes under their Open Access Transmission Tariff frameworks to allow entities to procure transmission capacity in excess of that needed to serve their native load. The ISO operates under a nodal market framework that bundles energy and transmission scheduling together. Because of this, the ISO does not have forward transmission reservations or a process to release priority-scheduling rights to wheeling through transactions that would limit them to the capacity exceeding the amount the ISO needs to serve its native load. The ISO also would have to incorporate this into its transmission planning process.

Management has committed to starting a new stakeholder initiative to consider such a process, but it cannot implement any more extensive changes by summer 2021. Consequently, Management proposes interim changes to its existing market structure to allocate transmission capacity more fairly among ISO native load and wheeling through self-schedules and serving ISO load. Stakeholders indicated that some external entities, particularly in the southwest, have already entered into power supply arrangements to serve their load, and they have planned to deliver that energy by wheeling through the ISO BAA.

Management believes its interim proposal balances the needs and concerns stakeholders have expressed and provides a workable and necessary framework for the ISO operate reliably given the conditions it faces in summer 2021. Management proposes that a priority price-taker wheel (1) must be supported by a monthly firm power supply contract to serve load outside the ISO BAA, and (2) the load serving entity

must have procured monthly peak period firm transmission to the ISO boundary. The scheduling coordinator for the priority price-taker wheel would have to make this showing by 45 days prior to each month (or by June 29, 2021 for July and August 2021 due to the timing of the tariff amendment filing). A firm contract to serve load outside the ISO coupled with procured firm transmission to the ISO border demonstrates an external entity depends on using ISO transmission to serve its load similar to ISO load serving entities. The 45-day notice requirement aligns with ISO load serving entities' monthly resource adequacy showing requirement.

Although the market parameters will be set to provide priority price-taker wheels equal priority to serving ISO load, the market optimization does not ensure a pro rata adjustment of priority price-taker wheels and resource adequacy imports to serve ISO load. An administrative process is necessary to ensure the pro rata adjustments of these equal priority schedules. Consequently, Management also proposes a pro rata schedule adjustment process that the ISO will execute after completion of the hour-ahead scheduling process. This process will be triggered if either the hour-ahead scheduling process cannot meet demand or if it reduces priority price-taker wheels. The process will allocate intertie transmission capacity pro rata between ISO resource adequacy imports and priority price-taker wheels based on the amounts of ISO resource adequacy import bids submitted in the real-time market on an intertie and the priority price-taker wheels. Any ISO resource adequacy import capacity incremented through the administrative process will be treated as exceptional dispatches, which ensure they will at least recovery their bid price. Further, Management proposes that the quantity of price-taker wheels in the pro rata allocation process will be limited by the amount submitted in the day-ahead market. It is necessary for the scheduling coordinators to submit their priority price-taker wheels in the day-ahead market so that the ISO can better evaluate its reliability requirements in the day-ahead, while allowing flexibility to revise them in the real-time market.

To ensure all ISO resource adequacy imports are considered in the real-time, Management proposes an additional market rule change that will schedule all ISO resource adequacy imports in the real-time market in the event the residual unit commitment processes is infeasible and indicates ISO may not be able to meet load in the real-time. This will ensure all resource adequacy import supply is available for the ISO to consider in the pro rata allocation process.

The ISO will use a similar pro rata allocation methodology to allocate Path 26 transmission between northern and southern California if priority price-taker wheels compete with energy flows needed to serve ISO load. This is necessary to prevent priority price-taker wheels from completely preventing resource adequacy resources in Northern California from serving the ISO load that has paid for their capacity.

Additionally, the ISO will develop procedures for system operators to review any priority price-taker wheels that are reduced by the pro rata allocation process. These procedures will identity actions system operators could take that would allow them to increase or restore otherwise reduced wheel-through self-schedules.

Finally, because Management intends the priority price-taker wheels approach as an interim measure until it can develop and implement longer-term measures, Management proposes the tariff provisions specifying these measures expire on May 31, 2022.

POSITIONS OF THE PARTIES

There is widespread stakeholder agreement the ISO needs to conduct a stakeholder process to develop a longer-term process for external entities to obtain scheduling rights for wheeling through schedules on a forward basis. Management believes interim measures are critical given the problems the ISO could face in summer 2021. However, the interim measures are contentious and stakeholders have disparate views about them depending on whether they are ISO load serving entities or external entities that plan to wheel energy across the ISO BAA.

External entities generally maintain the interim measures do not provide a level playing field and unduly favor allocating transmission capacity to serve ISO load. Conversely, stakeholders representing California load serving entities stress that FERC transmission principles allow BAAs to prioritize setting aside capacity to serve native load over making transmission available to external entities to use for wheeling through transactions. They generally maintain that Management's proposal does not go far enough to protect ISO native load. They also note external entities may be able to "cherry-pick" using the ISO transmission system in just the most critical hours, thus displacing imports needed to serve load in those hours, and paying only transmission charges in just a few hours. On the other hand, ISO load serving entities depend entirely on using the ISO system and pay transmission charges in all hours of the month to serve their load. The proposed firm transmission requirement for priority price-taker wheels indicates an external load serving entity's commitment and dependence on using ISO transmission to serve its load, somewhat similar to ISO load serving entities dependence on ISO transmission.

Management believes its proposed interim approach is a balanced way to deal with emergency conditions that may occur this summer. Also, Management believes its proposed requirements will ensure external entities will regularly wheel through the ISO to serve their load and not to just use ISO transmission in the few critical hours when ISO native load most needs to use the system.

One entity opposes eliminating the higher real-time market scheduling priority afforded exports deemed feasible in the residual unit commitment process over serving ISO load. It states the proposal will prevent it from depending on these imports. As described earlier, Management believes this approach is necessary because the RUC process cannot ensure resource adequacy supply will not be used to support an export. If external entities desire a priority equal to ISO native load they should designate non-resource adequacy capacity to support their export. FERC has recognized exports supported capacity designated to serve external load should have a higher priority than exports supported by ISO resource adequacy capacity.

Some stakeholders believe the proposed rules regarding the capabilities of resources supporting high-priority non-recallable exports do not provide sufficient validation to ensure a resource can support such export. They also believe there should be additional validation based on actual variable energy resource output. Management's proposed rules are limited to those the ISO can feasibly implement by this summer. Management plans to develop further enhancements in a subsequent stakeholder initiative.

A more detailed summary of stakeholder comments is included as Attachment A.

The Department of Market Monitoring supports Management's proposals as incremental improvements that should enhance the ISO balancing authority area's reliability in Summer 2021.

The Market Surveillance Committee in their draft opinion support Management's proposals as reasonable, fair interim measures until more comprehensive changes can be implemented. The Market Surveillance Committee's draft opinion is included as Attachment B. They plan to vote on adopting their opinion on April 16, 2021.

CONCLUSION

Management requests the ISO Board of Governors approve Management's load, export, and wheel-thorough scheduling proposals described in this memorandum. They represent fair, reasonable measures that will better ensure the ISO BAA's reliability while reasonably accommodating external entity's need to also use the ISO transmission system.