



California Independent
System Operator Corporation

April 28, 2021

The Honorable Kimberly D. Bose
Secretary
Federal Energy Regulatory Commission
888 First Street, NE
Washington, DC 20426

**Re: California Independent System Operator Corporation
Docket No. ER21- ____-000**

**Tariff Amendment to Implement Market Enhancements for
Summer 2021 – Load, Export, and Wheeling Priorities**

Dear Secretary Bose:

The California Independent System Operator Corporation (CAISO) submits this tariff amendment filing to revise load, export, and wheeling through priorities in the day-ahead and real-time market optimization processes and establish related market rules.¹ The proposed tariff revisions arise from root cause analyses of the controlled load shed events in August 2020 and CAISO discussions with stakeholders in the Market Enhancements for Summer 2021 Readiness stakeholder initiative.² They reflect market rule and other process enhancements feasible for the CAISO to implement by summer 2021. The proposed tariff revisions, with other actions the CAISO and state agencies are undertaking, will better position the CAISO to maintain reliable grid operations in summer 2021. The proposed tariff revisions are critical to ensure that, during constrained conditions, the CAISO can manage transactions at the interties and

¹ The CAISO submits this filing pursuant to Section 205 of the Federal Power Act (FPA), 16 U.S.C. § 824d. Capitalized terms not otherwise defined herein have the meaning set forth in the CAISO tariff, and references to specific sections, articles, and appendices are references to sections, articles, and appendices in the current CAISO tariff and as revised or proposed in this filing, unless otherwise indicated.

² These constitute the second set of tariff revisions arising from the CAISO's Market Enhancements for Summer 2021 Readiness initiative. The CAISO filed the first set of tariff revisions on March 26, 2021 in Docket No. ER21-1536-000.

internal transmission paths reliably and fairly to meet its native load obligations and provide access to external entities that also will be relying on the CAISO grid to serve their load. Accordingly, the Commission should approve the proposed tariff revisions expeditiously.

To address the risks the CAISO faces in summer 2021, the proposed tariff revisions must become effective in July. The CAISO respectfully requests the Commission issue an order by June 27, 2021, accepting the proposed tariff revisions effective on the dates the CAISO proposes.

The CAISO is submitting three sets of tariff revisions with different effective dates. The first set, consisting of a new defined term Priority Wheeling Through and an eligibility notification provision, will become effective June 28, 2021.³ The second set, which contains the other load, export, and wheeling through related tariff revisions, will become effective no later than July 15, 2021.⁴ The CAISO requests authorization to notify market participants of the effective date of the second set of tariff changes at least five days before implementation.⁵ The earliest date these tariff changes would be effective on five days' notice is July 3, 2021, assuming the Commission issues an order on June 27, 2021, and the CAISO issues a notice on June 28, 2021. Because the CAISO intends all wheeling through related tariff revisions to be interim only, the CAISO is submitting a third set of tariff records that removes the new wheeling through provisions from the CAISO tariff effective June 1, 2022.⁶ The CAISO requests the Commission waive its notice requirement to allow the June 1, 2022 effective date for these tariff revisions.

From a substantive perspective, the proposed tariff revisions regarding export priorities and related market rules are discrete and stand on their own

³ The clean tariff sheets for the first set of tariff revisions that would become effective June 28, 2021 are in Attachment A, and the redlined tariff sheets are in Attachment B.

⁴ The clean tariff sheets for the second set of tariff revisions that would become effective no later than July 15, 2021 are in Attachment C, and the redlined tariff sheets are in Attachment D. A June 27, 2021 order will provide the CAISO and market participants with sufficient time to prepare to implement these changes.

⁵ The CAISO has included an effective date of 12/31/9998 as part of the tariff records submitted for the second tranche of tariff revisions. The CAISO will notify the Commission of the actual effective date of these tariff records within five business days after their implementation in an eTariff submittal using Type of Filing code 150 – Report. See *Cal. Indep. Sys. Operator Corp.*, 172 FERC ¶ 61,263, at Ordering Paragraphs (A) and (C) (2020).

⁶ The clean tariff sheets for the third set of tariff revisions that would become effective June 1, 2022 are in Attachment E, and the redlined tariff sheets are in Attachment F.

from the tariff revisions regarding wheeling through self-schedule priorities (and related revisions).⁷ The tariff revisions in each category are separate elements of a multi-part filing severable from the tariff revisions in the other category. They are not interrelated, interdependent, or affected by Commission action on tariff revisions in the other category. The Commission should evaluate the justness and reasonableness of the export and wheeling through related tariff revisions on their individual merits. Mere rejection of one proposed set of tariff revisions should not per se require rejection of the other set of tariff revisions.

It is critical the CAISO implement the proposed tariff provisions by early July before summer peak loads are likely to occur. If the Commission believes it needs more information to assess a particular tariff revision, the Commission should either reject the specific tariff revision or issue a deficiency letter only for it. The CAISO respectfully requests the Commission issue an order accepting the remaining tariff revisions.

I. EXECUTIVE SUMMARY

A heat wave affected the western United States for several consecutive days in mid-August 2020, causing energy supply shortages that led to two controlled rotating power outages in the CAISO footprint on August 14 and 15. The CAISO, California Public Utilities Commission (CPUC), and California Energy Commission (CEC) then undertook a root cause analysis of these events, and the CAISO Department of Market Monitoring (DMM) separately issued a report on CAISO market performance during the events. The CAISO subsequently initiated an expedited stakeholder process to consider market enhancements necessary to prepare for potential extreme weather events and tight supply conditions in summer 2021. The proposed tariff revisions arise from these efforts. They establish needed scheduling priorities for load, export, and wheeling through transactions in the day-ahead and real-time market optimization processes and related market rules that will produce fairer, more reliable market outcomes. Importantly, they CAISO can implement these rules by summer 2021.

The proposed enhancements are vital to maintaining reliability and avoiding load shedding this summer during severely constrained conditions. They fairly balance the reliability of serving CAISO balancing authority area (BAA) load (*i.e.*, native load) with the reliability of export and wheeling through transactions, while providing open access to the CAISO system.

⁷ As discussed further below, the individual tariff revisions within each of the two categories of tariff revisions generally are discrete and severable.

First, the CAISO proposes two changes to the scheduling priorities for self-scheduled⁸ exports in the real-time market optimization:

- Low-priority recallable exports⁹ that are awarded day-ahead market schedules will have a lower priority than CAISO load in the real-time market;¹⁰ and
- Low-priority recallable exports deemed feasible in the residual unit commitment (RUC) process and self-scheduled into the real-time market will receive a priority higher than new low-priority recallable exports bidding into the real-time market.

Both changes reinforce the CAISO's ability to recall resource adequacy (RA) Capacity¹¹ when the system is constrained, and the CAISO must utilize its RA Capacity to meet internal load. The first proposed change to the scheduling priority for self-scheduled exports is critical to (1) ensure the CAISO can use capacity contracted by CAISO load serving entities (LSEs) to meet CAISO BAA needs in the first instance, and (2) ensure market processes appropriately curtail low-priority recallable exports supported by RA Capacity when necessary. Under today's rules, a low-priority recallable export scheduled in the day-ahead market has a higher priority than CAISO load in the real-time market. This creates the possibility the market will use RA Capacity intended to serve CAISO internal load to instead support low-priority recallable exports. The CAISO's proposal removes this unintended and unjustifiable outcome and further aligns the market

⁸ A self-schedule is a market bid a scheduling coordinator submits to the CAISO that indicates a quantity in MWhs but does not specify a price. This indicates the scheduling coordinator is a price-taker. Essentially, self-schedules are requests the market schedule the transaction irrespective of the market price. In the real-time market, self-schedules are also day-ahead market schedules for which the market participant has not re-submitted an economic bid. Bids in the CAISO markets include priced offers and self-schedules.

⁹ The CAISO tariff refers to low-priority recallable exports as "Self-Schedules of exports not explicitly sourced by non-Resource Adequacy Capacity." See existing tariff section 31.4. For the sake of clarity, this transmittal letter distinguishes between existing tariff sections (*i.e.*, sections in the current CAISO tariff), new tariff sections (*i.e.*, new sections the CAISO proposes to add to the tariff in this filing), and revised tariff sections (*i.e.*, existing tariff sections the CAISO proposes to revise in this filing).

¹⁰ High-priority non-recallable exports, have the same priority as self-scheduled CAISO load and a higher priority than low-priority recallable exports. The CAISO tariff refers to high-priority non-recallable exports as "Self-Schedules of exports at Scheduling Points explicitly sourced by non-Resource Adequacy Capacity." See existing tariff section 31.4.

¹¹ The CAISO tariff defines RA Capacity as "the supply capacity of a Resource Adequacy Resource listed on a Resource Adequacy Plan and a Supply Plan." A Resource Adequacy Resource is "a resource designated on a Supply Plan to provide Resource Adequacy Capacity."

rules with Commission precedent that exports supported by CAISO RA Capacity are essentially recallable opportunity sales.

The second proposed change for self-scheduled exports ensures that exporters procuring resources to serve their load in the day-ahead timeframe have a higher priority than those that do not. Similarly, CAISO native load will have a higher priority than real-time low-priority recallable exports. The change encourages forward scheduling of low-priority recallable exports, which allows the CAISO to set schedules that are more reliable in the day-ahead. The proposed export priority revisions do not disturb existing tariff rules providing high-priority non-recallable exports the same priority as the CAISO's native load.

Second, the CAISO proposes several new rules and requirements regarding the capacity that can support high-priority non-recallable exports:

- Capacity supporting a high-priority non-recallable export must be forward contracted only with an external LSE;
- Capacity supporting high-priority non-recallable exports must be available and physically capable of sustaining the high-priority non-recallable export quantity for the entire hourly block;
- Capacity supporting a high-priority non-recallable export must be deliverable;
- Only resources internal to the CAISO can support a high-priority non-recallable export, distinguishing such exports from wheeling through transactions;
- In case a supporting resource does not receive a schedule in the integrated forward market (IFM) equal to or greater than the corresponding high-priority non-recallable export, the supporting resource must submit a \$0/MW RUC availability bid up to the export self-scheduled quantity; and
- Resources must submit real-time market bids for the quantity of the high-priority non-recallable export they are backing in order for the export to be high-priority.

These bidding and behavioral rules will better ensure capacity supporting high-priority non-recallable exports (1) is not otherwise contracted with a CAISO LSE (*i.e.*, the capacity is committed solely to an external LSE), and (2) is available and physically capable of meeting its schedule so capacity procured to

serve CAISO native load does not support the export. Requiring scheduling coordinators to bid capacity supporting a high-priority non-recallable export in the real-time market will ensure there is sufficient non-RA generation to support the high-priority non-recallable export. This addresses a problem with the CAISO's current market design whereby an export receiving a RUC schedule automatically has a priority higher than CAISO load in real-time, even if the resource originally supporting the export no longer is available, and no specific replacement resource is made available to support the export in real-time. The RUC participation and \$0/MWh RUC availability bid requirements ensure RUC considers RA Capacity and non-RA Capacity equally when determining the resources needed to meet the overall CAISO demand forecast (which includes both CAISO internal load and exports). Otherwise, resources designated to support high-priority non-recallable exports could bid high in the IFM to avoid serving their share of overall demand, forcing the CAISO to serve the high-priority non-recallable exports from its system pool of resources, which includes RA Capacity procured to serve CAISO load.

Third, the CAISO proposes tariff revisions to facilitate the allocation of derated capacity when only a portion of a resource's capacity is RA Capacity. Today, the CAISO only knows whether the capacity of a derated resource is RA or non-RA. Scheduling coordinators for resources do not advise the CAISO whether non-RA Capacity is unsold capacity, capacity sold to a CAISO LSE but not shown on a monthly RA Plan, or capacity sold to an external LSE for export. Thus, the CAISO does not know exactly how it should allocate any derated capacity among the various categories of a unit's capacity or the extent to which a derated resource can support a high-priority non-recallable export. To address this situation, the CAISO proposes to require scheduling coordinators requesting planned outages or notifying the CAISO of forced outages that partially derate a resource to advise the CAISO of the extent the outage affects RA Capacity and any contracted non-RA Capacity. The CAISO will allocate derates between RA Capacity and the various categories of non-RA Capacity based on the scheduling coordinator's guidance to the CAISO and determine RA Substitute Capacity requirements. Thus, the proposal will allow the CAISO to obtain the information necessary to allocate capacity derates properly and effectively among the various types of capacity. This will enable the CAISO to accommodate prorated high-priority non-recallable export exports following unit derates.

The CAISO's final set of changes addresses wheeling through self-schedule priorities. The CAISO worked hard with stakeholders and put in a painstaking effort to address this complex, challenging, and polarizing issue. The CAISO sought to develop a solution for summer 2021 that effectively balances the needs of both the CAISO's native load customers and external entities seeking to use the CAISO system to serve their load. Over the course of the underlying stakeholder initiative, the CAISO evolved its proposal to respond to stakeholder concerns. It was challenging to find a balanced approach for this

summer consistent with general open access principles, but the CAISO believes its proposal achieves that objective.

To address the effects wheeling through transactions can have on the CAISO's ability to meet its native load obligations, the CAISO proposes, on an interim basis, through May 31, 2022, to establish two categories of wheeling through self-schedule transactions – a Priority Wheeling Through and a non-Priority Wheeling Through. Priority Wheeling Through transactions will have a priority equal to CAISO load and high-priority non-recallable exports in the day-ahead and real-time market optimization processes. Non-Priority Wheeling Through transactions will have a lower priority. If the market exhausts economic bids, the market optimization may have to adjust 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 CAISO grid, including exports, or transmission constraints are binding in the CAISO BAA such that economic bids alone cannot resolve them. The market adjustment process, which uses parameters, is necessary to adjust import schedules and wheeling through transactions to apportion transmission capacity fairly when the system is constrained and the CAISO is at risk of not serving its load. When an Intertie is constrained in the import direction by a scheduling limit or Path 26 is constrained in the north-south direction, and HASP cannot meet CAISO Forecast of CAISO Demand or fully accommodate a Priority Wheeling Through transaction, the CAISO proposes to perform a process after the hour-ahead scheduling process (HASP) to allocate available transmission capacity *pro rata* between supply needed to meet CAISO load and Priority Wheeling Through transactions.

The existing CAISO tariff does not specify the scheduling priorities for wheeling through transactions (except those associated with Existing Transmission Contracts and Transmission Ownership Rights). However, the parameters in the market software, in combination with the wheeling through constraint that ensures the import and export side of the wheeling through transaction remain equal, effectively provide wheeling through transactions that clear the day-ahead market a higher priority than CAISO load. Although the CAISO did not observe consequential wheeling through transactions during last summer's load shed events, it expects increased wheeling through transactions this summer, which would displace RA imports under the current parameter settings. The proposed tariff revisions are necessary to avoid wheeling through self-schedules "crowding out" both RA imports using the interties and RA Capacity from northern California generation that must flow north-to-south on Path 26 to serve load elsewhere in California. Increased wheeling through transactions potentially can prevent the CAISO from serving its native load even from internal RA resources built to serve CAISO load and paid for by CAISO LSEs. This is untenable, and it could cause load shedding if not addressed.

One of the core elements of the Commission's open access policies is the ability of transmission providers to include in their tariffs protections to ensure reliable service to native load customers. Other ISOs and RTOs reserve capacity to allow for reliable service to native load customers. This includes mechanisms for reserving capacity for native load as an existing transmission commitment in their available transfer capability (ATC) calculations and setting aside a capacity benefit margin (CBM) to access generation during contingencies. Also, many ISOs and RTOs, and most other transmission providers, provide non-firm transmission from transfer capability exceeding that needed to provide reliable service to native load and firm service customers. The CAISO has included none of these native load protections in its tariff. Although it is infeasible for the CAISO to adopt CBM, changes to ATC calculations, multiple categories of transmission service, or other approaches it considered in time for summer 2021, the CAISO's interim proposal provides comparable protections to its native load customers.

Lacking a transmission reservation mechanism that would protect CAISO native load when the system is constrained, the CAISO instead proposes an interim measure that would establish the two categories of priorities for wheeling through self-schedule transactions – a Priority Wheeling Through and a non-Priority Wheeling Through. The CAISO proposes to define a Priority Wheeling Through transaction as a wheeling through self-schedule supported by (1) a firm power supply contract to serve an external LSE's load for the entire calendar month, and (2) and monthly firm transmission from the source to the CAISO border for Hours Ending 07:00 through 22:00, Monday through Saturday excluding North American Electric Reliability Corporation (NERC) holidays. All other wheeling through self-schedules are non-Priority Wheeling Through transactions. The scheduling coordinator for the Priority Wheeling Through transaction must notify the CAISO it meets the eligibility requirements 45 days before the month. This aligns with the deadline for CAISO LSEs to submit their monthly RA Plans showing the RA Capacity they have procured to meet their monthly RA obligations. The firm transmission hours align with NERC, North American Energy Standards Board (NAESB), and other definitions of peak period transmission.

The proposed requirements demonstrate that an external entity wheeling through the CAISO depends on and is committed to using the CAISO transmission system regularly to serve its load similar to CAISO LSEs' dependence on using the system to meet their customer needs. When the Commission accepted the CAISO's current nodal market, it recognized that because external LSEs are situated differently than internal load regarding the extent of their reliance on the CAISO grid, it was appropriate to require them to demonstrate their intention to utilize the CAISO transmission system regularly in order to receive rights comparable to those available to internal load. Specifically, the Commission approved allocating Congestion Revenue Rights

(CRRs) to CAISO LSEs, but external LSEs had to prepay transmission access charges to receive a CRR allocation. The same principles support the CAISO's proposal.

Establishing priorities for wheeling through self-schedules vis-à-vis CAISO native load self-schedules was contentious, and stakeholders were deeply divided. Even after the CAISO revised its proposal numerous times to address stakeholder feedback, there was no widespread consensus. Many stakeholders oppose the wheeling through priority proposal in whole or in part – with some arguing it does not sufficiently protect wheeling through self-schedules and others arguing the CAISO has not gone far enough to reserve capacity to provide reliable service to native load customers.

The CAISO believes its interim solution is fair, balanced, and just and reasonable, particularly given the polarized views of some stakeholders. It offers reasonable native load protections, while recognizing certain external BAAs may be relying on wheeling through transactions to serve their native load this summer. Recognizing stakeholder concerns and that the proposed tariff revisions arise from an expedited stakeholder process, the CAISO proposes to sunset the wheeling through related tariff revisions effective May 31, 2022. For the next year, the interim approach allows the CAISO both to fulfill its obligations to provide reliable service to native load and to accommodate external LSEs that have entered into supply arrangements with the expectation they could rely on wheeling through the CAISO. It also provides needed time for the CAISO to work closely with stakeholders to develop a more durable solution.

Some stakeholders argue the CAISO's proposal violates open access. It does not. The proposal is consistent with general open access principles, including the native load priority articulated in Order Nos. 888 and 890. These stakeholders ignore that under the CAISO's proposal, the CAISO grid will remain "open" to all market participants that seek to use it, just as it is today. On a daily basis, any scheduling coordinator – whether it represents supply, load, exports, or wheeling through transactions – can submit a bid/self-schedule for service. The CAISO's proposal merely establishes the scheduling priorities the CAISO will apply in the day-ahead and real-time market optimization processes during extremely tight conditions if the market does not solve and it needs to adjust self-schedules. Scheduling priorities for other self-schedules already exist in tariff, but the tariff does not reference the priorities for wheeling through transactions. The CAISO proposes to specify them now because it is proposing to create two classes of wheeling through self-schedules with different priorities.

Prioritizing only those wheeling through self-schedules where the external entity demonstrates it depends on using the CAISO grid similar to CAISO LSEs is fair, consistent with the Commission's open access principles, and effectively balances the CAISO's need to meet native load obligations with the desire of

other entities to obtain transmission service from the CAISO. It is just and reasonable for customers engaging in non-Priority Wheeling Through transactions to have a lower priority because they have not demonstrated the same long-term supply arrangements and dependence on using the CAISO grid as native load or Priority Wheeling Through customers. The proposed priorities will reduce the need to shed native load when the interties or internal transmission paths from north to south are severely constrained.

Other transmission providers address curtailment-related issues through measures such as CBM, reservation of capacity for native load as existing transmission commitments, different categories of transmission service with different curtailment priorities, and NERC Transmission Loading Relief standards.¹² Energy sellers (including the merchant arms of regulated public utilities) similarly implement varying curtailment/supply interruption provisions in their sales contracts, distinguishing between firm and non-firm energy, which they may interrupt or recall for any number of reasons, including reliability or economics. The CAISO's proposed measures are comparable in effect, but not identical in form, to the native load protections maintained by other ISOs, RTOs, and transmission providers. The CAISO's proposal reflects the unique nature of its services and markets – no transmission reservations, no classes of transmission service, and a volumetric wheeling through rate. The CAISO handles all scheduling priorities through the penalty parameters in the market optimization. The CAISO's proposal merely establishes the relative priority of native load and other transmission system uses through a scheduling priority based on the market's application of penalty prices. In other words, it does not foreclose access to the CAISO system; it simply, and reasonably, sets the priorities if the CAISO must adjust self-schedules because there is insufficient supply or transmission capacity to meet all service requests. In particular, it ensures those external entities that have demonstrated they are relying on the CAISO grid regularly to serve their native load will have equal priority to CAISO native load, and a scheduling priority higher than other wheeling through transactions.

In summary, the CAISO's tariff enhancements provide a just and reasonable approach to maintaining reliability and avoiding load shedding this summer during severely constrained conditions. To address the challenges the CAISO faces in summer 2021, the CAISO respectfully requests the Commission issue an order accepting the tariff enhancements by June 27, 2021.

¹² In addition, as discussed above, other transmission providers “carve-out” and preserve capacity for native load before even making capacity available for other transmission service.

II. BACKGROUND

A. Summer 2020 Heat Events

During August 14-19, 2020, California experienced statewide extreme heat with temperatures 10-20 degrees above normal. The rest of the west also experienced record or near record highs with forecasts ranging from five to 20 degrees above normal. This west-wide heat wave significantly affected demand for and supply of generation. On August 14 and 15, 2020, the CAISO was forced to institute rotating electricity outages. On August 14, the CAISO ordered two phases of controlled load shed of 500 MW each, based on a *pro-rata* share across the CAISO footprint for distribution utility companies. On August 15, the CAISO ordered distribution utility operators to execute about 500 MW of controlled load shed on their respective distribution systems.

From August 16 through 19, the forecast was for excessive heat in California. During this period, various portions of the western region cooled off, and imports increased on those days. The most critical days were Monday, August 17, and Tuesday, August 18, and the CAISO declared Stage 2 Emergencies for both days. However, the CAISO avoided controlled load shed and rotating outages.

On August 16, Governor Newsom declared a State of Emergency¹³ because of the extreme heat wave in California and surrounding western states. The proclamation gave the California Air Resources Board maximum discretion to permit the use of stationary and portable generators and auxiliary ship engines to reduce load and increase generation. On August 17, Governor Newsom issued Executive Order N-74-20,¹⁴ which suspended restrictions on the amount of power facilities could generate, the fuel they could use, and the air quality requirements that prevented facilities from generating additional power during peak demand periods. Because of the conservation messaging and awareness created by the State of Emergency, the state reduced peak demand by as much as 4,000 MW (compared to day-ahead forecasts) on August 17 through 19.

In addition to the extreme heat wave in mid-August, the CAISO footprint experienced another period of high temperatures and demand over the 2020 Labor Day weekend, specifically on Sunday, September 6, and Monday, September 7. Similar to August 17-19, there was considerable conservation from the public, and the CAISO did not need to shed load.

¹³ <https://www.gov.ca.gov/wp-content/uploads/2020/08/8.16.20-Extreme-Heat-Event-proclamation-text.pdf>.

¹⁴ <https://www.gov.ca.gov/wp-content/uploads/2020/08/8.17.20-EO-N-74-20.pdf>.

B. Root Cause Analysis

Following the summer 2020 heat wave events, the CAISO, CPUC, and CEC undertook a root cause analysis of the events leading to the outages. They published a Preliminary Root Cause Analysis on October 6, 2020¹⁵ and a Final Root Cause Analysis on January 13, 2021.¹⁶ The Final Root Cause Analysis identified three major causal factors contributing to the August outages—extreme weather conditions, RA and planning processes, and market practices.¹⁷ In summary, these factors were:

1. *The climate change-induced extreme heat wave across the western United States resulted in demand for electricity exceeding existing electricity resource adequacy (RA) and planning targets.* The extreme heat wave experienced in August 2020 was a 1-in-30 year weather event in California. In addition, because the extreme heat wave extended across the western United States, resources in neighboring areas were also strained.
2. *In transitioning to a reliable, clean, and affordable resource mix, resource-planning targets have not kept pace to ensure sufficient resources that can be relied upon to meet demand in the early evening hours. This made balancing demand and supply more challenging during the extreme heat wave.* The rotating outages both occurred after the gross peak demand period, during the “net demand peak,” which is the peak of demand net of solar and wind generation resources. With today’s new resource mix, behind-the-meter and front-of-meter (utility-scale) solar generation declines in the late afternoon at a faster rate than demand decreases. These changes in the resource mix and the timing of the net peak have increased the challenge of maintaining system reliability, and this amplifies the challenge during an extreme heat wave.

¹⁵ CAISO, CPUC, and CEC, *Preliminary Root Cause Analysis Mid-August 2020 Heat Storm* (Oct. 6, 2020) (Preliminary Root Cause Analysis). The Preliminary Root Cause Analysis is available at <http://www.caiso.com/Documents/Preliminary-Root-Cause-Analysis-Rotating-Outages-August-2020.pdf>.

¹⁶ CAISO, CPUC, and CEC, *Final Root Cause Analysis Mid-August 2020 Extreme Heat Wave* (Jan. 13, 2021) (Final Root Cause Analysis), available at <http://www.caiso.com/Documents/Final-Root-Cause-Analysis-Mid-August-2020-Extreme-Heat-Wave.pdf>.

¹⁷ *Id.* at 3-5.

3. *Some practices in the day-ahead energy market exacerbated the supply challenges under highly stressed conditions.*¹⁸ A subset of energy market practices contributed to the inability to obtain or prioritize energy to serve CAISO load in the day-ahead market that could have otherwise relieved the strained conditions on the CAISO grid on August 14 and 15. The practices that obscured the tight physical supply conditions included under-scheduling of demand in the day-ahead market by LSEs or their scheduling coordinators and convergence bidding reflecting financial supply positions. In addition, the combination of existing real-time scheduling priorities and a previously implemented market enhancement inadvertently caused the CAISO's markets to fail to account for the obscuring effects of under-scheduling and convergence bidding during August's stressed operating conditions.

The Final Root Cause Analysis noted the CAISO, CPUC, and CEC had taken several actions, and were continuing their efforts, to prepare California for extreme heat waves in summer 2021 without having to resort to rotating outages. The Final Root Cause Analysis stated the near-term actions to prepare for summer 2021 included, among other actions:¹⁹

- 1) The CPUC opened an Emergency Reliability Rulemaking proceeding (R.20-11-003) to procure additional resources to meet California's electricity demand in summer 2021. Through this proceeding, the CPUC has already directed the state's three large investor-owned utilities to seek contracts for additional supply-side capacity and has requested proposals for additional demand-side resources that can be available during the net demand peak period (*i.e.*, the hours past the gross peak when solar production is very low or zero) for summer 2021 and summer 2022. The CPUC and parties to the proceeding, including the CAISO, will continue to evaluate proposals and procurement targets for both supply-side and demand-side resources.

¹⁸ The CAISO's DMM also issued a Report on *System and Market Conditions, Issues and Performance: August and September 2020* (DMM Report). The DMM Report is available at: <http://www.caiso.com/Documents/ReportonMarketConditionsIssuesandPerformanceAugustandSeptember2020-Nov242020.pdf>. The DMM Report found "there was no single root cause of the load shedding events occurring on August 14-15." DMM Report at 1. Rather, the load outages "resulted from the combined effect of a series of factors." *Id.* The DMM Report offered several recommendations to address potential resource shortages in future years.

¹⁹ Final Root Cause Analysis at 1-3.

- 2) The CAISO is continuing to perform analysis supporting an increase to the CPUC's RA program procurement targets. Based on the analysis to date, the CAISO recommends that the targets apply to both the gross peak and the critical hour of the net demand peak period during the months of June through October 2021.
- 3) The CAISO is expediting a stakeholder process to consider market rule and practice changes by June 2021 that will ensure the CAISO's market mechanisms accurately reflect the actual balance of supply and demand during stressed operating conditions. This initiative will consider changes that incentivize accurate scheduling in the day-ahead market, appropriate prioritization of export schedules, and evaluate performance incentives and penalties for the RA fleet. The CAISO is also working with stakeholders to ensure the efficient and reliable operation of battery storage resources given the significant amount of new storage that will be on the system next summer and beyond. Through a stakeholder process, the CAISO will pursue changes to its planned outage rules.
- 4) The CPUC is tracking progress on generation and battery storage projects that are currently under construction in California to ensure there are no CPUC-related regulatory barriers that would prevent them from being completed by their targeted online dates. The CAISO will continue to work with developers to address interconnection issues as they arise.
- 5) The CAISO and CEC will coordinate with non-CPUC-jurisdictional entities to encourage additional necessary procurement by such entities.
- 6) The CEC is conducting probabilistic studies that evaluate the loss of load expectation on the California system to determine the amount of capacity that needs to be installed to meet the desired service reliability targets.
- 7) The CAISO, CPUC, and CEC are planning to enhance the efficacy of Flex Alerts to maximize consumer conservation and other demand side efforts during extreme heat events.
- 8) Preparations by the CAISO, CPUC, and CEC are underway to improve advance coordination for contingencies, including communication protocols and development of a contingency plan. The contingency plan will draw from actions taken

statewide under the leadership of the Governor's Office to mitigate the anticipated shortfall from August 17 through 19, 2020.

The proposed tariff amendments arise from the stakeholder initiative referenced in item #3 above as a current action to prepare for summer 2021.²⁰ Also, as referenced in item #3 above, in the CAISO's Resource Adequacy Enhancements stakeholder initiative, the CAISO and stakeholders considered changes to the planned outage rules and rules to ensure the availability of storage resources providing RA Capacity during periods of extreme need. On March 29, 2021, the CAISO made a Section 205 tariff amendment filing in Docket No. ER21-1551-000 to implement these RA-related enhancements.²¹

C. Market Enhancements for Summer 2021 Readiness Stakeholder Initiative

1. Stakeholder Process

On January 5, 2021, the CAISO formally commenced the Market Enhancements for Summer 2021 Readiness initiative by posting a presentation

²⁰ The Final Root Cause Analysis identifies other market rule enhancements the CAISO is considering in separate stakeholder processes, as well as CAISO, CPUC, and CEC efforts regarding resource planning and development, situational awareness, and contingency planning. Final Root Cause Analysis at 71-76. Several of these are mid-term and long-term efforts to explore changes that are not implementable by summer 2021. The Market Enhancements for Summer 2021 Readiness initiative focused on rule changes that were feasible and the CAISO could implement by summer 2021.

²¹ The CAISO also has been an active participant in the CPUC's Emergency Reliability Rulemaking proceeding referenced in the Final Root Cause Analysis. See *Order Instituting Rulemaking to establish Policies, Processes, and Rules to Ensure Reliable Electric Service in California in the Event of an Extreme Weather Event in 2021*, Rulemaking 20-11-003 (Filed Nov. 19, 2020). The CAISO recommended, *inter alia*, the CPUC take the following actions: (1) increase the planning reserve margin from 15 percent to 17.5 percent for the months of June through October 2021, (2) authorize incremental import procurement, (3) fund the Flex Alert paid advertising program, and (4) adopt an Emergency Load Reduction Program (ELRP) in addition to the RA program to provide insurance value during stressed system conditions. On February 11, 2021, the CPUC issued its first decision (Decision 21-02-028) in the proceeding authorizing the investor owned utilities (IOUs) to contract for (1) incremental capacity from existing power plants through efficiency upgrades, (2) generation at-risk of retirement, (3) incremental energy storage capacity, and (4) firm forward imports. All resources must be deliverable during both the peak and net peak demand periods. On March 25, 2021, the CPUC issued a second decision (1) retaining the existing 15 percent PRM but authorizing incremental procurement by the IOUs to be shown as RA Capacity, which would result in an implied PRM of 17.5 percent for 2021 and 2022, (2) approving funding for a statewide Flex Alert paid media campaign, and (3) approving an ELRP pilot program.

regarding the initiative.²² The CAISO noted the focus of the initiative was on market rules and procedural changes necessary to prepare the CAISO to manage heat events in summer 2021. The CAISO indicated it would file any necessary tariff changes by April, for June 2021 implementation. The presentation identified the initial topics the CAISO identified for consideration in the initiative as:

1. Export and load priorities²³
2. Reliability demand response resource dispatch and real-time price impacts
3. Requirements for storage resources during tight system conditions
4. Cost recovery provisions for hourly block imports during tight system conditions
5. Short term scarcity price enhancements
6. EIM coordination and resource sufficiency test review
7. Other items that can be vetted through stakeholder process and implemented by June 1

On January 6, 2021, the CAISO held a call with stakeholders to discuss the issues it had identified for consideration and the initiative schedule. The CAISO provided stakeholders an opportunity to submit written comments in response to the presentation.²⁴

The CAISO posted a straw proposal on January 25, 2021 and held a call with stakeholders to discuss it on January 26, 2021. The CAISO also held a follow-up call on January 29, 2021. The CAISO provided stakeholders an opportunity to submit written comments on the straw proposal.

The CAISO discussed its proposals at a Market Surveillance Committee (MSC) meeting on February 11, 2021. The CAISO posted a draft final proposal and an initial draft of proposed tariff language on February 18, 2021. The CAISO held a stakeholder call to discuss the draft final proposal on February 22, 2021

²² The record of the CAISO's Market Enhancements for Summer 2021 Readiness initiative, including all documents posted by the CAISO and submitted by stakeholders, is available at <https://stakeholdercenter.caiso.com/StakeholderInitiatives/Market-enhancements-for-summer-2021-readiness>.

²³ During the stakeholder process, the CAISO severed consideration of the load, export, and wheeling through issues from the changes that were part of the CAISO's March 26, 2021 tariff amendment filing in Docket No. ER21-1536-000.

²⁴ The CAISO held a workshop on January 12, 2021 to discuss load and export priorities, as discussed in more detail in the next section of this transmittal letter, and a second workshop on January 13, 2021 to discuss EIM coordination and the resource sufficiency evaluation.

and a separate call to discuss the draft tariff language and business requirements associated with the proposed changes on February 26, 2021. The CAISO provided stakeholders an opportunity to submit written comments on both the draft final proposal and the draft tariff language. The CAISO posted revised tariff language on March 10, 2021 and held a call with stakeholders on March 18, 2021.

The CAISO posted a Final Proposal (and draft tariff language) on March 19, 2021 that included several revisions to the load, export, and wheeling priorities reflected in its Draft Final Proposal. Stakeholders had an opportunity to provide written comments on the Final Proposal. The CAISO posted revised tariff language on April 8, 2021. Based on stakeholder feedback and its own review, the CAISO posted a Revised Final Proposal on April 14, 2021.²⁵ The CAISO held a stakeholder call on April 14, 2021 to discuss the revisions to its Final Proposal and a stakeholder call on April 19, 2021 to discuss the revised tariff language.²⁶ The CAISO posted further revised tariff language on April 20, 2021.

At its April 21, 2021 meeting, the CAISO Board of Governors authorized the CAISO to file the tariff revisions in this filing.²⁷

2. Workshop on Load and Export Priorities

The CAISO recognizes its market functions in the broader western interconnection and seeks to ensure it will deliver exports comparable to other western BAAs. To understand other BAAs' practices better, the CAISO conducted a stakeholder workshop on January 12, 2021 to discuss its market's priorities for serving load relative to export schedules and other BAAs' practices. Idaho Power Company (Idaho Power) shared its practices as a representation of the general practices across the western interconnection.²⁸ Based on the Idaho Power presentation and accompanying discussion, other BAAs decide whether to honor export schedules relative to serving their own load depending on

²⁵ The Revised Final Proposal is Attachment G to this filing.

²⁶ The CAISO also provided stakeholders an opportunity to submit written comments on the revised tariff language.

²⁷ CAISO Management's Memorandum and Presentation to the CAISO Board regarding the Decision on Market Enhancements for Summer 2021 Readiness – Load, Export, and Wheeling Priorities are included in Attachment H hereto.

²⁸ Idaho Power, Export and Load Scheduling presentation at the CAISO workshop (Jan. 12, 2021) (Idaho Power Slide Presentation), available at: <http://www.caiso.com/InitiativeDocuments/IdahoPowerPresentation-MarketEnhancements-Summer2021Readiness-Jan122021Workshop.pdf>.

whether the situation involves transmission limitations or an energy shortage.²⁹ As Idaho Power stressed, energy priorities are “separate” from transmission priorities, and transmission priority does not dictate energy priority.³⁰ A transmission provider’s open access transmission tariff (OATT) determines its transmission priorities, but power supply contracts establish energy priorities. A transmission provider’s open access tariff may also reserve capacity for native load.

Based on the discussions at the working group meeting, the CAISO understands if transmission is constrained, other BAAs will curtail schedules in reservation priority order, including transmission schedules supporting exports from the BAA, to resolve the transmission constraint. These curtailments generally occur in NERC transmission reservation priority order, under the BAA’s OATT. BAAs curtail deliveries on non-firm transmission service before deliveries on firm transmission service, which BAAs curtail last. Accordingly, export transmission schedules are subject to potential curtailment depending upon the transmission service priority the export utilizes.

At the working group meeting, Idaho Power indicated that if the BAA’s load serving function has sold power firm power to an out-of-BAA entity from its own resources and an energy shortage occurs, its general practice is not seek to interrupt the power delivery, although the contract may allow it.³¹ For example, the terms of the Western Systems Power Pool (WSPP) Agreement provides for interruptions to “Firm Capacity/Energy Sale or Exchange Service” for reliability or service to native load.³² One consideration is that interrupting the export could

²⁹ See *id.* The CAISO understands practices regarding energy firmness are generally not documented in other BAAs’ OATTs because they pertain to energy sales priorities, not transmission curtailment priorities.

³⁰ Idaho Power Slide Presentation, at slide 2.

³¹ A key to making this work is ensuring that any sales are solely from identified surplus capacity. Thus BAAs have robust internal processes to determine what resources are needed to serve native load and what surplus resources they might undesignated to sell in the bilateral market on a daily basis. See *id.*, at slides 7- 8. BAAs can recall non-firm energy for any reason. *Id.*, at slide 9.

³² Service Schedule C, Section c-3.7, of the WSPP Agreement provides in relevant part that, “Firm Capacity/Energy Sale or Exchange Service shall be interruptible only if the interruption is: (a) within any recall time or allowed by other applicable provisions governing interruptions of service under this Service Schedule, as may be mutually agreed to by the Seller and the Purchaser, (b) due to an Uncontrollable Force as provided in Section 10 of this Agreement; or (c) where applicable, to meet Seller’s public utility or statutory obligations to its customers; provided, however, this paragraph (c) shall not be used to allow interruptions for reasons other than reliability of service to native load.” The WSPP Agreement can be found at: https://www.wspp.org/pages/documents/07_28_20_current_effective_agreement.pdf.

harm the receiving BAA and potentially cause cascading outages across other BAAs, particularly if the energy shortage affects the larger western footprint.³³

Similarly, the working group discussions indicated that during an energy shortage (as opposed to a reliability or transmission problem) BAAs generally will not interrupt exports from third-party, non-affiliated generators not committed to serve the BAA's own load because the BAA does not have rights to that generator's capacity. One exception was if, in real-time, the third-party generator supporting an export is not generating (e.g., due to forced outage) or is under-generating compared to its transmission exporting schedule, the BAA may curtail the schedules to a level commensurate with generator production to avoid exacerbating the energy shortage and associated imbalance.³⁴

3. Market Surveillance Committee Opinion

On April 16, 2021, the CAISO's MSC issued an Opinion on Market Enhancements for Summer 2021 Readiness (MSC Opinion).³⁵ The MSC Opinion recognizes that in August 2020, prioritization among classes of exports and CAISO load may have contributed to the need for the CAISO to curtail internal loads.³⁶

The MSC Opinion recognizes one general challenge the CAISO faces is to provide a reasonable framework for external BAAs to use the CAISO transmission system during extreme operating conditions despite not having requested or paid for firm transmission service on the CAISO system, within a CAISO transmission pricing design that does not provide for such payments.³⁷ Other than the carve-out for Existing Transmission Contracts (ETCs) and Transmission Ownership Rights (TORs), the CAISO system has never had a process for identifying and allocating ATC between native load and firm transmission service for use by other BAAs outside of the day-ahead and real-time market processes.³⁸ Moreover, the CAISO design does not establish a framework for defining a CBM, a measure often used in determining ATC.³⁹

³³ Additionally, harm might come to a supplier's reputation if it interrupts firm power export contracts because the purchaser may not be willing to contract in the future if the supplier does not honor the export.

³⁴ See Idaho Power Slide Presentation, at slide 10.

³⁵ The CAISO includes the MSC Opinion in Attachment I to this filing.

³⁶ *Id.* at 2.

³⁷ *Id.* at 5.

³⁸ *Id.*

³⁹ *Id.*

The MSC Opinion indicates a contributing factor to the stressed system conditions during the August heat wave was the relatively high level of exports that cleared the day-ahead market and, thus, received a priority above real-time CAISO load.⁴⁰ The MSC Opinion notes that an “appreciable portion of these exports were not explicitly supported by non-RA resources within the CAISO.”⁴¹

The MSC acknowledges the CAISO’s proposal to give exports clearing the day-ahead market, but not supported by designated, contracted for internal resources, a priority lower than CAISO load in the real-time market will ensure RA Capacity is not used to support exports when the system is under stress and there is insufficient supply to meet both CAISO load and exports.⁴² The MSC states this change reduces the possibility the CAISO will shed load while simultaneously allowing internal RA resources support to support export transactions.⁴³

The MSC Opinion also discusses the CAISO’s efforts to establish rules to ensure capacity backing high-priority non-recallable exports is contracted solely to an external entity and available and capable of supporting the export in real-time. The MSC notes the CAISO considered several approaches to validate the non-RA Capacity backing high-priority non-recallable export, but concluded it could not implement the systems and processes necessary to do this by summer 2021.⁴⁴ Thus, mechanisms the CAISO proposes to ensure the viability and availability of the capacity designated to support high-priority non-recallable exports include: (1) requiring capacity identified to support such transactions participate in the RUC process, (2) requiring that if the capacity supporting the export does not receive a RUC schedule, the scheduling coordinator must rebid the resource in the real-time market in order for the export to retain its high-priority non-recallable status; and (3) requiring the scheduling coordinators for the non-RA Capacity supporting such exports confirm they have sold the capacity only to an external entity and the resource’s forecast or dispatchable output is sufficient to support the full amount of the export schedule.⁴⁵

The MSC concludes these requirements should eliminate the potential for capacity sold to CAISO LSEs to support significant levels of exports to other

⁴⁰ *Id.* at 2.

⁴¹ *Id.*

⁴² *Id.* at 8.

⁴³ *Id.*

⁴⁴ *Id.*

⁴⁵ *Id.*

BAAs during extreme operating conditions, as appeared to happen during the August and September heat waves.⁴⁶ Further, they can help avoid the potential double counting of capacity committed to support both native load and an export.⁴⁷ The MSC also believes the RUC and real-time participation requirements will ensure there is a *real* resource able to support the export. The MSC deems this an important “reality check” that has not been in place up until now.⁴⁸

The MSC Opinion also discusses the CAISO’s proposal to establish two categories of wheeling through self-schedules and the process it will conduct after the HASP to allocate capacity *pro rata*. The MSC notes that during stressed conditions native load and wheeling through self-schedules can compete for constrained transmission capacity not only on the interties into California but also on internal CAISO transmission paths. For example, transmission constraints such as Path 26 can limit the CAISO’s ability to accommodate wheeling through self-schedules without shedding native load.⁴⁹

The MSC also identifies other important facts regarding CAISO transmission service. For example, the CAISO tariff does not provide for the advance purchase of transmission service and does not have separate firm and non-firm transmission services. Instead, the CAISO charges for transmission usage by internal and external load on a per megawatt hour basis.⁵⁰ Further, the CAISO has never calculated ATC that accounts for the transmission reserved across CAISO’s system to accommodate RA imports serving a LSE’s native load or calculated a CBM. Although these CAISO transmission service features have not caused issues, the MSC recognizes that in summer 2021 external BAAs may seek to use wheeling through transactions during high load conditions more than they previously have.⁵¹

The MSC states that ideally the total ATC the CAISO potentially could assign to priority wheeling through transactions would be limited to the network capacity available after setting aside the RA transmission needs of CAISO LSEs.⁵² The MSC notes there currently is no such process in place but suggests

⁴⁶ *Id.*

⁴⁷ *Id.*

⁴⁸ *Id.*

⁴⁹ *Id.* at 10.

⁵⁰ *Id.*

⁵¹ *Id.* at 13.

⁵² *Id.*

one ad-hoc approach could simply limit available capacity to the difference between current transmission capacity and the amount of transmission needed to accommodate RA imports.⁵³ The MSC believes a relevant consideration is whether the *magnitude* of RA requirements, and related transmission needs, are a reasonable interim measure of native load transmission requirements.⁵⁴

The MSC notes external LSEs must already meet a different set of criteria than internal CAISO LSEs to qualify for an allocation of CRRs, the main form of transmission rights in the CAISO system.⁵⁵ The MSC states that these requirements, which include prepaying wheeling access charges for the amount of MWs of CRRs nominated, are more extensive than the interim measures the CAISO is proposing for wheeling through self-schedules to have a priority equal to CAISO native load.⁵⁶

The MSC Opinion finds the CAISO's proposed conditions for priority wheeling through status are essentially an ad-hoc method of identifying existing transmission needs for external entities seeking to undertake firm wheeling through transactions absent any advance firm transmission service procurement framework. It is a short-term measure intended to accommodate neighboring BAAs who are relying on access to the CAISO system for their reliability needs this coming summer.⁵⁷ Although the MSC believes "the CAISO should do everything within reason to accommodate these needs, it also needs to balance those needs with those of its own internal load."⁵⁸ The MSC concludes the CAISO's proposal for high-priority wheeling through status would enable third-party use of the CAISO transmission system while hopefully maintaining the CAISO's ability to use its transmission system to meet network load using its designated RA Capacity resources.⁵⁹ The MSC opines that although the CAISO has not explicitly calculated ATC on each intertie taking into account RA import entitlements and a CBM, retaining capacity to deliver power from designated capacity resources to meet network load is a very conservative definition of the

53 *Id.*

54 *Id.* at 15.

55 See existing tariff section 36.9.

56 *Id.*

57 *Id.* at 16.

58 *Id.*

59 *Id.*

highest priority entitlement to use of the transmission system.⁶⁰ The MSC finds the CAISO's RA requirements are a minimal measure of the entitlement of CAISO load to the use of the CAISO transmission system. Thus, it views practices seeking to ensure resources procured for RA purposes can reach CAISO load as attempts to honor existing transmission commitments, not as discriminating against wholesale transactions.⁶¹

The MSC states that, under the CAISO's proposal, access to CAISO's transmission network would continue to be more generous and open than that found in other western BAAs.⁶² The MSC acknowledges that even with the proposed changes, high-priority wheeling transactions allowed this summer combined with the capacity the CAISO needs for RA imports could exceed the CAISOs transfer capability during some periods. The MSC notes high-priority wheels will have the equivalent of firm access under "pay as you go" terms.⁶³ The MSC believes that to the extent the capacity available to high-priority wheeling through self-schedules exceeds what an objective measure of the ATC that otherwise would have made available for sale, the CAISO will have gone beyond its obligations under open access principles.⁶⁴

D. Current CAISO Market Scheduling Priorities for Exports, Load, and Wheeling Through Transactions

The CAISO's current market scheduling priorities provide context for the changes the CAISO proposes. Scheduling coordinators may self-schedule load, exports, and/or wheels in the CAISO markets. The CAISO has only one category of transmission not associated with existing rights – new firm use.⁶⁵ The CAISO does not require transmission reservations to manage the priority of schedules to address system constraints. Instead, the CAISO manages schedules on its grid through the day-ahead and real-time markets and applies scheduling priorities defined in its tariff to curtail self-schedules (*i.e.*, price taker bids) in its markets.⁶⁶ The CAISO markets honor these self-schedules if there is

⁶⁰ *Id.*, citing April 2, 2021 Comments of Morgan Stanley Capital Group, available at: <https://stakeholdercenter.caiso.com/Comments/AllComments/10a75479-324d-491f-b688-16d98711e742#org4fd4c237-ed7f-4712-b23b-4074ad417d0e>.

⁶¹ *Id.*

⁶² *Id.*

⁶³ *Id.*

⁶⁴ *Id.* at 17.

⁶⁵ Existing tariff section 23.

⁶⁶ The scheduling priorities in the day-ahead market are specified in CAISO tariff section 31.4, and the scheduling priorities for the real-time market are specified in CAISO tariff section

sufficient generation and transmission capacity to support them. If there is insufficient supply or binding transmission constraints, the CAISO markets will curtail self-schedules to clear the market. The market software determines the priority order in which the various self-schedules are curtailed using market parameters known as “penalty prices.”⁶⁷ These penalty prices are set to specific values to (1) determine the conditions under which the market may relax a constraint may be relaxed or curtail a self-schedule and (2) establish the market prices when these events happen.⁶⁸

In the day-ahead market, self-schedule curtailments can also occur in the RUC process after the day-ahead IFM runs. The RUC process is necessary if the total amount of load scheduled in the day-ahead market does not meet the CAISO’s load forecast. Essentially it is a backstop that allows the CAISO to meet its reliability requirements.⁶⁹ The RUC process ensures there is sufficient physical supply to meet the CAISO forecast of CAISO demand. Under normal circumstances, the RUC process commits additional capacity to ensure there are sufficient resources available to serve load in real-time. When there is insufficient capacity, the RUC process either curtails IFM export schedules or, at the extreme, does not schedule sufficient supply to meet the CAISO BAA’s load forecast. The RUC process determines what portion of the day-ahead schedules are physically feasible based on power balance and intertie constraints.⁷⁰

In the day-ahead market, the scheduling priority of exports relative to load depends on whether the exporting scheduling coordinator designates a resource with non-RA Capacity as supporting the export. Export self-schedules supported by non-RA Capacity, *i.e.*, high-priority non-recallable exports, have a scheduling priority equal to CAISO self-scheduled load in the IFM and the CAISO load forecast in RUC.⁷¹ Export self-schedules that do not identify non-RA Capacity supporting the export, *i.e.*, a low-priority recallable exports, have a lower scheduling priority than CAISO self-scheduled load and demand forecast.⁷² Thus, if there is insufficient supply or binding transmission constraints, these low-priority recallable exports will only clear if there is sufficient supply to first serve

34.12.

⁶⁷ Although self-schedules with the same scheduling priority may be designated the same penalty prices, they may or may not be curtailed equally due to congestion, loss factors, or for other reasons.

⁶⁸ See existing tariff section 27.4.3 *et seq.*; see also business practice manual for market operations, section 6.6.5.

⁶⁹ *Cal. Indep. Sys. Operator Corp.*, 116 FERC ¶ 61,274, at P 129 (2006).

⁷⁰ Existing tariff sections 31.5.4-31.5.5.

⁷¹ Existing tariff section 31.4 (e).

⁷² Existing tariff section 31.4 (f).

self-scheduled CAISO load in the IFM or demand forecast and high-priority recallable exports in the RUC process. This ensures CAISO does not use RA Capacity to support exports when it need the capacity to serve CAISO load. Finally, if there is sufficient supply to clear all self-scheduled day-ahead export and load self-schedules, the market will consider economic load and export bids.

The CAISO uses a validation process to ensure a resource supporting a high-priority non-recallable export is eligible for designation. When a scheduling coordinator submits a high-priority non-recallable export, it provides the self-schedule MW amount and identifies a supporting resource. The CAISO validates the designated resource has sufficient non-RA supply participating in the market to support the export by comparing the resource's upper economic limit (*i.e.*, the highest operating level in the resource's energy bid) to the resource's designated RA Capacity. Any MW quantity exceeding the designated resource's available non-RA Capacity has a low-priority recallable export priority. This validation only occurs in the day-ahead market; if RUC schedules the non-RA Capacity, the CAISO does not re-verify it because all RUC exports receive the same real-time priority.⁷³ In addition, the validation process does not consider outages, commitment status, or deliverability of the designated resource.

If export and load self-schedules and economic bids clear in the IFM and are deemed physically feasible in the RUC process, they receive the highest level of priority (including over CAISO real-time load) when self-scheduled in the real-time market.⁷⁴ The market respects that high priority in real-time regardless

⁷³ Existing tariff section 34.12.1. The CAISO verifies if non-RA Capacity is supporting incremental high-priority non-recallable exports submitted in the real-time market above the designated resource's RUC schedule.

⁷⁴ During the August heat wave, any export cleared in the IFM received higher scheduling priority than CAISO load in the real-time market. Following the August heat events, the CAISO reviewed and changed its scheduling and tagging processes documented in a business practice manual because they did not appropriately account for the CAISO load forecast relative to IFM schedules, particularly the amount of virtual supply scheduled in the IFM. This caused the scheduling and tagging processes erroneously to determine the system could physically support more exports than it actually could. The CAISO implemented an emergency business practice manual change on September 5, 2020 modifying its process to give this high scheduling priority only to day-ahead exports determined to be physically feasible in the RUC process. Thus, exports scheduled in the IFM, but curtailed in the RUC process, now have a lower scheduling priority than CAISO load in the real-time market. Specifically, the CAISO changed two rules in the CAISO business practice manual to resolve this issue. First, the CAISO clarified the RUC process will use schedules from the scheduling run instead of schedules from the pricing run. The CAISO determined it is more effective to use the RUC's scheduling run to reflect export curtailments correctly. Second, the CAISO clarified it will use RUC schedules for exports, instead of IFM schedules, to determine the day-ahead export amounts that can be tagged, and if not re-bid in, inserted as self-schedules into the real-time market. That is, the RUC schedule would determine the quantity market participants should tag when they submit the export e-Tag in the

of what priority the export had in the day-ahead market (*i.e.*, high-priority non-recallable export, low-priority recallable export, economic bid). Effectively, this means the CAISO's market parameters prioritize the delivery of exports deemed physically feasible from the day-ahead market even if in that interval CAISO determines it must use its RA Capacity to avoid shedding load because system conditions have changed.

Scheduling coordinators can submit incremental self-scheduled exports in the real-time market besides any day-ahead schedule. If these real-time self-scheduled exports designate supporting non-RA Capacity, they receive equal priority to CAISO load in real-time and a priority higher than any new low-priority recallable exports submitted in real-time (but lower than feasible day-ahead exports). Consistent with day-ahead market priorities, the tariff accords new low-priority recallable export schedules in the real-time market a priority higher than any economic export bids.

Besides self-scheduling load and exports, scheduling coordinators can also self-schedule wheeling transactions through the CAISO system.⁷⁵ Wheeling through self-schedules consist of both an import self-schedule and an export self-schedule and can occur between any two intertie points.⁷⁶ The CAISO maintains a market constraint to ensure wheeling through transactions remain balanced (*i.e.*, the import quantity equals the export quantity).⁷⁷ This constraint respects the penalty factors associated with curtailing both the import self-schedule and the export self-schedule. These penalty factors are additive. Combining the penalty factors specified in the business practice manual provide self-scheduled wheeling through transactions a higher scheduling priority in the market than both high-priority non-recallable exports and serving internal CAISO load. The CAISO tariff does not specify priorities for self-scheduled wheeling through transactions.⁷⁸ The higher priority the CAISO currently provides wheeling through self-schedules arises solely from applying parameters in the market software.⁷⁹

day-ahead timeframe. Business practice manual for market operations, sections 6.7.4.1 and 7.1.6.

⁷⁵ Existing tariff section 30.5.4.

⁷⁶ *Id.*

⁷⁷ Business practice manual for market operations, section 2.5.2.2.

⁷⁸ See existing tariff sections 31.4 and 34.12.

⁷⁹ Contemporaneous with this tariff amendment filing, the CAISO is proceeding to change its business practice manuals to set CAISO market parameters so all wheeling through self-schedules will have the same priority as serving CAISO load. Given tight supply conditions in the Western Interconnection, this business practice manual change does not eliminate the critical need for the tariff revisions proposed in this filing establishing two categories of wheeling through

Scheduling coordinators can also submit wheeling through transactions using economic bids, with both the import and export legs providing economic bids.⁸⁰ If there is sufficient supply to support all self-schedules, wheeling through transactions and exports with economic bids compete for the remaining transmission capacity.

E. Need for Tariff Revisions

Based on its analysis of the August heat wave events, findings in the Preliminary and Final Root Cause Analyses and DMM Report, and extensive discussions with stakeholders, the CAISO determined it is appropriate to modify the priorities the CAISO market places on serving CAISO BAA load relative to self-scheduled exports from, and wheeling through schedules across, the CAISO BAA.

The Preliminary Root Cause Analysis recommended the CAISO:

- Continue to review and clarify through changes to its tariffs and business practice manuals the existing rules for scheduling priorities and protection of internal and external schedules
- Ensure that market processes appropriately curtail lower-priority exports not supported by non-RA resources to minimize the export of RA Capacity during reliability events.

⁸¹

The Final Root Cause Analysis similarly recommended the CAISO stakeholder process consider changes that incentivize “appropriate prioritization of export schedules.”⁸² The Final Root Cause Analysis acknowledged the business practice manual changes the CAISO implemented on September 5, 2020 to address export-related problems with the RUC process, but recognized the CAISO had initiated a stakeholder process “to consider additional necessary

transactions (and related revisions). If the Commission approves these proposed tariff revisions, the CAISO will modify its business practice manual to specify that only Priority Wheeling Through transactions will have the same priority as CAISO load. Non-Priority Wheeling Through transactions will have lower priority than CAISO load, as discussed in this filing.

⁸⁰ Existing tariff section 30.5.4.

⁸¹ Preliminary Root Cause Analysis at 66.

⁸² Final Root Cause Analysis at 70.

changes to its management of export schedules.”⁸³ Both the Preliminary Root Cause Analysis and the Final Root Cause Analysis identified a problem with the market processes erroneously signaling that more exports were physically supportable than actually were.⁸⁴

The DMM Report found one of the contributing factors to the August load shedding was the self-scheduling of relatively large volumes of exports in the day-ahead market not backed by imports being wheeled-through the CAISO system or with contracts for capacity with internal CAISO resources.⁸⁵ The DMM Report noted (1) this increased the overall demand the CAISO’s day-ahead and real-time markets had to meet because the RUC process passed exports not supported by real supply into the real-time market, and (2) these export schedules were not curtailed in the real-time during the hours the CAISO curtailed internal load.⁸⁶ The DMM Report recognized the CAISO’s policy is to prioritize exports not backed by specific resources, but which receive RUC awards, over native CAISO BAA load.⁸⁷ The DMM Report noted this policy exposes the CAISO BAA to the risk of cutting native load when conditions change between the day-ahead time frame and real-time, and when there would have been sufficient RA Capacity to avoid cutting CAISO native load had the CAISO not committed capacity to exports in the day-ahead time frame.⁸⁸

The DMM Report recommended the CAISO pursue rule changes to limit or curtail exports consistent with recommendations in the Preliminary Root Cause Analysis. Specifically, the DMM Report concluded the CAISO should ensure market processes appropriately curtail lower-priority exports not supported by non-RA Capacity resources to minimize the export of capacity associated with RA resources during reliability events.⁸⁹ DMM recognized the CAISO’s current policy is to prioritize exports receiving RUC awards over native CAISO BAA load in real-time and “appreciated that curtailment of exports should be avoided when possible” given the potentially detrimental effects on other

⁸³ *Id.* at 63.

⁸⁴ *Id.*; Preliminary Root Cause Analysis at 57-58.

⁸⁵ DMM Report at 2. The DMM Report shows that in each of the hours the CAISO shed load, there were close to 3,000 MW of HASP export schedules that were not backed by designated capacity, but received a real-time scheduling priority above CAISO native load simply because they cleared the IFM. *Id.* at 46-47.

⁸⁶ *Id.*

⁸⁷ *Id.* at 70.

⁸⁸ *Id.* at 70-71.

⁸⁹ *Id.* at 4, 67-68, citing Preliminary Root Cause Analysis at 66.

BAAs. However, DMM concluded changes to the market rules are necessary to address the export issues identified in the Preliminary Root Cause Analysis and its report.⁹⁰

During the underlying stakeholder process, the CAISO and stakeholders identified other problems arising from the CAISO's treatment of exports and wheeling through transactions. For example, several stakeholders stressed that, to address the concerns identified in the joint root cause analyses, schedules not backed by contracted supply should not have a priority higher than internal load in real-time.⁹¹ Stakeholders stated quantities under contract with a CAISO LSE for a month, but not shown on a RA Plan for that month, should not be permitted to support high-priority non-recallable exports.⁹² Stakeholders also noted that during the August 2020 load shed events, capacity CAISO LSEs had procured above resources' net qualifying capacity (NQC) supported cleared exports, but LSEs could not show this capacity as RA Capacity in their RA Plans. These stakeholders argued such capacity, which is subject to a must-offer obligation, should be ineligible to support a high-priority non-recallable export.⁹³ Stakeholders also objected that the CAISO supports and enables priority exports even though if the resources backing such exports do not perform in real-time (e.g., due to forced outage, derates, or units meeting their use-limitations). They noted the CAISO's market rules allow the CAISO's pool of system resources (including RA Capacity) to serve exports instead of serving internal load during tight conditions. They argued the CAISO should prevent resources from backing high-priority non-recallable exports for quantities exceeding what the resource actually can produce.⁹⁴ Finally, stakeholders expressed concern that resources with undeliverable capacity (e.g., an energy-only resource in a generation pocket) can support a high-priority non-recallable export, noting this can cause the market to commit RA Capacity to support the export if the scheduled energy does not materialize. This can prevent RA Capacity from serving internal load during shortage conditions.⁹⁵

⁹⁰ *Id.* at 5.

⁹¹ See Comments of CPUC – Energy Division and Pacific Gas and Electric Company (PG&E) on January 12 Load and Export Scheduling Workshop; Comments of DMM, Southern California Edison Company (SCE), San Diego Gas & Electric Company (SDG&E), and the CPUC Staff on Summer 2021 Readiness Straw Proposal.

⁹² See, e.g., Comments of PG&E and the CPUC – Energy Division, on Straw Proposal; Comments of the CPUC – Energy Division on January 12 Load and Export Scheduling Priorities Workshop.

⁹³ See, e.g., Comments of SDG&E and SCE on Straw Proposal.

⁹⁴ See Comments of PG&E on January 12 Load and Export Scheduling Workshop; Comments of SCE on Straw Proposal.

⁹⁵ See Comments of PG&E on January 12 Load and Export Scheduling Workshop;

During the stakeholder process, stakeholders also noted that unlike load and export priorities, the CAISO tariff did not explicitly specify any scheduling priority for wheeling through transactions in the day-ahead and real-time market optimization processes. The CAISO acknowledged that, in practice, it was providing self-scheduled wheeling through transactions a priority higher than self-scheduled internal load through application of parameters in the market software. Numerous stakeholders objected to this practice. They argued (1) there was no policy (or tariff) basis to grant self-scheduled wheeling through transactions a higher priority than self-scheduled internal load, (2) wheeling through transactions, unlike internal load, have no long-term commitment to pay the costs of the CAISO grid, and (3) the practice could block internal RA resources from serving CAISO load during emergency conditions.⁹⁶ Stakeholders also argued the priority the CAISO was according wheeling through transactions was contrary to the native load priority and treatment of network resources under Order No. 888 and its progeny.⁹⁷ DMM stressed that self-scheduled wheeling through transactions from Malin to Palo Verde could cause congestion between northern and southern California, potentially displacing internal generation in northern California that bids its marginal cost above \$0/MWh when such generation is need to serve load in southern California.⁹⁸

Finally, discussions with some stakeholders from external BAAs highlighted issues arising when a resource proving both RA Capacity and non-RA Capacity has a derate. These stakeholders sought to ensure a reduced, *pro rata* share of the capacity sold to the external entity could still support a high-priority non-recallable export.

III. PROPOSED TARIFF REVISIONS

The CAISO proposes several changes to the scheduling priorities for internal load, exports, and wheeling through transactions in the day-ahead and

Comments of CPUC Staff and SDG&E on Straw Proposal.

⁹⁶ See, e.g., Comments of PG&E on January 12 Load and Export Scheduling Priorities Workshop; Comments of California Community Choice Association on Draft Final Proposal. For example, PG&E expressed concern that the potential for large price differentials this summer between the Pacific Northwest and the Desert Southwest likely would increase the number of wheeling through transactions, which could block internal RA resources from being dispatched to serve CAISO load during emergencies. Comments of PG&E on January 12 Load and Export Scheduling Priorities Workshop and Draft Final Proposal.

⁹⁷ See, e.g., Comments of the Six Cities on Straw Proposal; Comments of the CPUC – Energy Division on Draft Final Proposal.

⁹⁸ Comments of DMM on Draft Final Proposal.

real-time market optimization processes. Second, the CAISO proposes certain bidding and behavioral rules applicable to resources backing high-priority non-recallable exports. Third, the CAISO proposes tariff clarifications regarding the treatment of resource derates when only a portion of a resource's capacity is RA Capacity. This will facilitate partial RA resources supporting high-priority non-recallable exports. Finally, the CAISO proposes a post-HASP process to reallocate import and internal transmission between Priority Wheeling Through transactions and native load *pro rata* when applying the penalty parameters in the market optimization process fails to allocate transmission capacity proportionally. The CAISO discusses these proposed tariff revisions in greater detail below.

A. Scheduling Priority and Rule Changes for Exports

The CAISO proposes changes to the scheduling priorities for export self-schedules in the real-time market's optimization process and new rules regarding the capacity that can support high-priority non-recallable exports. The proposed changes build on the business practice manual changes the CAISO made on September 5, 2020 to distinguish further high-priority non-recallable exports from low-priority recallable exports and ensure high-priority non-recallable exports are physically and contractually feasible, producing fairer, more reliable market outcomes. The proposed tariff revisions (1) ensure capacity contracted by CAISO LSEs is available to meet CAISO needs in the first instance and (2) ensure market processes appropriately curtail lower-priority exports that are not supported by capacity contracted solely to the exporter or are supported by resources that are unavailable in real-time. The proposed changes also address the concerns raised by the DMM Report by modifying the scheduling priority of exports not supported by contracted-for, non-RA Capacity relative to CAISO internal load, while ensuring exports of available capacity contracted only to serve load outside of the CAISO BAA receive the same priority as the CAISO's internal load.

As discussed above these export-related tariff revisions are severable from the wheeling through priority tariff revisions. Further, from a substantive perspective, each export-related tariff revision is discrete and stands on its own from the other export-related tariff revisions. They are severable from each other and are not interdependent. Commission action on one of these export-related tariff revisions will not affect the justness and reasonableness of the other export-related changes. The Commission should evaluate the justness and reasonableness of each of the proposed export-related tariff revisions on its individual merits. Rejection of any proposed change should not cause the Commission to reject any other proposed tariff revision.

1. Revisions to Real-Time Scheduling Priorities

The CAISO proposes two changes to the scheduling priorities for self-scheduled exports in the real-time market optimization.

a. Low-Priority Recallable Exports Receiving a Day-Ahead Schedule Will Have a Lower Real-Time Market Priority than Serving CAISO Native Load

The CAISO proposes that exports not explicitly backed by capacity designated solely to serve external load (*i.e.*, low-priority recallable exports) receiving a day-ahead market schedule will have a priority lower than serving CAISO load in the real-time optimization.⁹⁹ The CAISO will continue to provide exports explicitly backed by non-RA Capacity designated to serve external load (*i.e.*, high-priority non-recallable exports) equal priority to serving CAISO load in the real-time market.¹⁰⁰ Under current rules, a low-priority recallable export scheduled in the day-ahead market automatically has a priority higher than serving CAISO load in the real-time market based on the export quantity the RUC process finds to be feasible, even if potentially meeting it with RA Capacity. This framework creates the possibility the market will use RA Capacity procured by California LSEs to support low-priority recallable exports.

The CAISO's proposal eliminates this untenable outcome. The proposed change appropriately affords low-priority recallable exports supplied through the market a priority lower than CAISO load in the real-time, ensuring RA Capacity needed to serve CAISO load in tight supply conditions does not instead back low-priority recallable exports. The RUC process in the day-ahead market cannot preclude CAISO RA Capacity from supporting low-priority recallable exports because RUC schedules resources from the entire pool of resources available to it to meet overall demand (which includes forecast CAISO load and exports). Nothing precludes RUC from scheduling low-priority recallable exports even if there is insufficient non-RA Capacity to back them. This contrasts with high-priority non-recallable exports that require support by bids from non-RA Capacity. Despite RUC calculating there is sufficient capacity to support these low-priority recallable exports, however, conditions may change between the day-ahead and real-time markets, and the CAISO may need the RA Capacity to meet CAISO load in the real-time market, even if it did not need capacity in the day-ahead market. The CAISO's proposal ensures that if supply conditions

⁹⁹ Revised tariff section 34.12.1.

¹⁰⁰ Revised tariff section 34.12.1 (a).

become tight in real-time the CAISO can use its RA Capacity to serve internal load, not support exports that failed to secure non-RA Capacity.

The proposed change is foundational to ensure the real-time market will curtail low-priority recallable exports to avoid the export of CAISO RA Capacity during tight system conditions. The proposal 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 CAISO load.¹⁰¹ This aligns with the root cause analysis recommendation that the CAISO “[e]nsure that market process appropriately curtail lower-priority exports that are not supported by non-RA resources to minimize the export of capacity that could be related to RA resources during reliability events.”¹⁰² It also aligns its market rules with Commission precedent that internal demand and exports supported by non-RA Capacity should have a higher priority than exports supported by RA Capacity.¹⁰³ This is appropriate given the capacity payments CAISO LSEs make to RA Capacity in return for them being available when needed by the CAISO.¹⁰⁴ The Commission has acknowledged that exports supported by RA Capacity are not firm sales, but are essentially non-firm, recallable opportunity sales.¹⁰⁵ The CAISO’s proposal is consistent with these findings and will ensure that in tight supply conditions, RA Capacity will serve CAISO load in the first instance.

b. Priority of Low-Priority Recallable Exports Deemed Feasible in RUC and Scheduled in the Real-Time

The CAISO clarifies its tariff to state explicitly that low-priority recallable exports deemed feasible in RUC and self-scheduled into the real-time market will continue to receive higher priority than new low-priority recallable exports bidding in the real-time market.¹⁰⁶ Thus, if there are supply insufficiencies, the CAISO will curtail incremental low-priority recallable exports submitted in the real-time market before low-priority recallable exports backed by a day-ahead RUC schedule.

¹⁰¹ See revised tariff section 34.12.1 (a).

¹⁰² Preliminary Root Cause Analysis at 66.

¹⁰³ *California Indep. Sys. Operator Corp.*, 116 FERC ¶ 61,274, at P 1285, *order on reh’g*, 119 FERC ¶ 61,076 at P 619 (2007).

¹⁰⁴ 116 FERC ¶ 61,274, at P 1285; 119 FERC ¶ 61,076, at P 619.

¹⁰⁵ 119 FERC ¶ 61,076, at P 619.

¹⁰⁶ Revised CAISO tariff sections 34.12.1 (b) and (c).

This encourages forward scheduling of low-priority recallable exports because they will have a higher priority than low-priority recallable exports scheduled in real-time. Encouraging day-ahead scheduling is important because it allows the market more flexibility to ensure there is sufficient on-line supply, such as scheduling additional imports or starting long-start generation.

2. Rule Changes Applicable to High-Priority Non-Recallable Exports

In the stakeholder process, the CAISO considered measures to ensure that during times of stressed system conditions (1) capacity sold to CAISO LSEs is not supporting high-priority exports, and (2) only resources available and capable of meeting their hourly block export schedules are supporting high-priority exports. Today, the CAISO's validation of designated supply does not consider outages, commitment/contractual status, or deliverability. The CAISO assessed several approaches for validating non-RA Capacity to ensure the capacity supporting a high-priority non-recallable export is committed solely to the exporter and has available energy to support the transaction. However, the CAISO realized implementing the necessary validation rules and processes would be extremely complex and concluded it could not implement such rules by summer 2021.

Accordingly, the CAISO proposes other measures that it can implement by summer 2021 to address these gaps in the near-term. These measures include: (1) RUC and real-time market participation requirements to ensure the capacity supporting high-priority non-recallable exports is available through real-time; (2) behavioral rules to ensure designated resources backing high-priority non-recallable exports can physically do so and have only sold the capacity to an external entity, and (3) rules specifying capacity that can support high-priority non-recallable exports. Prior to the market clearing process, the CAISO cannot prevent designated resources from backing high-priority non-recallable exports when they are physically incapable of doing so or have sold the capacity to a CAISO LSE (but which is not shown as RA Capacity) given the timing and status of the CAISO's validation rules and systems. However, after the fact the CAISO can refer to the Commission under CAISO tariff section 37 actions that potentially violate tariff rules or constitute submitting false information. The proposed rules will help ensure that when there is insufficient supply to meet both CAISO load and exports, resources intended to serve CAISO load are not instead enabling exports unsupported by designated capacity. This provides the CAISO greater flexibility to ensure it can recall exports potentially backed by RA Capacity to meet CAISO load.

**a. Only Capacity Sold Solely to an External LSE
Should Back a High-Priority Non-Recallable
Export**

The CAISO proposes tariff revisions whereby scheduling coordinators must confirm that a resource backing a high-priority non-recallable export has sold the capacity only an entity outside of the CAISO BAA. A scheduling coordinator must indicate to the CAISO in advance that its resource has sold capacity to an external LSE, and no CAISO LSE has a right to such capacity.¹⁰⁷ If the resource's scheduling coordinator does not affirmatively indicate this status, the resource cannot be a designated resource for a high-priority recallable export.¹⁰⁸ To the extent practicable, the CAISO will notify a scheduling coordinator hourly that an exporter had designated its resource to support a high-priority non-recallable export for a particular hour.¹⁰⁹ Upon receiving the notice, the scheduling coordinator of the designated resource must notify the CAISO if it is not contractually committed to support such export self-schedule or does not have a reasonable expectation the resource will be available to support the export self-schedule.¹¹⁰

The proposed rules will better ensure capacity from designated resources is only under contract to serve load in another BAA. Capacity under contract to CAISO LSEs should not support a high-priority non-recallable export. The CAISO must rely on these notification and verification types of rules because it cannot develop and implement the systems and processes necessary to validate actual contractual arrangements between exporters and internal resource owners by summer 2021.

Among other objectives, these proposed rules seek to address a gap in the current tariff whereby capacity CAISO LSEs have contracted/paid for under the RA program and other CPUC programs, but which does not meet the literal definition of RA Capacity under the CAISO tariff, can support a high-priority non-

¹⁰⁷ New tariff section 30.5.1(aa). The CAISO intends to create a new Master File flag that the resource scheduling coordinator should select to confirm the capacity designated to support a high-priority non-recallable export satisfies the aforementioned rules. As a default, the CAISO will set the Master File flag to NO, *i.e.*, the resource cannot meet the rules to support a PR export. Thus, the resource's scheduling coordinator must affirmatively select the flag to verify the designated capacity meets the rules applicable to high-priority non-recallable exports. The proposed tariff language provides sufficient flexibility to the CAISO to effectuate this requirement via an alternative workable mechanism other than through the Master File if the CAISO can develop one.

¹⁰⁸ *Id.*

¹⁰⁹ *Id.*

¹¹⁰ *Id.*

recallable export. This can include capacity sold to a CAISO LSE under a RA contract that a LSE does not show on its monthly RA Plan because the LSE is “saving” the capacity potentially to use it as substitute capacity if one of its shown RA resources has an outage (or for some other reason). In addition, it can include capacity sold to a CAISO LSE under a bilateral RA contract above the resource’s NQC, which the RA rules preclude the LSE from showing as RA Capacity in an annual or monthly RA Plan.

CAISO LSEs must submit annual and monthly RA Plans to meet 100 percent of their applicable system, local, and flexible capacity requirements for that month. LSEs do not have to show all of the capacity for which they have contracted in their RA Plans. They are only required to show sufficient capacity to meet their monthly obligations. LSEs do not show all of their procured capacity in their RA Plans for many reasons. The capacity may be on a planned outage for the month or they may be holding the capacity “in reserve” if they need to provide it as substitute capacity if their shown RA resources goes on a planned or forced outage during the month. Further, LSEs may not show procured capacity unnecessary to satisfy their RA obligations because it would subject the capacity to the RA must-offer obligation and potential non-availability charges under the Resource Adequacy Availability Incentive Mechanism (RAAIM). However, under the current tariff rules, the market can use the capacity CAISO LSEs have paid for to back a high-priority non-recallable export because the CAISO cannot validate it as RA Capacity. However, the CAISO cannot change these validation rules and systems by this summer.¹¹¹ The CAISO must instead rely on the proposed notification and verification process and possible after the fact referrals to the Commission, to discourage suppliers from supporting high-priority non-recallable exports with capacity they have sold to a CAISO LSE, but the LSE has not shown on a RA Plan.

A second gap involves situations where CAISO LSEs have procured through bilateral RA contracts capacity from variable energy resources and other availability-limited resource types (e.g., hydro resources) that they cannot show in RA Plans. Variable energy resources and other availability-limited resource types typically have PMax levels that are higher than their NQC capacity for RA purposes. Under current RA counting rules, NQC values for variable energy (e.g., wind and solar) and other (e.g., hydroelectric) resources are determined based on statistical modeling or historical performance, which typically produces a qualifying capacity (QC) well below the PMax values of these resources.¹¹² For

¹¹¹ Further, simply changing the definition of RA Capacity to include this type of capacity would have unintended consequences, including subjecting such capacity to the must-offer obligation and RAAIM.

¹¹² For example, the NQC for wind and solar resources is determined using the Effective

wind and solar resources, QC values reflect the capacity value of different resources relative to “perfect capacity.”¹¹³ This statistical approach results in significant reductions in QC values for wind and solar resources, especially during peak months.

Under the RA rules, even if a LSE has procured the entire capacity of the resource through a bilateral RA contract, it cannot show an amount above the resource’s NQC on its monthly RA Plan, and the supplier cannot show an amount above NQC on its monthly supply plan.¹¹⁴ Thus, a solar resource with a PMax of 100 MW may have only 20 MW of NQC, which is the maximum quantity a LSE can show on a RA Plan and a supplier can show on a supply plan. However, such RA resource may have to submit bids into the CAISO markets for up to 100 MW depending on its forecasted energy during the day.¹¹⁵

Allowing a resource’s scheduling coordinator to designate capacity above the resource’s NQC to support a high-priority non-recallable export under these circumstances is unjustified for several reasons. Although a CAISO LSE cannot show the additional MW of capacity on a RA Plan, the LSE may have contracted for the resource’s entire capacity. Further, under applicable RA counting rules, resource performance both above and below NQC counts toward determining the NQC of the resource for RA counting purposes.

A third gap in the current rules involves CPUC where LSEs make capacity payments to resources and count on such capacity to meet their service obligations, but they do not show the capacity on RA Plans. Under current tariff rules, capacity from these resources can support a high-priority export because it does not meet the tariff definition of RA Capacity even though CAISO LSEs have paid for the capacity to meet their service obligations.

Resources should not be backing high-priority non-recallable exports with capacity sold under bilateral contract to a CAISO LSE that must offer into the CAISO market (even though the LSE does not show the capacity on a monthly RA Plan).¹¹⁶ Absent the proposed rule, the resource owner could double sell

Load Carrying Capability (ELCC) methodology. The CPUC adopted an ELCC to establish QC values for wind and solar resources in 2016. The CPUC’s adopted methodology uses statistical modeling to determine the capacity value of wind and solar resources relative to perfect capacity. See CPUC Decision 17-06-027.

¹¹³ See CPUC Decision 16-06-045. The CAISO translates resources’ QC values into NQC values based on testing and its deliverability studies.

¹¹⁴ Existing tariff sections 40.2.2.4 and 40.4.7.3(a).

¹¹⁵ Existing tariff section 34.1.6.1.

¹¹⁶ The circumstances are comparable to the treatment of resources in other market regions

capacity – without potential consequence – if the capacity supporting a high-priority non-recallable export offered into the CAISO markets overlaps with the RA resource’s capacity already sold to a CAISO LSE.¹¹⁷

The CAISO’s proposal will help ensure capacity sold and dedicated to CAISO LSEs is not used to support a high-priority non-recallable export, even though it is not (and cannot be) shown on a RA Plan in a month. CAISO LSEs have made capacity payments for such capacity, and external LSEs should not have priority use of it.¹¹⁸

The CAISO recognizes its notice and confirmation process is not the optimal approach to remedying this situation, but it is just reasonable and the only feasible solution the CAISO can implement this summer to address the problem. Violations of the proposed rules will be subject to referral to the Commission under CAISO tariff section 37. This should help discourage resources from supporting high-priority non-recallable exports with capacity they have sold to CAISO LSEs.

Some stakeholders suggested early in the stakeholder process that instead of imposing the confirmation obligation on the resource’s scheduling coordinator, the CAISO should consider placing the obligation on the exporter’s scheduling

where the regional transmission organization determines a resource’s RA/Capacity Resource value based on historical performance using an unforced capacity (UCAP) methodology. Such RA/Capacity resources have a must-offer obligation equal to their installed capacity even though their UCAP-determined RA/Capacity values are lower. See *Midwest Indep. Transmission System Operator, Inc.*, 125 FERC ¶ 61,061, at P 119 (2008) (stating is a capacity resource was only required to offer at its unforced capacity level, it could sell the remaining capacity of-system, thus subverting the intent of the planning reserve margin); *Coalition of Midwest Power Producers, Inc. v. Midcontinent Indep. Sys. Operator, Inc.*, 166 FERC ¶ 61,159, at P 6 (2019); *Big Sandy Peaker Plant, et al. v. PJM Interconnection, LLC*, 154 FERC ¶ 61,216 at P 43 n.89 (2016), citing *Duke Energy Corp.*, 151 FERC ¶ 61,208, at P 62 (2015) and *PJM Interconnection, LLC*, 139 FERC ¶ 61,057, at P 205 (2012) (capacity resources must offer energy from all their capacity in the day-ahead market and operate in accordance with PJM dispatch instructions if PJM calls upon them to operate). If a resource could sell the difference between its installed capacity value and its RA Capacity value the market operator would not have the planning reserve margin it calculated, and that would be detrimental to system reliability. 125 FERC ¶ 61,061, at P 119. This recognizes that to achieve performance equal to their UCAP values (and accurately count the reliability value of the resource), these RA/Capacity resources would have to be available 100 percent of the time at their UCAP value otherwise the CAISO would be short of RA Capacity. This also prevents resources that are exempt from RAIM (e.g., variable energy resources) from avoiding the consequences of poor availability by simply contracting to sell their “haircut amount,” i.e., the difference between PMax and NQC, to LSEs in other BAAs.

¹¹⁷ Under section 34.1.6.1 of the CAISO tariff, eligible intermittent resources are obligated to bid up to their forecasted energy levels on a given day, which can exceed the resource’s NQC.

¹¹⁸ See 116 FERC ¶ 61,274, at P 1285.

coordinator. They stated the proposal creates additional steps that might be burdensome, create uncertainty and, if missed, could be problematic.

There is no need to modify the CAISO's proposal. The resource's scheduling coordinator will merely check a flag in the Master File indicating it has sold capacity to an external LSE. Once the scheduling coordinator clicks the flag, the resource can support a high-priority non-recallable export. The scheduling coordinator need not change the flag hourly. If the CAISO subsequently informs the scheduling coordinator its resource is supporting a high-priority non-recallable export, the scheduling coordinator must notify the CAISO only if the resource does not have a contractual commitment, or is unavailable, to support the export. This requirement is reasonable.

Further, the resource's scheduling coordinator, not the exporter's scheduling coordinator, is the appropriate entity to verify this information. The resource's scheduling coordinator is the entity responsible for bidding and scheduling the resource into the CAISO markets. It is best positioned to know all of the resource's contractual commitments (and whether the resource's capacity has been double sold) and whether the resource is available to support the export in real-time. The scheduling coordinator for the exporter does not represent the resource. The exporter's scheduling coordinator is less likely to know all the resource's contractual arrangements or whether the resource has double-sold capacity. In addition, the resource's scheduling coordinator, not the exporter's scheduling coordinator, is the most appropriate entity to notify the CAISO the designated resource is unavailable to support the export. The resource's scheduling coordinator represents the resource and is best positioned to know the resource's availability, the existence of any outages/derates, the unit's current physical capabilities, and the resource's hourly forecasts.

The CAISO intends the proposed confirmation requirement to support a possible referral to the Commission if a resource's scheduling coordinator submits false information to the CAISO. This should discourage scheduling coordinators from confirming their resource can support a high-priority non-recallable export if the resource has sold to a CAISO LSE or the resource is unavailable to back the export in real-time. Mere confirmation by the exporter's scheduling coordinator that the resource sold the capacity to an external LSE is insufficient because the exporter's scheduling coordinator may not know if the resource sold the designated capacity to a CAISO LSE. Any enforcement action under these circumstances more properly pertains to the scheduling coordinator for the resource.

b. Resources Designated to Support High-Priority Non-Recallable Exports Must Be Available and Capable of Sustaining the Export Quantity for the Entire Hour

As indicated above, the CAISO intends to notify the scheduling coordinator for a resource hourly, to the extent practicable, that another entity has designated the resource to support a high-priority non-recallable export. The CAISO proposes to add a tariff rule providing that following such notice the scheduling coordinator for the designated resource and the scheduling coordinator for the export shall ensure the resource designated to support such export self-schedule has sufficient available capacity to support the export quantity throughout the entire hour.¹¹⁹

The proposed tariff language further clarifies that variable energy resources can satisfy this requirement only if their forecasted quantity for each of the four 15-minute intervals at the time of bid submission is for generation equal to or greater than the self-schedule export quantity.¹²⁰ Thus, variable energy resource capacity not contracted by a CAISO LSE can meet this requirement if the resource's forecast can support the export quantity in all 15-minute intervals within the hour. For example, assume the forecast for the hour is: interval 1 is 50 MW, interval 2 is 45 MW, interval 3 is 55 MW and interval 4 is 60 MW. The resource could support a 45 MW high-priority non-recallable export, but it could not support a high-priority non-recallable export for any higher amount.

These proposed rules will require scheduling coordinators for a designated resource and high-priority non-recallable export self-schedule to coordinate and try to ensure the designated resource has sufficient available capacity to support the hourly block schedule. Self-schedule export bids can only clear the day-ahead market and real-time market as a block hourly schedule. However, certain resource types may be unable to sustain their fixed MW quantity over the entire course of a block hourly schedule. Resources unable to sustain their scheduled MW quantity for the entire hourly block should not be supporting a high-priority non-recallable export because, if the designated resource fails to sustain an hourly block schedule, the CAISO will be forced to support the export from system supply to the detriment of CAISO internal load. For example, if the high-priority non-recallable export quantity is 40 MW, and the designated resource is only producing 10 MW, the market software would have

¹¹⁹ New tariff section 30.5.1(aa).

¹²⁰ *Id.*

to find 40 MW to serve the export, which otherwise would serve CAISO load. This is an unjust and unreasonable result. Unfortunately, the CAISO cannot implement any processes and system changes this summer to validate the export quantity against the designated resource's actual production. Instead, the CAISO must rely on the proposed behavioral rule – and the risk of potential referral to the Commission – to discourage such behavior.

c. Only Capacity that Is Deliverable Can Support a High-Priority Non-Recallable Export

The CAISO also proposes that designated capacity supporting a high-priority non-recallable Export must be the deliverable capacity of a resource with Full Capacity Deliverability Status, Partial Capacity Deliverability Status, or Interim Deliverability Status shown on the CAISO's NQC list.¹²¹ The CAISO has performed a deliverability assessment of these resources and determined a portion of their capacity is deliverable to load during peak conditions. Deliverability is a fundamental requirement to provide RA Capacity because there must be sufficient transmission capacity to deliver generators' energy to load during peak conditions.¹²² Interconnection customers requesting deliverability must finance additional delivery network upgrades to ensure their deliverability.¹²³

During the generator interconnection process, studies assess what transmission system upgrades are necessary to ensure deliverability of an interconnecting resource's energy. Resource owners can elect Full Capacity Deliverability Service, Partial Deliverability Capacity Service, or Energy-Only Deliverability Status. Further, the CAISO conducts a deliverability study annually to determine if resources can serve the aggregate of Load during peak periods.¹²⁴ The CAISO incorporates the study results in determining resources' NQC for RA eligibility purposes and posts a list of studied resources' NQC

¹²¹ *Id.*

¹²² See tariff Appendix A, existing definition of "Deliverability Status;" existing Appendix DD, section 6.3.2.

¹²³ See existing tariff Appendix DD, section 6.3.2.1. Energy Only interconnection customers must finance their Reliability Network Upgrades only.

¹²⁴ Existing tariff section 40.4.6.1; existing tariff Appendix AA, section 6.3.2. The deliverability study identifies limiting transmission facilities and then maximizes the output of generation to produce the highest flows on the facility. The study then scales down all generation in the CAISO BAA to balance load and resources.

values.¹²⁵ The deliverability studies identify transmission constraints that generally are expected to constrain generation regardless of where power is scheduled to go.

Undeliverable capacity cannot count as RA Capacity per section 40.4.6.1 of the CAISO tariff. Similarly, undeliverable capacity should be ineligible to support a high-priority non-recallable export because the resource cannot deliver its output from its point of interconnection to the aggregate of load simultaneously given all the other energy the deliverable capacity is transmitting. Simultaneously delivering power out of a constrained generation pocket is a first and necessary step before any resource can move to the second step - exporting their output to an intertie. For example, except in rare circumstances, if all or a portion of a resource's energy from its 115 kV point of interconnection is not deliverable to the 500 kV backbone, it will be unable to support an export. Resources that cannot ensure delivery of energy corresponding to their entire designated capacity supporting a high-priority non-recallable export or sustain an hourly block schedule for the entire hour should not back a high-priority non-recallable export.¹²⁶ If the export has high-priority non-recallable status and the designated resource cannot fully support the export, the CAISO must serve the export self-schedule using capacity intended to serve CAISO internal load. This could cause load shedding in tight conditions.

As with the other behavioral rules discussed above, the CAISO cannot implement validation rules by summer 2021 to ensure undeliverable capacity is not supporting a high-priority non-recallable export. Instead, the CAISO must rely on the proposed behavioral rule and potential after the fact referrals to the Commission. Resources will know whether their capacity (or a portion thereof) is deliverable, and they should not willingly support high-priority non-recallable exports with undeliverable capacity. If they are unable to support the export's hourly block schedule, the CAISO must support the schedule with RA Capacity otherwise designated for use by CAISO LSEs, which is an unjustifiable outcome.

¹²⁵ To the extent the deliverability study shows that the QC of a resource is not deliverable in the aggregate of demand under the conditions studied (focusing on the peak) the QC of a resource will be reduced on a MW basis for the capacity that is undeliverable.

¹²⁶ The proposed requirement is similar to a requirement that an external resource cannot qualify as an installed capacity (*i.e.*, RA) resource if it is located in an export-constrained capacity zone or must traverse other import- or export-constrained capacity zones. See New York Independent System Operator, Inc., Manual 4, section 4.9.3.2(iii).

d. Exports Must Designate a Resource Internal to the CAISO

The CAISO clarifies its tariff to state explicitly that high-priority non-recallable exports designate a resource internal to the CAISO to support the export transaction.¹²⁷ Exporters should not designate an import to support a high-priority non-recallable export. A scheduling coordinator properly should schedule this transaction as a self-schedule wheeling through transaction, which has specific requirements under the CAISO tariff.¹²⁸ This is consistent with the tariff definition and bidding rules for wheeling through transactions.¹²⁹ The proposed tariff provision codifies existing CAISO practice.

e. Designated Resources Supporting a High-Priority Export Must Participate in RUC up to the Export Self-Scheduled Quantity

The CAISO proposes to require designated resources supporting a high-priority non-recallable export to participate in RUC up to the export self-scheduled quantity. If a supporting resource does not receive an IFM schedule equal to or greater than the corresponding high-priority non-recallable export quantity, the supporting resource must submit a RUC availability bid of \$0.00/MWh up to the export self-schedule quantity.¹³⁰ The scheduling coordinator for the designated supporting resource may submit a RUC availability bid higher than \$0.00/MWh for any MW quantities greater than the quantity of the high-priority non-recallable export.

The following example illustrates the CAISO's proposal. Assume a scheduling coordinator submits a 150 MW high-priority non-recallable export self-schedule in the IFM. The designated resource backing the export may submit an economic bid or a self-schedule in the IFM. Assume further the resource backing the high-priority non-recallable export submits a high economic bid in the IFM, which results in the resource having an IFM schedule of 0 MW. Under these circumstances, the CAISO would need to commit an additional 150 MW of physical capacity in RUC to support the high-priority non-recallable export.

¹²⁷ New tariff section 30.5.1(ee).

¹²⁸ Existing tariff section 30.5.4.

¹²⁹ Existing tariff Appendix A defines Wheeling Through as "the use of the CAISO Controlled Grid for the transmission of energy from outside the CAISO Controlled Grid for delivery to a point outside the transmission and Distribution System of a Participating TO." See *also* existing tariff section 30.5.4.

¹³⁰ New tariff section 30.5.1(bb).

Because the IFM schedule of the designated resource is less than the high-priority non-recallable export schedule, to ensure the designated resource clears RUC, it must submit a \$0/MWh RUC availability bid up to the high-priority non-recallable self-schedule amount, *i.e.*, 150 MW. The resource may submit a RUC availability bid higher than \$0/MWh for quantities above 150 MW.¹³¹

In RUC, the CAISO must meet overall demand, which includes both forecasted CAISO load plus high-priority non-recallable exports. The CAISO may need additional physical supply in RUC because the IFM cleared with virtual supply that will be unavailable in real-time, or the IFM cleared load at a MW quantity less than the CAISO's load forecast (which the CAISO must clear in RUC). Because resources bidding into RUC are essentially offering into a pool of resources to satisfy overall demand, requiring the designated resource to participate in RUC ensures RUC will have sufficient RA Capacity and designated resources to clear the CAISO load forecast and high-priority non-callable exports. Requiring the designated resource to submit a \$0/MWh RUC availability bid ensures RUC can access the designated resource if the CAISO needs additional physical capacity. This enables RUC to consider resources backing a high-priority export and RA Capacity supporting CAISO load equally when evaluating the resources needed to meet overall demand (*i.e.*, the CAISO load forecast and high-priority non-recallable exports). In addition, it aligns with the existing requirement for RA Capacity to participate in in RUC and submit \$0/MWh RUC availability bids.¹³² Both resource types have already sold their capacity to a LSE. Allowing such resources to submit a non-\$0/MWH RUC availability bid would essentially cause LSEs to double pay for the capacity by paying for it again in RUC. Further, absent this bidding rule resources designated to support high-priority non-recallable exports could submit high RUC availability bids to avoid being committed in the RUC optimization to serve their share of overall demand (which includes the high-priority non-recallable export). This could inappropriately cause the market to use RA Capacity to support the high-priority non-recallable export rather than the resource designated to support it. The proposed rule ensures the capacity designated to serve the high-priority non-recallable export is committed in the RUC if necessary to meet that export.

f. Real-Time Market Rules for Capacity Backing High-Priority Non-Recallable Exports

¹³¹ The CAISO can use a designated resource's RUC availability bids above the high-priority non-recallable export amount to meet CAISO forecasted load requirement in RUCs. If this "excess" capacity receives a RUC award, the CAISO needs the capacity to meet CAISO load in real-time, and such capacity cannot support a real-time high-priority non-recallable export. The CAISO discusses this requirement in the next sub-section.

¹³² The CAISO may need bid-in RA Capacity to meet its load forecast in RUC.

The CAISO proposes real-time market rules for high-priority non-recallable exports to ensure the resources supporting them are available to the real-time market. First, scheduling coordinators for resources supporting high-priority non-recallable exports must submit real-time energy Bids for a quantity equal to or greater than the MW quantity of the corresponding high-priority non-recallable export.¹³³ If the scheduling coordinator does not submit such a real-time market energy Bid, the export's real-time market scheduling priority will be equivalent to a day-ahead low-priority recallable export¹³⁴ (*i.e.*, lower priority than CAISO load but higher priority than new low-priority recallable exports submitted in the real-time market).

This requirement works in conjunction with the separate requirement that the supporting resource be available and physically capable of backing the high-priority non-recallable export schedule.¹³⁵ If the original resource supporting a high-priority non-recallable export does not submit a bid in the real-time market, the export scheduling coordinator must designate a different eligible resource in the real-time market to maintain the export's high-priority non-recallable status.

The existing tariff does not require a scheduling coordinator to have a supporting resource in the real-time market because all exports receiving a RUC schedule automatically have a scheduling priority higher than load in real-time. Absent the proposed rules requiring designated resources to be available and submit bids in the real-time market, the CAISO might have to use RA Capacity to support the high-priority non-recallable export. The proposed rule ensures actual, designated capacity is available in real-time to back the high-priority non-recallable export.

The CAISO also proposes that if a designated resource clears RUC for more than the high-priority non-recallable export quantity, the cleared quantity above the high-priority non-recallable export amount cannot support a high-priority non-recallable export in real-time.¹³⁶ Such capacity already cleared RUC to serve CAISO internal load. It would be inappropriate to "take back" that capacity in real-time to support a high-priority non-recallable export.

¹³³ New tariff section 30.5.1(cc).

¹³⁴ This is appropriate because such export and a low-priority recallable export originally scheduled in the day-ahead market are similarly situated. If the circumstances facing the export in real-time existed in the day-ahead market, the export would have been ineligible for high-priority non-recallable export status.

¹³⁵ New tariff section 30.5.1(aa).

¹³⁶ New tariff section 30.5.1(dd).

The following example illustrates this proposal in conjunction with the RUC rules discussed above. Assume a high-priority non-recallable export RUC schedule is 100 MW. If the designated resource's RUC schedule is less than 100 MW, the resource must submit real-time market bids up to the high-priority non-recallable export quantity to maintain the high-priority non-recallable export's RUC schedule. If the designated resource's RUC schedule exceeds 100 MW, then the amount above 100 MW cannot support an incremental real-time high-priority non-recallable export in the real-time market. Therefore, if the resource has a RUC schedule of 105 MW, 100 MW would support the high-priority non-recallable export and 5 MW would be for CAISO use. If the high-priority non-recallable export increases its energy bids above its RUC schedule in the real-time market (e.g., from 105 MW to 120 MW), the incremental real-time high-priority non-recallable export receives high priority for the extra 15 MW. If the designated resource only bids 105 MW in real-time, there would be insufficient capacity to support the additional 15 MW of high-priority non-recallable export.¹³⁷

The CAISO notes other BAAs generally do not use their system pool of resources to enable a specific resource-backed export when the supporting resource becomes unavailable.¹³⁸ For example, PJM Interconnection, L.L.C. (PJM), the New York Independent System Operator, Inc. (NYISO), and ISO New England Inc. (ISO-NE) have established principles regarding installed capacity (ICAP) supported by external resources in one of the other two BAAs. Under these principles, they can curtail an export of ICAP capacity if the ICAP resource becomes unavailable.¹³⁹ In addition, there is a scheduling principle that the energy associated with any ICAP purchase must be backed by operating capacity.¹⁴⁰

¹³⁷ The Revised Final Proposal discusses how exports can obtain high-priority non-recallable export status in real-time. Attachment G, Revised Final Proposal at 20-21. It also provides export priority examples.

¹³⁸ For example, at the January 12 Load and Export Scheduling Workshop the representative from Idaho Power noted that "If a third-party generator schedules an export that is not supported by its resource output, that customer is subject to curtailment." Idaho Power Slide Presentation, at slide 10. As explained in the Revised Final Proposal (at 12-13), the CAISO understands this practice and other practices of other BAAs are not necessarily documented in their OATTs.

¹³⁹ ISO-NE Manual M-20, Attachment B, at Northeast MOU General ICAP Principles, Curtailment Principles I b).

¹⁴⁰ *Id.* at Scheduling Principles I.

3. Tariff Revisions to Facilitate High-Priority Recallable Exports from Partial Resource Adequacy Resources

The CAISO also proposes tariff clarifications regarding the treatment of resource derates when only a portion of a resource's capacity is CAISO RA Capacity. These tariff revisions will enable Partial RA resources to support high-priority non-recallable exports when there is a partial outage or derate on the resource. Providing this functionality is challenging because there are multiple "flavors" of non-RA Capacity. The non-RA portion of a partial RA resource can be capacity the resource: (1) did not sell to any LSE; (2) sold to a CAISO LSE but was not shown to meet that LSE's RA requirements for a particular month; (3) sold to an external LSE that needs to be exported. Under the current framework, the CAISO only knows the general allocation of a resource's capacity as RA or non-RA. It does not know in which of the three categories that non-RA portion falls. Without this information, the CAISO cannot determine if the non-RA portion of a derated partial RA resource can support a high-priority non-recallable export.

The CAISO proposes tariff revisions to obtain the information necessary to perform a more granular allocation of derated capacity and, thus, determine what portion of a derated resource can support a high-priority non-recallable export. The CAISO will require scheduling coordinators requesting planned outages for their resources to notify the CAISO at the time of the outage request whether and to what extent the Outage affects RA Capacity and any contracted non-RA Capacity, *i.e.*, categories 2 and 3 above.¹⁴¹ The scheduling coordinator must also notify the CAISO of any changes to this information. The CAISO will utilize this information in (1) allocating any planned outage derate between RA Capacity and capacity contracted as non-RA and (2) determining RA Substitute Capacity requirements.

The CAISO also proposes to require that when a scheduling coordinator reports a derate to the CAISO as a Forced Outage, the scheduling coordinator must inform the CAISO how the derated capacity should be allocated between RA Capacity and the non-RA Capacity it has sold, *i.e.*, categories 2 and 3 above.¹⁴² Until the scheduling coordinator provides the CAISO the information requested in proposed CAISO tariff section 9.3.10.2, the CAISO will allocate any partial derate based on the information the scheduling coordinator provided the CAISO under section 30.5.1(aa). If the scheduling coordinator has indicated capacity from its RA resource is backing a self-schedule of exports at scheduling points explicitly sourced by non-RA Capacity, the CAISO will allocate the derate *pro rata* between the RA Capacity and the remainder of the resource's capacity

¹⁴¹ Revised tariff sections 9.3.1.3.1 and 9.3.1.3.2.

¹⁴² New tariff section 9.3.10.3.2.

up to its PMax.

The CAISO's proposal will allow it to obtain the information necessary to allocate capacity derates properly and effectively among the types of capacity. This will facilitate prorated high-priority non-recallable exports following partial outages/derates on units.

The CAISO notes its revisions to tariff sections 40.6.6, 9.3.1.3.1, 9.3.1.3.2, 9.3.10.3.2, and the first sentence in new tariff section 30.5.1(aa) are interdependent and not severable from each other. However, they are severable from all other elements of this filing.

These examples illustrate the proposal. A 400 MW unit has 300 MW of RA Capacity and thus 100 MW of non-RA Capacity. The scheduling coordinator requests a planned outage that will derate the unit's capacity to 300 MW. If the scheduling coordinator advises the CAISO that it should attribute 75 MW of the derate to the RA Capacity on the unit and 25 MW to a sale to an external LSE (for export), the CAISO will treat the derated unit as having 225 MW of RA Capacity and 75 MW of capacity sold to a non-CAISO LSE. Thus, the scheduling coordinator will need to provide 75 MW of substitute capacity to enable the planned outage. The derated resource can support a high-priority non-recallable export of 75 MW, and the scheduling coordinator will need to provide 25 MW of capacity from another resource if it desires to maintain its full export schedule of 100 MW.

Using the same resource with the same RA/non-RA split, assume the scheduling coordinator advises the CAISO that 75 MW of the derate should be attributed to the RA Capacity, 10 MW to the external sale, and 15 MW to unsold capacity. The scheduling coordinator would need to provide 75 MW of substitute capacity to support the planned outage request (but 15 MW could come from the unsold capacity). The derated unit could support a high-priority non-recallable export of 90 MW, and the scheduling coordinator would need to provide 10 MW of capacity from another resource if it desires to maintain its full export schedule of 100 MW.

Assume the same unit has a partial derate (Forced Outage) of 100 MW. The CAISO will apply the scheduling coordinator's allocation provided under tariff section 9.3.10.3.2 as soon as practicable. However, until that time, the CAISO will allocate the capacity based on the scheduling coordinator's representations under section 30.5.1(aa). If the scheduling coordinator has advised the CAISO that it sold capacity to an external LSE (for export), the CAISO will prorate the derate between the RA Capacity and the capacity sold externally. Specifically, the CAISO will allocate 75 percent of the derate to the RA Capacity (3/4ths of the unit was RA). Thus, the scheduling coordinator will need to provide substitute capacity of 75 MW to avoid potential RAIM charges. The derated unit will

support a high-priority non-recallable export of 75 MW, and the scheduling coordinator will need to provide 25 MW of capacity from another resource if it desires to maintain its full high-priority non-recallable export schedule of 100 MW.

B. Proposed Scheduling Priorities for Wheeling Through Self-Schedules

The CAISO's final set of tariff revisions addresses wheeling through self-schedule priorities. The priority provided wheeling through transactions could greatly affect the CAISO's ability to serve native load. The CAISO is particularly concerned about these effects for summer 2021 given tight supply conditions and an expected increase in wheeling transactions. The CAISO's concerns are heightened because it does not reserve capacity for native load customers unlike other transmission providers. The CAISO worked hard with stakeholders to address the complex, challenging, and polarizing issues associated with wheeling through priorities.

The CAISO sought to develop a solution for summer 2021 that effectively balances the needs of both the CAISO's native load customers and external entities seeking to use the CAISO system to serve their load and follows general open access principles, recognizing the unique nature of the CAISO's market framework. To achieve this result the CAISO proposes, on an interim basis, through May 31, 2022, to establish two categories of wheeling through self-schedule transactions – a Priority Wheeling Through and a non-Priority Wheeling Through. Priority Wheeling Through transactions will have a priority equal to CAISO load and high-priority non-recallable exports in the day-ahead and real-time market optimization processes. Non-Priority Wheeling Through transactions will have a lower priority. The CAISO discusses its proposal in detail below and demonstrates why it is a just and reasonable interim solution to a difficult issue.

1. The Commission's Open Access Policies Allow the Prioritization of Intertie and Internal Capacity to Ensure Reliable Service to Native Load

One of the "core elements" of the Commission's open access policies is the ability of transmission providers to include in their tariffs certain protections to ensure reliable service to native load customers.¹⁴³ In Order No. 888, the Commission gave public utilities the right to reserve existing transmission

¹⁴³ See, e.g., *Preventing Undue Discrimination and Preference in Transmission Service*, Notice of Proposed Rulemaking, 71 FR 32,636 (Jun. 6, 2006), FERC Stats. & Regs. ¶ 32,603, at P 4 (2006).

capacity needed for native load and network transmission customer load growth reasonably forecasted within the utility's current planning horizon.¹⁴⁴ In rejecting arguments to eliminate native load protections in Order No. 890, the Commission emphasized the importance of native load protections:

We conclude that the native load priority established in Order No. 888 continues to strike the appropriate balance between the transmission provider's need to meet its native load obligations and the need of other entities to obtain service from the transmission provider to meet their own obligations.¹⁴⁵

Native load protections under the Commission's open access policies can take several forms. Transmission providers use ATC to determine the amount of capability available in the transmission network to accommodate requests for transmission service.¹⁴⁶ As the Commission has explained:

All ATC calculation methodologies derive ATC by modeling the system to establish TTC [total transfer capability], expressed in terms of contract paths or flowgates, and reducing that figure by existing transmission commitments (*i.e.*, ETC), a margin that recognizes uncertainties with transfer capability (*i.e.*, TRM [transmission reliability margin]), and a margin that allows for meeting generation reliability criteria (*i.e.*, CBM).¹⁴⁷

¹⁴⁴ *Promoting Wholesale Competition Through Open Access Non-Discriminatory Transmission Servs. By Pub. Utils.; Recovery of Stranded Costs by Pub. Utils. & Transmitting Utils.*, Order No. 888, FERC Stats. & Regs. ¶ 31,036, at 31,694 (1996) (Order No. 888), *order on reh'g*, Order No. 888-A, FERC Stats. & Regs. ¶ 31,048 (Order No. 888-A), *order on reh'g*, Order No. 888-B, 81 FERC ¶ 61,248 (1997), *order on reh'g*, Order No. 888-C, 82 FERC ¶ 61,046 (1998), *aff'd in relevant part sub nom. Transmission Access Policy Study Group v. FERC*, 225 F.3d 667 (D.C. Cir. 2000), *aff'd sub nom. New York v. FERC*, 535 U.S. 1 (2002).

¹⁴⁵ *Preventing Undue Discrimination & Preference in Transmission Serv.*, Order No. 890, FERC Stats. & Regs. ¶ 31,241, at P 107 (Order No. 890), *order on reh'g*, Order No. 890-A, FERC Stats. & Regs. ¶ 31,261 (2007) (Order No. 890-A), *order on reh'g*, Order No. 890-B, 123 FERC ¶ 61,299 (2008) (Order No. 890-B), *order on reh'g*, Order No. 890-C, 126 FERC ¶ 61,228, *order on clarification*, Order No. 890-D, 129 FERC ¶ 61,126 (2009).

¹⁴⁶ Order No. 890 at P 2 n.3.

¹⁴⁷ Order No. 890 at P 209. To avoid confusion with the term "ETC" as defined in the CAISO tariff to refer to Existing Transmission Contracts, in this transmittal letter the CAISO will use the full term "existing transmission commitments" to refer to the ATC component as described in the Commission's open access orders.

From the start of open access transmission service in the mid-1990s, the Commission has recognized transmission providers can preserve internal capacity and import capacity to ensure reliable service to native load and to use in emergency conditions. The *pro forma* OATT contained in Order No. 888 included an Attachment C with a one-line placeholder stating the transmission provider was to file its methodology for assessing ATC as part of its filed OATT. The Commission recognized as part of that ATC assessment, a transmission provider can reserve CBM as an import set-aside from ATC. For example, in considering and rejecting comments opposing MISO's proposed methodology to assess ATC due to aspects of the CBM set-aside proposed by the Midwest Independent System Operator, Inc. (later renamed the Midcontinent Independent System Operator, Inc.) (MISO), the Commission noted, "CBM is a term used to describe import capacity at interties of neighboring systems that is set aside to access generation reserves during contingencies."¹⁴⁸

In Order No. 888 and subsequently, the Commission has highlighted the ability of transmission providers to use the existing transmission commitment reservation process to reserve transfer capability to safely and reliably serve its native load. The Commission found in Order No. 888 "[t]he transmission provider may reserve in its calculation of ATC transmission capacity necessary to accommodate native load growth reasonably forecasted in its planning horizon."¹⁴⁹ Transmission providers must post transmission capacity reserved for future native load growth and make it available until LSEs serving native load need the capacity.¹⁵⁰ Similarly, the Commission explained in Order No. 888-A "the transmission provider is responsible for planning and maintaining sufficient transmission capacity to safely and reliably serve its native load. Order Nos. 888 and 889 permit the transmission provider to reserve, in its calculation of ATC, sufficient capacity to serve native load."¹⁵¹

In Order Nos. 890 and 890-A, the Commission continued to find it appropriate to give public utilities "the right to reserve existing transmission capacity needed for native load growth reasonably forecasted within the utility's current planning horizon."¹⁵² Again, consistent with this finding, the *pro forma* version of Attachment C in Order No. 890 states "[f]or [existing transmission commitments], a transmission provider shall explain . . . the calculation methodology used to determine the transmission capacity to be set aside for

¹⁴⁸ *Midwest Indep. Transmission Sys. Operator, Inc.*, 98 FERC ¶ 61,075, at 61,215 (2002).

¹⁴⁹ Order No. 888, FERC Stats. & Regs. ¶ 31,036, at 31,694 (1996).

¹⁵⁰ *Id.*

¹⁵¹ Order No. 888-A at 30,279.

¹⁵² Order No. 890 at PP 95, 107, *reh'g denied in relevant part*, Order No. 890-A at PP 23-24.

native load (including network load).” Similarly, orders that are more recent support granting native load priority for transmission service.¹⁵³

In Order No. 890, the Commission concluded it needed to revisit Order No. 888’s generic requirement to include in OATTs an ATC assessment methodology. Therefore, the Commission directed transmission providers to “develop consistent methodologies for ATC calculation and to publish those methodologies to increase transparency.”¹⁵⁴ Order No. 890 included new *pro forma* Attachment C requiring transmission providers to specify in Attachment C to their tariffs certain minimum information used in their methodologies for assessing ATC. That minimum information includes the transmission provider’s explanation of the existing transmission commitments component of its ATC calculation -- “the calculation methodology used to determine the transmission capacity to be set aside for native load (including network load).”¹⁵⁵ However, the Commission gave transmission providers some latitude in stating what their ATC methodologies consist of, *e.g.*, each transmission provider may, but is not required to, set aside transfer capability for CBM in its ATC methodology.¹⁵⁶ The CAISO understands most transmission providers, including many in the Western Interconnection, set aside capacity in their ATC calculations to ensure reliable service to native load as either CBM or an existing transmission commitment.¹⁵⁷

¹⁵³ See, *e.g.*, *Sierra Pac. Power Co. v. NV Energy, Inc.*, 143 FERC ¶ 61,144, at P 112 (2013) (finding that “Network Integration Transmission Service expressly recognizes the underlying right of the transmission provider to use its network resources to serve its native load needs, including through economic dispatch of those network resources”); *Duke Energy Corp.*, 166 FERC ¶ 61,112, at P 13 (2019) (internal citation omitted) (finding that the “distinction between native and non-native load recognizes the obligation public utilities undertake to engage in long-term system planning on behalf of certain customers in exchange for those customers taking requirements service and contributing to the fixed costs of the supplier’s system”).

¹⁵⁴ Order No. 890 at P 2. Congress, in Section 1233 of EPOA 2005, added section 217 to the FPA, entitled “Native Load Service Obligations,” which addressed transmission rights held by LSEs. FPA section 217 allows LSEs to use their own and contracted-for transmission capacity to deliver energy as required to meet their service obligations, without being subject to charges of unlawful discrimination. The Commission noted its reforms in Order No. 890 were consistent with FPA section 217. *Id.* at P 107.

¹⁵⁵ Attachment C to Commission *pro forma* OATT, at section 3(b).

¹⁵⁶ See Order No. 890 at PP 207-13, 313-72 and *pro forma* Attachment C; Order No. 890-A at PP 106-28; Order No. 890-B at PP 7-37.

¹⁵⁷ See, *e.g.*, Attachment C to Arizona Public Service Company OATT, at sections 1 and 3(b)(i) (defining Existing Transmission Commitments in relevant part as “the sum of existing firm commitments for the path” and “the firm capacity set aside to serve peak Native Load forecast commitments”); Attachment C to NV Energy OATT, at sections 1.2.2 and 1.2.6 (defining Existing Transmission Commitments in relevant part as “[t]he sum of existing firm commitments for the ATC Path” and “the firm capacity set aside to serve peak Native Load forecast commitments”); Attachment C to PacifiCorp OATT at definitions and section 3(b)(ii) (defining Existing

Under the Commission's standard *pro forma* OATT, transmission providers provide both firm and non-firm service. Firm point-to-point transmission service has the same reservation priority as service to native load customers.¹⁵⁸ The capacity available for non-firm point-to-point service expressly excludes capacity reserved for reliable service to native load customers. Section 14.2 of the *pro forma* OATT, first established in Order No. 888 and retained (with non-substantive modifications) in Order No. 890 provides:

Non-Firm Point-To-Point Transmission Service shall be available from transfer capability in excess of that needed for reliable service to Native Load Customers, Network Customers and other Transmission Customers taking Long-Term and Short-Term Firm Point-To-Point Transmission Service.¹⁵⁹

The OATTs of most transmission providers that offer non-firm transmission service contain this provision.

2. ISO and RTO Tariffs Include Provisions Reserving Capacity to Ensure Reliable Service to Native Load

Consistent with the Commission's open access policies and precedent, other independent system operators (ISOs) and regional transmission organizations (RTOs)¹⁶⁰ have provisions in their tariffs permitting them to reserve capacity to ensure reliable service to their native load. Those native load protections are contained in several types of tariff provisions.

Transmission Commitments in relevant part as “[c]ommitted uses of a Transmission Provider’s Transmission System considered when determining ATC” and “the firm capacity set aside to serve peak Native Load forecast commitments”); Attachment C to Bonneville Power Administration OATT (defining Existing Transmission Commitments in relevant part as “the committed uses of the system, which include the firm and non-firm capacity set aside to serve Point-To-Point Service Agreements, Network Integration Service Agreements, pre-Order 888 grandfathered agreements, and other commitments made pursuant to the Transmission Provider’s statutory and treaty obligations”); and Attachment C to Salt River Project Agricultural Improvement and Power District OATT, at sections 1 and 1.3 (defining “Committed Uses” as the sum of TRM and Existing Transmission Commitments (including CBM),” with Existing Transmission Commitments and CBM defined therein to include “Native Load Uses”).

¹⁵⁸ See Commission *pro forma* OATT, section 13.2.

¹⁵⁹ Commission *pro forma* OATT, section 14.2.

¹⁶⁰ See ISO-NE OATT, sections II.20.2 and II.30.2.

First, both PJM¹⁶¹ and MISO¹⁶² have tariff provisions governing the assessment of ATC allowing them to preserve a CBM for imports during emergency conditions. By preserving a CBM for imports, those PJM and MISO tariff provisions protect native load when and if emergency conditions arise.

Further, PJM,¹⁶³ Southwest Power Pool, Inc. (SPP),¹⁶⁴ and the NYISO¹⁶⁵ all have tariff provisions reserving a certain amount of existing transmission commitments for native load. Thus, those tariffs ensure the ISO/RTOs' ATC methodologies protect native load.

In addition, section 14.2 of the PJM, MISO, and SPP tariffs include the provision derived from the Commission's *pro forma* OATT excluding transfer capability "needed for reliable service to Native Load Customers" from the capacity available for non-firm service in non-firm service reservation priorities.¹⁶⁶ Thus, those ISO/RTO tariffs explicitly specify transfer capability will be set aside

¹⁶¹ Attachment C to the PJM OATT states that "Firm ATC on any path will be limited to assure that emergency import capability will be available to Network Customers when needed through the reservation of capacity benefit margin, equivalent to a firm point-to-point transmission service reservation for delivery from systems outside of the PJM Region to serve the load serving entities within such region."

¹⁶² Attachment C to the MISO Tariff (at section 4.1) states that "MISO will utilize CBM that is needed only when experiencing a declared NERC Energy Emergency Alert ("EEA") 2 or higher." Section 4 of Attachment C to the MISO Tariff states that, under MISO's CBM methodology, "[a] Loss of Load Expectation ('LOLE') study is used to determine the Generation Capacity Import Requirement ('GCIR') of a CBM study zone."

¹⁶³ Attachment C to the PJM OATT defines existing transmission commitments as "committed use of the transmission system," including "native load commitments."

¹⁶⁴ Attachment C to the SPP OATT (at section 4.5) references existing transmission commitments as the "transmission capability utilized in serving native load commitments, to include native load growth, load forecast error and losses not otherwise included in TRM or CBM." Attachment C to the SPP OATT (at sections 3.1.1 and 3.1.2) defines existing transmission commitments as including, among other things, the sum of flows due to firm and non-firm schedules "into, out of and through the SPP Balancing Authority Area."

¹⁶⁵ Attachment C to the NYISO OATT (at sections 9.2 and 9.3) defines existing transmission commitments as the sum of "existing firm commitments" and existing non-firm commitments" for each interface. A component of the calculation of existing transmission commitments is "the firm capacity set aside to serve peak Native Load forecast commitments for the time period being calculated, to include losses, and Native Load growth, not otherwise included in Transmission Reliability Margin or Capacity Benefit Margin." NYISO OATT, attachment C, section 9.4.

¹⁶⁶ For example, MISO tariff Module B 14.1.6.000, Section 14.12 Reservation Priority states: "Non-Firm Point-to-Point Transmission Service shall be available from transfer capability in excess of that needed for service to Native Load Customers, Network Customers, and other Transmission Customers taking Long-Term and Short-Term Firm Point-to-Point Transmission Service."

to provide reliable service to native load customers, and only excess transfer capability is available for non-firm point-to-point transmission service.

In sum, these various tariff provisions allow ISOs and RTOs to reserve capacity to ensure reliable service to its native load, often through multiple tariff mechanisms. Any capacity available for wheeling through and other transactions is subject to these native load reservations.

3. The CAISO Does Not Reserve Capacity to Ensure Reliable Service to Native Load

The Commission has found the CAISO's existing framework for accommodating service requests and market bids just and reasonable and compliant with Order No. 890.¹⁶⁷ However, to be clear, the CAISO tariff contains none of the traditional mechanisms the Commission has accepted for other transmission providers to set aside capacity to serve native load. Unlike many ISOs and RTOs, the CAISO definition of the existing transmission commitments (defined as ETComm in the tariff) component of the ATC calculation does not include native load commitments.¹⁶⁸ The CAISO's methodology to calculate ATC set forth in Appendix L to the CAISO tariff does include a CBM component, but further provides "[t]he CAISO does not use CBMs" and as a result "[t]he CBM value is set at zero."¹⁶⁹

Unlike the tariffs of other ISOs and RTOs and many transmission providers, the CAISO tariff also does not provide for making non-firm service available for transfer capability "in excess of that needed for reliable service to Native Load Customers."¹⁷⁰ As explained above,¹⁷¹ the CAISO has only one category of transmission service not associated with existing rights such as

¹⁶⁷ See, e.g., *Cal. Indep. Sys. Operator Corp.*, 123 FERC ¶ 61,180 (2008) (accepting CAISO filing to comply with Order No. 890 subject to further compliance filing), *order on further compliance filing*, 126 FERC ¶ 61,316 (2009).

¹⁶⁸ Existing tariff Appendix L, section L.1.3.

¹⁶⁹ Existing tariff Appendix L, section L.1.6.

¹⁷⁰ See Commission *pro forma* OATT, section 14.2.

¹⁷¹ See *supra* section II of this transmittal letter.

Existing Transmission Contracts (ETCs) and TORs¹⁷² – new firm use.¹⁷³ The CAISO does not use transmission reservations to manage the priority of schedules to address system constraints. Instead, the CAISO manages schedules on its grid through the day-ahead and real-time markets and applies scheduling priorities defined in its tariff to ration capacity when demand for transfer capability exceeds supply.

Also, in its transmission planning process, the CAISO does not account or plan for wheeling through transactions other than some firm entitlements associated with ETCs and TORs, which are not affected by this filing. Wheeling Through transactions are not firm entitlements.

4. Recent Tight Supply Conditions in the West Have Highlighted the Need for the CAISO to Reserve Capacity for Reliable Service to Native Load

The CAISO's current tariff framework – with only a single classification of transmission service and with no reservation of capacity to serve native load – worked in the past. Historically, the CAISO has rarely needed to curtail schedules. More recent tight supply conditions in the Western Interconnection, however, show why the CAISO must act now to fulfill its obligations to native load customers. The challenges of such tight supply conditions were highlighted by the historic heat wave affecting the western United States for several consecutive days in mid-August 2020, causing energy supply shortages that led to rotating power outages in the CAISO footprint on August 14 and 15. Among other things, the Final Root Cause Analysis identified actions to prepare the region for summer 2021 without having to resort to rotating power outages, including establishing appropriate prioritization of export and wheeling schedules.¹⁷⁴

Increased wheeling through transactions could exacerbate the reliability challenges the CAISO faced last August because the existing CAISO tariff does not distinguish among wheeling through self-schedules. Today, the CAISO treats all wheeling transactions similarly in setting its scheduling parameters. It is

¹⁷² Existing Transmission Contracts are “[t]he contracts which grant transmission service rights in existence on the CAISO Operations Date (including any contracts entered into pursuant to such contracts) as may be amended in accordance with their terms or any agreement between the parties thereto from time to time.” Existing tariff, Appendix A. A Transmission Ownership Right is “[t]he ownership or joint ownership right to transmission facilities within the CAISO Balancing Authority Area of a Non-Participating TO that has not executed the Transmission Control Agreement, which transmission facilities are not incorporated into the CAISO Controlled Grid.” *Id.*

¹⁷³ See existing tariff, section 23.

¹⁷⁴ See Final Root Cause Analysis at 1-2.

possible, that in the most critical hours, if faced with significant wheeling through volumes, the CAISO markets would prioritize very short-term wheeling through schedules over serving CAISO native load, making it more challenging for the CAISO to avoid shedding load. In other regions, such short-term wheeling through transactions might be scheduled with non-firm transmission service and appropriately receive a lower scheduling priority. On the other hand, the CAISO's current framework allows wheeling through self-schedules for only one hour in a month to displace self-scheduled RA Capacity CAISO LSEs have procured and shown in annual and monthly RA Plans as necessary to meet CAISO load. This construct undermines the CAISO's ability to serve load reliably based on the RA Capacity LSEs have procured to serve their load.

Moreover, any self-scheduled wheeling through transaction, no matter how firm, receives priority service not only on the interties but also on internal CAISO BAA transmission paths. The CAISO's analysis shows when Path 26 is constrained in the north-to-south direction, self-scheduled wheeling through transactions occupy capacity on Path 26, preventing capacity from RA resources north of Path 26 from serving load in the southern part of the CAISO BAA. The high priority afforded to all self-scheduled wheeling through transactions can thus unduly limit the CAISO's ability to use these resources to satisfy reliability needs within the CAISO footprint. Entities built these RA resources in northern California to serve CAISO native load, and CAISO LSEs are paying for them. It is unfair and inconsistent with the native load protections contemplated in Order Nos. 888 and 890 that wheeling through transactions can "crowd out" capacity the CAISO needs from internal RA resources to serve its native load reliably. Given the extremely tight supply conditions the CAISO faces this summer, rendering these internal resources inaccessible could be the difference between shedding native load and not shedding it.

If left unaddressed, the current framework could jeopardize the CAISO's ability to serve native load reliably during emergency conditions this summer, potentially forcing the CAISO to shed load. It is critical the CAISO have reasonable measures in place to address this situation more effectively. CAISO LSEs depend entirely on the CAISO system to access RA Capacity.

The CAISO's concerns about wheeling through transactions displacing the RA Capacity needed to serve native load reliably are elevated because the CAISO expects an increased number of wheeling through transactions this summer. Several factors drive this expectation. The 2020 heatwave affected other parts of the West, and the CAISO understands some BAAs have changed their procurement practices to access more power from external sources. The CAISO is aware some external BAAs intend to wheel energy through the CAISO system more than they have previously. Many factors support this. First, summer 2021 power future prices in the Southwest significantly exceed prices in the Northwest. Second, the CAISO changed its business practice manual after

last August's events to provide high-priority recallable exports a higher priority in the real-time market only up to their RUC schedules (not their IFM schedules). Because of this change, market participants can no longer rely on the ability to export from the CAISO grid based on their exports cleared in the IFM. The CAISO understands this may cause neighboring LSEs to secure capacity outside of the CAISO and wheel it through the CAISO system instead of relying on exports procured in the IFM. Third, the CAISO proposes herein to tighten its rules regarding the capacity that can support high-priority non-recallable exports and reduce the real-time scheduling priority of low-priority recallable exports.¹⁷⁵ The CAISO expects these conditions will also drive external LSEs to increase their use of wheeling through transactions, potentially affecting the CAISO's ability to meet its native load obligations on peak demand days in the West.

5. The CAISO Has Developed a Fair, Temporary Proposal That Strikes an Appropriate Balance Between the Need to Serve Native Load and the Desire of Other Entities to Obtain Wheeling Through Service on the CAISO Controlled Grid

Based on current supply conditions in the Western Interconnection, including the risk of additional power outages, the CAISO has determined it is appropriate to revise the relative priorities of wheeling schedules – on an interim basis – to ensure reliable service to native load customers in the CAISO BAA while still maintaining open access to its transmission system. Establishing priorities for wheeling through self-schedules vis-à-vis CAISO native load self-schedules was contentious, and stakeholders were deeply divided. Some stakeholders believe the conditions the CAISO is placing on Priority Wheeling Through transactions are overly restrictive. On the other hand, some stakeholders in the CAISO footprint assert the CAISO is not going far enough to reserve capacity for native load or fulfill the principles of Order Nos. 888 and 890. The CAISO believes its interim solution is fair, balanced, and just and reasonable. It minimizes potential native load reductions, while recognizing certain external BAAs may be relying on wheeling through transactions to serve their own load this summer.

As described in more detail in Section III.B.7(a)-(b) *infra*, the proposed tariff revisions establish two priorities of wheeling through self-schedules and assign a higher scheduling priority to Priority Wheeling Through transactions meeting specified criteria. The criteria, described in detail below, generally

¹⁷⁵ The MSC Opinion recognizes “the proposed changes in curtailment of spot market exports for summer 2021 could result in external BAs making more use of wheel-through transactions than they have in the past, particularly extreme high load conditions when there is a potential for exports not supported by non-RA capacity to be curtailed.” MSC Opinion at 11.

require Priority Wheeling Through transactions be supported by a verified firm power supply contract for the entire month and monthly firm transmission during on-peak periods to serve the load of an external LSE. Priority Wheeling Through transactions will have a scheduling priority in CAISO market runs equal to the priority of self-scheduled RA imports to serve load internal to the CAISO. The scheduling priorities established by this filing prevent non-Priority Wheeling Through transactions from displacing the delivery of power needed to avoid shedding CAISO native load. The CAISO also proposes a new procedure it would apply after the HASP runs to allocate transmission over constrained transmission capacity between Priority Wheeling Through transactions and serving CAISO load. The CAISO will apply this procedure when an Intertie is constrained in the import direction by a scheduling limit or Path 26 is constrained in the north-south direction, and HASP cannot meet CAISO Forecast of CAISO Demand or fully accommodate a Priority Wheeling Through transaction.

The CAISO's proposal is consistent with the Commission's recognition that terms of service under OATTs should "strike the appropriate balance between the transmission provider's need to meet its native load obligations and the need of other entities to obtain service from the transmission provider to meet their own obligations."¹⁷⁶ The CAISO's proposal reserves capacity to serve native load similar to the tariffs of other ISOs and RTOs. The CAISO's proposal accomplishes this through somewhat different methods than those other ISOs and RTOs, but it achieves the same objective of reserving capacity for reliable service to native load. Thus, the CAISO's proposal is akin to measures that meet the "consistent with or superior to" standard for complying with the Commission's open access requirements under Order No. 890.¹⁷⁷ The CAISO's proposal arguably is more favorable to external entities than the frameworks of other transmission providers who reserve firm transmission capacity for native load in their initial ATC calculations as an Existing Transmission Commitment prior to identifying the amount of transmission available to use for other transactions, including wheels.

The CAISO proposal does not reserve capacity – it merely assigns native load a priority higher than lower-priority wheeling through schedules in

¹⁷⁶ Order No. 890 at P 107.

¹⁷⁷ In Order No. 890, the Commission explained that "nothing in [Order No. 890] is intended to upset the market designs used by existing ISOs and RTOs" and that the "CAISO – like any other ISO or RTO – has the opportunity to demonstrate that a variation from the tariff revisions adopted in [Order No. 890] satisfies the consistent with or superior to standard." *Id.* at PP 158, 160. The Commission's application of this standard can take into account the unique tariff structure or market design of an ISO or RTO. *See, e.g., N.Y. Indep. Sys. Operator Corp., Inc.*, 123 FERC ¶ 61,134, at P 13 (2008) ("[W]e recognize that NYISO's proposed deviations from the pro forma OATT reflect the actual market design used by NYISO, and find these deviations to be consistent with or superior to the pro forma OATT, except as otherwise addressed below.").

circumstances where transmission capacity is constrained. As such, the CAISO's proposal likely allows more wheeling through transactions than traditional means of reserving capacity for native load such as CBM or the up-front reservation of existing transmission commitments associated with native load.

During typical system conditions, the CAISO anticipates the proposed changes in wheeling through self-schedule priorities will not change operations. These proposed changes will only determine how the CAISO allocates transmission capacity when key interties or internal paths are extremely constrained – the very conditions likely to occur in imminent or actual System Emergencies. These are precisely the circumstances when it is appropriate to reserve capacity to maintain reliable service to native load customers.

The CAISO's proposal also provides a reasonable and well-defined approach for maintaining the priority of wheeling through transactions relying on the use of the CAISO controlled grid for summer 2021 and part of 2022. To qualify as a Priority Wheeling Through for a given month, the scheduling coordinator must confirm the self-schedule meets the eligibility requirements at least 45 days in advance of the relevant month.¹⁷⁸ The 45-day notice requirement aligns with the requirement that CAISO LSEs make RA supply plan showings 45 days before the month. As described in more detail below, a scheduling coordinator for a Priority Wheeling Through must confirm a firm power supply contract and firm transmission to serve an external LSE's load for the entire calendar month. This demonstrates a level of dependence and commitment to use and pay for the costs of the CAISO grid relatively similar to CAISO LSEs serving native load. CAISO LSEs depend entirely on the CAISO grid to receive service, and their dependence is 24 x 7 x 365. The CAISO proposal provides some level of certainty that external LSEs will be using the CAISO transmission system regularly and paying CAISO transmission charges. As discussed in more detail below, Commission precedent recognizes that, because "external load is situated differently than internal load with respect to its ongoing reliance on the CAISO grid," it is appropriate to require external LSEs to demonstrate their intention to utilize the CAISO transmission system on a regular basis to receive rights comparable to those available to internal load.¹⁷⁹

¹⁷⁸ For July and August 2021, scheduling coordinators must make the showing by June 29, 2021.

¹⁷⁹ *Cal. Indep. Sys. Operator Corp.*, 116 FERC ¶ 61,274, at P 766, *reh'g denied in relevant part*, 119 FERC ¶ 61,076, at P 370.

6. The CAISO Will Implement the Tariff Revisions Regarding Wheeling Through Transactions on an Interim Basis

A key benefit of the CAISO's wheeling through priority proposal is that it is achievable for summer 2021, addressing the critical near-term need to provide reliable service to native load in the coming months when the CAISO anticipates tight supply conditions, and emergency conditions are most likely to arise. The CAISO proposes to sunset the wheeling through tariff revisions effective June 1, 2022. Thus, the wheeling through related tariff revisions will be in effect for only an interim period of approximately eleven months.¹⁸⁰ The CAISO originally proposed to sunset these provisions on December 31, 2021, but in response to stakeholder comments, determined a May 31, 2022, sunset date is appropriate to provide additional time to consider and develop longer-term design changes prior to summer 2022.¹⁸¹

The Commission previously has accepted CAISO revisions on an interim basis to address system reliability concerns while the CAISO was considering longer-term solutions. For example, in 2016, the Commission accepted the CAISO's filing of "revisions to its tariff to address limitations in the natural gas delivery system in southern California that could adversely impact the reliability of CAISO's electric grid and market operations during the summer of 2016."¹⁸² The Commission explained it was accepting the tariff revisions "based on the unique set of circumstances CAISO will face this summer due to the limited operability of the Aliso Canyon natural gas storage facility in southern California."¹⁸³ The Commission allowed the CAISO to implement these tariff revisions on an interim basis, with an express sunset date, subject to the requirement the CAISO seek Commission authorization to extend their effectiveness.¹⁸⁴ The Commission has also accepted tariff revisions to address system reliability concerns on an interim basis in other proceedings.¹⁸⁵ The Commission should accept the tariff revisions

¹⁸⁰ Sunsetting these tariff revisions will occur automatically due to how the CAISO has submitted them in the Commission's eTariff system.

¹⁸¹ The CAISO must make a Section 205 filing to extend the proposed wheeling through provisions beyond May 31, 2022 if it believes the interim measures remain needed until it can implement a more durable solution. The CAISO can also make a Section 205 filing to implement different measures.

¹⁸² *Cal. Indep. Sys. Operator Corp.*, 155 FERC ¶ 61,224, at P 1 (2016).

¹⁸³ *Id.* at P 2.

¹⁸⁴ *Id.* at P 13.

¹⁸⁵ See, e.g., *ISO New Eng. Inc., et al.*, 144 FERC ¶ 61,204, at P 42 (2013) (stating that "given the importance of ensuring reliability in New England this coming winter . . . we accept the [proposed Winter Reliability] Program for the limited period requested," subject to "consider[ation]

regarding Priority Wheeling Through transactions on an interim basis for similar reasons.

The CAISO has commenced a stakeholder initiative to identify and implement a long-term solution that will enable external entities to obtain firm transmission for wheeling through schedules on a forward basis. The CAISO aims to request approval by its Governing Board of the proposals developed in that stakeholder initiative, and to file a tariff amendment to implement the proposals by summer 2022.¹⁸⁶ Until the CAISO completes that initiative and can implement any new market measures, the CAISO requires the proposed interim tariff revisions to ensure reliable service to native load during emergency-type conditions.

7. The Proposed Tariff Revisions Are Just and Reasonable

a. New Definition of a Priority Wheeling Through

Effective on an interim basis from June 28, 2021 through May 31, 2022, the CAISO proposes to include a new defined term in Appendix A to its tariff: “Priority Wheeling Through,” which means a wheeling through self-schedule that meets three specified criteria.¹⁸⁷

First, a firm power supply contract to serve the load of an external LSE for the entire calendar month must support the Priority Wheeling Through transaction.¹⁸⁸ This criterion is analogous to the existing requirement that scheduling coordinators for LSEs must procure a specified amount of RA

of] market-based solutions” in future stakeholder process); *ISO New Eng. Inc.*, 171 FERC ¶ 61,235, at PP 1, 57 (2020) (finding that implementation of proposed tariff revisions on an interim basis for winter months over upcoming two-year period “is a reasonable short-term solution to compensating in a technology-neutral manner resources that provide fuel security”).

¹⁸⁶ See [California ISO - Maximum import capability enhancements \(caiso.com\)](https://www.aiso.com/California-ISO-Maximum-import-capability-enhancements). Specifically, as the linked website page explains, in that initiative the CAISO will discuss stakeholder concerns about potential improvements to calculating maximum import capability and the process used to allocate and track it during the RA process. The scope of the stakeholder initiative also includes developing a process that would permit wheeling through self-schedules to reserve import capability and transmission across the CAISO system, and the associated review of wheeling through priorities when accessing the CAISO system.

¹⁸⁷ Effective June 1, 2022, the tariff will no longer include this defined term or the related tariff provisions.

¹⁸⁸ Tariff Appendix A, new definition of “Priority Wheeling Through.”

Capacity to meet their monthly RA obligation and show it to the CAISO in a monthly RA Plan.¹⁸⁹

Second, monthly firm transmission from the source to the CAISO boundary, for Hours Ending 07:00 through 22:00, Monday through Saturday, excluding NERC holidays, must support the Priority Wheeling Through transaction.¹⁹⁰ The specified hours for which the external LSE is required to procure monthly firm transmission are the peak demand hours as defined by NAESB.¹⁹¹

CAISO LSEs depend entirely on the CAISO transmission system and pay the embedded costs of the system through a transmission access charge. They are unable to receive energy from remote supplies absent using the CAISO grid. The CAISO essentially intends the Priority Wheeling Through eligibility requirement that external LSEs procure monthly firm transmission as a proxy for CAISO LSEs' dependence on the CAISO grid. External LSEs' procurement of monthly firm transmission upstream of the CAISO border for the peak period indicates their commitment to rely on using the CAISO system (and paying CAISO transmission charges) to deliver power to their internal loads on a regular basis, similar to (but not as extensive as) the grid use of CAISO native load.

The monthly firm transmission requirement for a Priority Wheeling Through transaction is comparable to the existing situation where the CAISO allocates CRRs that offset transmission congestion costs to CAISO LSEs that pay transmission access charges, but LSEs in external BAAs are allocated CRRs only if they pre-pay a transmission service charge (*i.e.*, a wheeling access charge).¹⁹² In approving this prepayment requirement, the Commission explained:

external load is situated differently than internal load with respect to its ongoing reliance on the CAISO grid. If an LSE with external

¹⁸⁹ See Existing tariff section 40.2.2.4.

¹⁹⁰ Tariff Appendix A, new definition of "Priority Wheeling Through Self-Schedule." The firm transmission hours generally align with the concept of "heavy load hours" in the Western Interconnection. See, e.g., <https://www.ppcpdx.org/industry-info/glossary/> <https://www.bpa.gov/Finance/RateCases/InactiveRateCases/BP12/Final%20Proposal/BP-12-FS-BPA-03.pdf>. The proposal also tracks the CAISO definition of peak-period CRRs. Business practice manual for CRRs, Attachment A (which includes a link to the NAESB Business Practices).

¹⁹¹ See [Additional Off-peak Days.pdf \(nerc.com\)](#) and the link to the NAESB document therein.

¹⁹² See existing tariff section 36.9.2.

load intends to continue to use the CAISO grid as a means of serving its load, pre-payment of the wheeling access charge is not unduly discriminatory. By making this pre-payment, that LSE signals its intention to continue to utilize the CAISO transmission system, and is therefore eligible, like an LSE serving internal load, to participate in the CRR allocation process.¹⁹³

Likewise, the proposed monthly firm transmission requirement signals the intention of a scheduling coordinator with a Priority Wheeling Through transaction to utilize the CAISO transmission system in concert with firm transmission service to the boundary of the CAISO system.¹⁹⁴

Further, the monthly firm transmission requirement recognizes external LSEs reasonably invested to rely on the CAISO system to serve their native load. Their procuring firm transmission suggests they are committed to, and depend on, using the CAISO system to serve their native load regularly. The robustness of the monthly firm transmission requirement will prevent cherry-picking whereby a wheeling through self-schedule can occur in just one peak hour and crowd out native load during the time native load most needs to use the CAISO system.

The monthly firm transmission requirement is not, however, a transmission reservation requirement. It simply is a proxy to “measure” to determine if external LSEs are relying on the CAISO system treatment somewhat comparably to CAISO LSEs. Wheeling through transactions not meeting the monthly power supply contract and firm transmission service eligibility requirements will simply have a lower priority in the day-ahead and real-time market optimization.

The third criterion for a Priority Wheeling Through transaction is that the scheduling coordinator must confirm that it meets criteria (1) and (2) above and notify the CAISO of the power supply contract MW supporting the export self-schedule of the Priority Wheeling Through transaction, sufficiently before the

¹⁹³ *Cal. Indep. Sys. Operator Corp.*, 116 FERC ¶ 61,274, at P 766, *reh'g denied in relevant part*, 119 FERC ¶ 61,076, at P 370.

¹⁹⁴ The requirements the CAISO proposes are less stringent than the requirements an external LSE must satisfy to obtain an allocation of CRRs. In that situation, in addition to showing they have existing energy contracts with internal resources, external LSEs must demonstrate that they have historically utilized the CAISO transmission system. The CAISO also must verify their historical usage of the CAISO grid and their existing contracts. Further, external LSEs must prepay wheeling access charges to demonstrate they plan to take transmission service from the CAISO. Here, external LSEs may obtain priority wheeling through service without demonstrating historical usage, without CAISO verification, without already executed power supply contract, and, without prepaying wheeling charges.

month in which the Priority Wheeling Through will start.¹⁹⁵ For a Priority Wheeling Through transaction that will start in July or August of 2021 (*i.e.*, soon after the tariff revisions are implemented), the scheduling coordinator must provide the information described above by June 29, 2021. This tariff amendment provides notice to all entities interested in priority wheeling schedules for July and August 2021 that they will need to provide the information by June 29. For Priority Wheeling Through transactions in September 2021 and months thereafter, the scheduling coordinator must provide the information 45 days before the month. This 45-day requirement is analogous to the existing obligation on CAISO LSEs under the RA program to provide a monthly RA Plan to the CAISO at least 45 days before the start of the month.¹⁹⁶ As discussed in Section III.B.8.a below, in response to stakeholder feedback, the CAISO revised the timing for scheduling coordinators to meet qualifications for a Priority Wheeling Through to align more closely with the monthly RA showing requirements.

It is just and reasonable to require the scheduling coordinator to satisfy these three criteria to demonstrate its wheeling through self-schedule is of sufficient firmness, duration, and veracity to qualify as a Priority Wheeling Through.

b. Tariff Revisions to Specify Scheduling Priorities for Wheeling Through Self-Schedules

Any wheeling through self-schedule not satisfying one or more of the three criteria listed above will be a non-Priority Wheeling Through transaction. Thus, for the interim effectiveness of these tariff revisions, there will be two types of wheeling through self-schedules: Priority Wheeling Through transactions, which have a higher priority for scheduling purposes, and non-Priority Wheeling Through transactions, which have a lower priority.

Effective on an interim basis through May 31, 2022, the CAISO will reflect these higher and lower scheduling priorities in revisions to tariff section 31.4 (for the IFM) and tariff section 34.12 (for the real-time market). Specifically, to effectuate this priority scheme in the IFM, the export leg of a Priority Wheeling Through transaction will have a scheduling priority equal to the scheduling priority of a Self-Schedule of CAISO Demand and high-priority non-recallable exports¹⁹⁷ with lower scheduling priorities assigned to the export leg of a non-

¹⁹⁵ New tariff section 30.5.1(z). Effective June 1, 2022, the tariff will no longer include this section.

¹⁹⁶ See existing tariff sections 40.2.1(a), 40.2.2.4(b), 40.4.7.1(b), and 40.10.5.2(c)(3).

¹⁹⁷ Revised tariff section 31.4(e). Except as otherwise specified below in this subsection (b)

Priority Wheeling Through transaction.¹⁹⁸ Similarly, the import leg of a Priority Wheeling Through transaction will have higher priority¹⁹⁹ than the import leg of a non-Priority Wheeling Through transaction.²⁰⁰

The CAISO's market software determines the priority order in which it curtails self-schedules using market parameters known as "penalty prices." Determining priority order for wheeling through self-schedules is unique because they consist of both an import self-schedule and an export self-schedule. The market has a constraint to ensure wheeling through transactions remain balanced (*i.e.*, the import quantity equals the export quantity). This constraint respects the penalty prices associated with curtailing both the import self-schedule and the export self-schedule. These penalty factors are additive.

To provide Priority Wheeling Through transactions the same priority as self-scheduled CAISO load in market optimization, the export leg of a Priority Wheeling Through will have a scheduling priority equal to self-schedules of CAISO Demand in the IFM and a scheduling priority equal to meeting the CAISO load forecast in the RUC process and real-time market. The export leg of a Priority Wheeling Through will also have the same scheduling priority as a high-priority non-recallable export. The import leg of a Priority Wheeling Through will have a scheduling priority equal to self-scheduled imports. The combined effect of the scheduling priorities of the export and import legs give Priority Wheeling Through transactions an equal priority in the market to a self-scheduled import needed to meet CAISO load.

The CAISO will set the import leg of a non-Priority Wheeling Through transaction to \$0 through a parameter in the business practice manual. In the majority of instances, combining the export and import leg priorities will provide non-Priority Wheeling Through transactions a lower scheduling priority than serving CAISO load. The proposed post-HASP process (described *infra*) will address any non-Priority Wheeling Through transactions that clear HASP if the CAISO cannot serve its load.

These tariff revisions will ensure the highest-priority wheeling through self-schedules have the same priority as a self-scheduled RA import needed to serve load internal to the CAISO. In addition, the proposed revisions add specificity to the tariff regarding wheeling through self-schedule priorities – an element that is

of this transmittal letter, references to revised tariff sections herein mean tariff sections that will be in effect only from July 1, 2021 through May 31, 2022.

¹⁹⁸ Revised tariff section 31.4(f).

¹⁹⁹ Revised tariff section 31.4(h).

²⁰⁰ Revised tariff section 31.4(i).

missing in the current tariff and effectuated only through application of parameters in in the business practice manual.

Reflecting the interim nature of the CAISO's proposal, effective June 1, 2022, the CAISO proposes to remove the references in tariff sections 31.4, 34.12.1, 34.12.2, and 34.12.3 to scheduling priorities for Priority Wheeling Through and non-Priority Wheeling Through transactions. Like the existing tariff, these tariff sections will not mention wheeling through self-schedule priorities effective June 1, 2022.

c. Tariff Revisions to Implement Post-HASP Process to Allocate Transmission Capacity Fairly to Ensure Reliable Operations

Existing tariff section 34.12.2 states that the dispatch priorities "as defined in the RTM [real-time market] optimization may be superseded by operator actions and procedures as necessary to ensure reliable operations." Effective on an interim basis from through May 31, 2022 (*i.e.*, while Priority Wheeling Through transactions are in effect), the CAISO proposes to supplement this existing tariff language to describe a new post-HASP process to allocate constrained import and internal transmission between Priority Wheeling Through transactions and supply needed to serve native load.

The market can produce inequitable results because RA imports are not required to self-schedule. They can also submit economic bids. The market may schedule wheeling through transactions, including non-Priority Wheeling Through transactions, instead of scheduling these imports needed to meet CAISO native load. There can be instances where a non-Priority Wheeling Through transaction can clear the HASP, preventing the CAISO from serving its native load. In addition, a higher quantity of Priority Wheeling Through transactions can clear the HASP, causing CAISO load to receive an insufficient share of the transmission capacity needed to serve native load. The market can also cause wheeling through schedules to displace RA Capacity needed to serve CAISO load if Path 26 becomes congested.

The new process is necessary to ensure a proportionate allocation because the market solution using penalty prices alone may not produce such an allocation. When the market must reduce submitted self-schedules or not meet load, and the relevant penalty prices the optimization is considering are the same, many potential solutions are possible. The market optimization schedules supply and demand with the objective of minimizing overall costs. However, various potential self-schedule amounts or load reductions can have the same overall costs, leading to many potential solutions. In addition, other factors such as transmission losses can cause the market to reduce self-schedules unevenly.

Thus, it is unlikely the market will *pro rata* allocate constrained capacity between Priority Wheeling Through transactions and transactions needed to serve native load.

The post-HASP process will appropriately allocate limited transmission capability between Priority Wheeling Through transactions and supply needed to serve native load. During some stressed conditions when the CAISO is at risk of shedding load, it is inappropriate to allocate limited transmission capacity to non-Priority Wheeling Through transactions to the detriment of the CAISO serving its native load. CAISO LSEs rely on available transmission capacity and make RA import procurement decisions in advance based on the CAISO's assessment of available import capability and tariff rules governing its assignment to them.²⁰¹ Non-Priority Wheeling Through transactions indicate no commitment to, or dependence on, using the CAISO grid routinely on a monthly basis. Such opportunity-type transactions should not have a priority equal to native load or Priority Wheeling Through transactions. It is inappropriate to jeopardize serving native load by providing limited capacity to entities that fail to demonstrate dependence on the CAISO system ahead of time. The allocation process also reduces potential adverse effects on system reliability by ensuring non-Priority Wheeling Through transactions do not prevent RA Capacity north of Path 26 from serving load south of Path 26. Furthermore, it allows the CAISO to provide access to external entities that have shown their dependence on the CAISO grid ahead of time based on their investments to secure capacity and supply to serve their load.

Specifically, if an intertie scheduling point is constrained in the import direction or Path 26 is congested in the north-south direction, and the HASP cannot meet CAISO forecast demand or fully accommodate a Priority Wheeling Through transaction, the CAISO will perform a post-HASP process to allocate ATC between supply needed to meet CAISO load and Priority Wheeling Through transactions *pro rata*.²⁰² Under the proposed tariff provisions, the CAISO load share is the lower of each applicable RA resource's real-time energy bid quantity or its shown RA Capacity. The Priority Wheeling Through *pro rata* share for each self-schedule will be based on the lowest of (1) 110 percent of the submitted day-ahead market self-schedule of the Priority Wheeling Through transaction,²⁰³ (2)

²⁰¹ See existing tariff section 40.44.6.2 *et seq.* (the Maximum Import Capability or MIC tariff provisions).

²⁰² Revised tariff section 34.12.3. Effective June 1, 2022, the tariff will no longer include these tariff provisions.

²⁰³ This provision incentivizes Priority Wheeling Through transactions to participate in the day-ahead market. Priority Wheeling Through transactions scheduling only in the real-time market can create reliability issues because they displace at the last minute needed import supply

the submitted real-time market self-schedule of the Priority Wheeling Through transaction, or (3) the Priority Wheeling Through quantity requested 45-days in advance of the month. The ATC the CAISO awards to Priority Wheeling Through transactions in the post-HASP process cannot exceed the Priority Wheeling Through quantity the CAISO calculates in this *pro rata* allocation. If RUC cannot schedule sufficient capacity to meet the RUC Procurement Target, the CAISO will issue a RUC Award or RUC Schedule to imports providing RA Capacity for the full amount of their RA Capacity.²⁰⁴

The following provides a numerical example of the post-HASP allocation process. Assume the import limit is 4000 MW in both the day-ahead and real-time market. In the day-ahead market, there are 2000 MW of Priority Wheeling Through transactions scheduled. In the real-time market, the submitted Priority Wheeling Through transactions are 2500 MW, which is less than the quantity requested 45 days in advance. There are 2000 MW of RA Capacity bidding in the real-time market equal to the shown RA Capacity. In addition, 1000 MW of non-RA Capacity imports bid into the real-time market. The Priority Wheeling Through transactions claim to import capability is limited to 110 percent of the day-ahead schedule or 2200 MW. The CAISO load entitlement claim on import capability is limited to the RA Capacity of 2000 MW. The Priority Wheeling Through transactions *pro rata* share is $2200 \text{ MW} / (2000 \text{ MW} + 2200 \text{ MW})$ of the 4000 MW import limit which is 2095 MW. The CAISO would curtail self-schedules of the Priority Wheeling Through transactions to 2095 MW. The CAISO load *pro rata* share of the 4000 MW import limit would be 1905 MW, *i.e.*, $2000 \text{ MW} / (2000 \text{ MW} + 2200 \text{ MW})$. The CAISO will schedule the additional imports and internal generation that did not clear the HASP in merit order up to 1905 MW.

The CAISO will settle energy scheduled via the post-HASP process as exceptional dispatch energy. This recognizes the post-HASP process may have to increase schedules by accepting “out-of-economic-merit-order” bids. It is possible the adjustment will reallocate transmission capacity from Priority Wheeling Through transactions to imports and internal generation that submitted economic bids but the HASP did not select. If the HASP cuts Priority Wheeling Through transactions, the HASP locational marginal price (LMP) at the scheduling point is $-\$150/\text{MWh}$. After the adjustment, some imports submitted as economic bids may receive schedules that do not correspond to their bid price. If the congestion persists in subsequent fifteen-minute market (FMM) runs, which is likely, the FMM LMP may be negative, resulting in unfavorable

determined as needed in RUC to meet CAISO reliability needs at the last minute.

²⁰⁴ Revised tariff section 31.5.5. This ensures CAISO load receives an appropriate share of the transmission capability to meet load-serving obligations if the HASP is infeasible by creating a real-time must-offer obligation for RA imports that did not clear the RUC optimization.

settlement for these schedules. However, the CAISO would make these schedule increases to ensure reliability, and consequently they are similar to the exceptional dispatches the CAISO makes in other circumstances under existing tariff section 34.11 to maintain reliability.

The Appendices to the Revised Final Proposal include additional examples illustrating application of the post-HASP process, including when there is north to south congestion on Path 26.²⁰⁵

As discussed in Section III.B.8 below, to address concerns raised by stakeholders, the CAISO revised several elements of the proposed post-HASP process.

8. The CAISO Proposal on Scheduling Priorities for Wheeling Through Self-Schedules Appropriately Addresses Stakeholder Feedback

During the stakeholder process, the CAISO refined its proposal to address stakeholder feedback. Some stakeholders expressed support for the proposed tariff revisions. Other stakeholders raised issues with the proposal or opposed the proposal entirely or in part. The CAISO addresses many of the more significant stakeholder issues in the following discussion.

a. Responses to Comments on the Definition of a Priority Wheeling Through

Early in the stakeholder process, the CAISO proposed that one criterion for a Priority Wheeling Through transaction should be that the wheeling through self-schedule is supported by a firm power supply contract to serve load in another BAA entered into prior to the date this tariff amendment was filed. Some stakeholders objected to this proposal arguing it gave them insufficient notice of the need for a firm power supply contract. They also argued this imposed more onerous requirements on external LSEs than the RA requirements for CAISO LSEs. In response, the CAISO eliminated this criterion and now instead proposes to require the scheduling coordinator to have such a contract in place by June 29, 2021, for Priority Wheeling Through transactions in July and August 2021, and 45 days before the month in which the Priority Wheeling Through transaction will start for subsequent months.²⁰⁶ This change aligns the eligibility requirements for Priority Wheeling Through transactions with the 45-day in advance monthly showing requirement for RA supply.

²⁰⁵ Revised Final Proposal, provided as Attachment G to this filing at 48-51.

²⁰⁶ See *supra* section III.B.1(a) of this transmittal letter.

Some stakeholders also expressed concern that requiring notification 45 days before the month, for September 2021 and afterwards, gives them an insufficient margin for error. However, this 45-day time period is identical to the existing 45-day time period for LSEs to submit monthly RA Plans. Thus, the CAISO does not believe allowing 45 days will be problematic.²⁰⁷

A few stakeholders suggested the CAISO should change the requirements to be eligible for Priority Wheeling Through transaction to include contracts to serve load outside the CAISO BAA for any portion of the month along with firm transmission service for the hours reflected in the power supply contract. There are several reasons such changes are unjustified. First, this would undermine the CAISO's objective of aligning Priority Wheeling Through eligibility with the monthly RA showings required for CAISO LSEs. CAISO LSEs must meet their RA obligations for the entire month, not a subset of the month. Second, the suggested change would allow wheeling through self-schedules to crowd out native load during anticipated peak need periods, essentially allowing external entities to "cherry pick" when to use the system, in contrast to CAISO LSEs that depend on the CAISO system, and must pay for its embedded costs, every hour of every day of the month. Third, the suggestion ignores that CAISO LSEs must procure sufficient RA Capacity each month to meet their monthly peak obligation, and most of that capacity has a 24 x 7 must-offer obligation. Granting a high priority to wheeling through transactions supported by power supply contracts to serve external load for some unspecified period "during the applicable month" is wholly incomparable to the RA obligations of CAISO LSEs, and it does not evince an intent to rely regularly on the CAISO grid to serve load like a CAISO LSE.

This change would also contravene a core principle of the CAISO's proposal – the Commission's recognition that, because "external load is situated differently than internal load with respect to its ongoing reliance on the CAISO grid," external LSEs should demonstrate their intention to utilize the CAISO transmission system on a regular basis in order to receive rights comparable to those provided internal load.

b. Responses to Comments on the Scheduling Priorities for Wheeling Through Transactions

Stakeholders expressed concern some scheduling priority alternatives the CAISO considered earlier in the stakeholder process might make wheeling through capacity unavailable for external LSEs that either have procured firm

²⁰⁷ Stakeholders also ignore that CPUC-jurisdictional LSEs must show they have procured at least 90 percent of their RA obligations for the summer months (May-September) by October 31 of the prior year. These showings can include import supply arrangements.

supplies or were considering such supplies they intend to wheel through the CAISO to serve their native load. In response, the CAISO crafted the proposal in this filing – namely, that Priority Wheeling Through Self-Schedules will have a scheduling priority equal to the scheduling priority of a self-scheduled RA import to serve load internal to the CAISO in both the IFM and the real-time market. This will reasonably accommodate neighboring BAAs that are utilizing out-of-BAA supplies, combined with firm transmission, to meet a portion of their native load obligations, without significantly undermining appropriate native load protections for CAISO BAA native load.

Some stakeholders objected to the proposal to give any scheduling priority to wheeling through self-schedules on the grounds there is no policy (or tariff) basis for the proposal, the proposal is unfair to native load, and the proposal could block RA resources from serving load during emergency conditions. They also asserted that the proposal is contrary to the native load priority and treatment of network resources under Order No. 888.

The CAISO believed it was inappropriate to implement these less accommodative measures for summer 2021. As explained above,²⁰⁸ the CAISO might adjust wheeling through self-schedules based on the scheduling priorities set forth in tariff sections 31.4 and 34.12, as revised by this filing, if capacity is constrained. The CAISO's proposal follows the Commission's recognition in Order No. 890 that open access transmission service should strike the appropriate balance between the transmission provider's need to meet its native load obligations and the need of other entities to obtain service from the transmission provider to meet their own obligations. The CAISO's proposal seeks a balanced approach that recognizes some external BAAs have arranged to serve a portion of their native load using wheeling through transactions. Although the CAISO acknowledges the native load protections promulgated in Order Nos. 888 and 890, the CAISO seeks to implement a more measured approach for the interim period.

On the other hand, different stakeholders argued the CAISO's proposal violates open access and does not sufficiently protect wheeling through transactions. The proposal does not violate open access. As discussed above, the CAISO's proposal is consistent with general open access principles, including the native load priority articulated in Order Nos. 888 and 890. These stakeholders ignore that under the CAISO's proposal, the CAISO grid is "open" daily to all market participants that seek to use it, just as it is today. On a daily basis any scheduling coordinator – whether it represents supply, load, exports, or wheeling through transactions – can submit a bid/self-schedule for service.

²⁰⁸ See *supra* section III.B.2 of this transmittal letter.

The CAISO is not precluding wheeling through transactions on its system. The CAISO's proposal merely establishes the scheduling priorities it will apply in the day-ahead and real-time market optimization processes during extremely tight conditions if the market does not solve, and it needs to adjust self-schedules. Scheduling priorities are not a new concept in the CAISO tariff – they already exist in tariff sections 31.4 and 34.12 for different types of transactions. However, these tariff sections do not reference the scheduling priorities for wheeling through self-schedules. The CAISO now seeks to establish such priorities and to create two classes of wheeling through self-schedules. The proposed priorities are fair and offer reasonable protections to native load. Importantly, the CAISO is not giving native load a higher priority than Priority Wheeling Through transactions; it is giving native load the same priority.

Consistent with the Commission's open access principles, the CAISO's proposal balances the transmission provider's need to meet its native load obligations and the desire of other entities to obtain service from the transmission provider to meet their own obligations. Other transmission providers (including other ISOs/RTOs) address curtailment-related issues through measures such as CBM, reservation of capacity for native load as existing transmission commitments, different categories of transmission service with different curtailment priorities, and NERC Transmission Loading Relief standards.²⁰⁹ Energy sellers (including the merchant arms of regulated public utilities) similarly implement varying curtailment/supply interruption provisions in their sales contracts, distinguishing between firm and non-firm energy, which they may interrupt or recall for any number of reasons, including reliability or economics. The CAISO is not foreclosing use of its system; it is merely prioritizing the allocation of capacity if tight conditions occur, just as every other transmission provider does. The CAISO's proposed measures are comparable in effect, but not identical in form, to the native load protections maintained by other ISOs, RTOs, and transmission providers. The CAISO's proposal reflects the unique nature of its services and markets – no transmission reservations, no classes of transmission service, and a volumetric wheeling through rate. The CAISO handles all scheduling priorities through the penalty parameters in the market optimization. Accordingly, the CAISO's proposal establishes the relative priority of native load and other uses of the transmission system through a scheduling priority based on the market's application of penalty prices. This does not violate open access or any other fundamental principle.

Some stakeholders expressed concern the CAISO's proposal is unduly discriminatory because it does not treat wheeling through customers identically to internal CAISO load and import RA transactions. There is no reasonable basis

²⁰⁹ Also, as discussed above, other transmission providers "carve-out" and preserve capacity for native load before even making capacity available for other transmission services.

for those concerns. Over the course of the stakeholder process for the tariff amendment, the CAISO changed its proposal to address stakeholder comments, easing the requirements for Priority Wheeling Through transactions to accommodate the needs of LSEs outside the CAISO BAA. The resulting proposal gives equal scheduling priority to Priority Wheeling Through transactions and self-scheduled RA imports to serve load internal to the CAISO. The proposal protects native load consistent with the non-discriminatory open access requirements in Order Nos. 888 and 890. It also follows the Commission's prior findings that external LSEs and internal CAISO LSEs are not similarly situated. The CAISO's proposal presents a fair and balanced interim solution given the unique circumstances here and the clear need to maintain reliability on the CAISO during summer 2021.

Section 205 of the FPA prohibits a public utility from "mak[ing] or grant[ing] any *undue* preference or advantage to any person or subject[ing] any person to any *undue* prejudice or disadvantage."²¹⁰ So long as there is no undue preference or discrimination, the public utility satisfies the requirements of section 205.²¹¹ The CAISO's proposal is not unduly discriminatory. Again, it simply makes justified distinctions in the scheduling priorities set forth in tariff sections 31.4 and 34.12 to protect native load reasonably in emergency conditions.

c. Response to Comments Regarding the New Post-HASP Process

The CAISO had initially proposed to base the *pro rata* allocation in the post-HASP process on the maximum of the total RA imports in the real-time and RUC imports. Some stakeholders expressed concern this would improperly prioritize CAISO imports beyond RA commitments. The CAISO recognized this concern and modified the proposal so that the post-HASP *pro rata* allocation will use only the amount of RA import bids (including self-schedules) in the real-time market.²¹²

²¹⁰ FPA Section 205(b), 16 U.S.C. § 824d(b) (emphasis added).

²¹¹ *Calpine Corp. v. PJM Interconnection, L.L.C.*, 171 FERC ¶ 61,035, at P 318 (2020) ("Whether a rate or practice is unduly discriminatory depends on whether it provides different treatment to different classes of entities and turns on whether those classes of entities are similarly situated"). See also *Town of Norwood v. FERC*, 202 F.3d 392, 402 (1st Cir. 2000) ("But differential treatment does not necessarily amount to *undue* preference where the difference in treatment can be explained by some factor deemed acceptable to regulators (and the courts).") (emphasis in original).

²¹² The MSC Opinion recognizes the CAISO made this change to reflect a comparable priority between RA imports and Priority Wheeling Through transactions. MSC Opinion at 14.

Several stakeholders and DMM suggested the CAISO should add a day-ahead must-offer obligation for high-priority wheels given the concern that reliability challenges could arise if the RUC process does not take into account priority wheeling transactions expected in real-time. DMM stated that although it expects scheduling coordinators will schedule few wheeling through transactions in real-time, allowing wheeling through transactions to schedule in real-time only can create uncertainty because they can displace generation needed to serve CAISO load.²¹³ DMM suggested the CAISO could mitigate this uncertainty by requiring wheeling through transactions participate in the day-ahead market in order to have Priority Wheeling Through status.²¹⁴ DMM said this would reduce uncertainty between the day-ahead and real-time markets.²¹⁵ The MSC also recognized that even with the new wheeling through requirements in place circumstances could arise where Priority Wheeling Through transactions and RA imports exceed an intertie's total transfer capacity.²¹⁶

The CAISO responded to this concern by adding a provision that limits the incremental Priority Wheeling transactions scheduled in the real-time market it can consider in the post-HASP *pro rata* reduction process. If the Priority Wheeling through fails to participate in the day-ahead market, the CAISO will miss an opportunity to address the impact of these schedules in the day-ahead timeframe. This could produce unreliable day-ahead schedules and force the CAISO to address the infeasibilities in the real-time when the CAISO has fewer options. Therefore, to ensure that the bulk of the priority wheels will be scheduled in the day-ahead market, the post-HASP *pro rata* process for priority wheels will be based on the lesser of (1) 110 percent of the submitted day-ahead market priority wheel self-schedule, (2) the submitted real-time market priority wheel self-schedule, or (3) the priority wheel quantity requested 45 days in advance of the month. Further, the CAISO will cap the ATC it awards to Priority Wheeling Through transactions in the post-HASP process so it cannot exceed the Priority Wheeling Through quantity the CAISO calculates in the *pro rata* allocation.

The proposed Priority Wheeling Through quantity the CAISO will use in the post-HASP process reflects stakeholder and DMM's input. Although the

²¹³ Comments of DMM on Revised Tariff Language, citing Comments of DMM on Final Proposal.

²¹⁴ *Id.* The CAISO notes that, by comparison, RA resources have a day-ahead must-offer obligation.

²¹⁵ *Id.*

²¹⁶ MSC Opinion at 13.

CAISO did not adopt their specific recommendations, its proposed post-HASP allocation process responds to their concerns and will encourage scheduling coordinators to schedule Priority Wheeling Through transactions in the day-ahead.

d. Response to Comments on Stakeholders' Proposed Alternatives

Some stakeholders propose alternatives to the CAISO's proposal regarding scheduling priority for wheeling through self-schedules, *e.g.*, implementing an approach based on ATC reservations or CBM or implementing a TAC prepayment scheme that allocates capacity to wheeling through transactions (like the CRR process). The CAISO cannot implement these alternatives this summer. In any event, the Commission need not, and should not consider these proposed alternatives if raised in comments filed in response to this tariff amendment.

The matter before the Commission is to determine whether the CAISO's proposal, not any proposed alternative, is just and reasonable. "Pursuant to section 205 of the FPA, the Commission limits its evaluation of a utility's proposed tariff revisions to an inquiry into 'whether the rates proposed by a utility are reasonable – and not to extend to determining whether a proposed rate schedule is more or less reasonable to alternative rate designs.'"²¹⁷ Therefore, "[u]pon finding that CAISO's Proposal is just and reasonable, [the Commission] need not consider the merits of alternative proposals."²¹⁸ The CAISO and stakeholders will consider options for a longer-term solution in the newly commenced stakeholder initiative. Because the CAISO cannot develop and implement such a solution by the summer of 2021, the CAISO is proposing the tariff revisions regarding wheeling priorities on an interim basis, to ensure reliability of service to native load this summer through May 2022.

²¹⁷ *Cal. Indep. Sys. Operator Corp.*, 141 FERC ¶ 61,135, at P 44 n.43 (quoting *City of Bethany v. FERC*, 727 F.2d 1131, 1136 (D.C. Cir. 1984)). In that same order, the Commission also explained that the revisions proposed by the utility "need not be the only reasonable methodology" and that "even if an intervenor develops an alternative proposal, the Commission must accept a section 205 filing if it is just and reasonable, regardless of the merits of the alternative proposal. 141 FERC ¶ 61,135, at P 44 n.43 (citing federal court and Commission precedent). See also *New Eng. Power Co.*, 52 FERC ¶ 61,090, at 61,336 (1990), *aff'd*, *Town of Norwood v. FERC*, 962 F.2d 20 (D.C. Cir. 1992) (proposed rate design need not be perfect, it merely needs to be just and reasonable); *Louisville Gas & Elec. Co.*, 114 FERC ¶ 61,282, at P 29 (2006) (the just and reasonable standard under the FPA is not so rigid as to limit rates to a "best rate" or "most efficient rate" standard, but rather a range of different approaches often may be just and reasonable).

²¹⁸ *Cal. Indep. Sys. Operator Corp.*, 141 FERC ¶ 61,135, at P 44.

IV. EFFECTIVE DATE OF TARIFF REVISIONS AND INTERIM EFFECTIVENESS OF WHEELING THROUGH TARIFF REVISIONS

To address the risks the CAISO faces in summer 2021, most of the proposed tariff revisions must become effective in July 2021. However, the CAISO requires limited tariff provisions to be effective on June 28, 2021. Therefore, the CAISO respectfully requests the Commission issue an order by June 27, 2021, accepting the proposed tariff revisions effective on the dates the CAISO proposes.

Specifically, the CAISO is submitting three sets of tariff revisions with different effective dates. The first set, consisting of the new defined term Priority Wheeling Through and an eligibility notification provision, will be effective June 28, 2021.²¹⁹ The second set, which contains the other load, export, and wheeling through related tariff revisions, would be effective upon five days advance notice no later than July 15, 2021.²²⁰ This will provide the CAISO and market participants sufficient time to prepare for implementing these changes. The CAISO requests authorization to notify market participants of the effective date of the second set of tariff changes at least five days before implementation.²²¹

Because the CAISO intends all wheeling through related tariff revisions to be interim only, the CAISO is submitting a third set of tariff records that removes all such wheeling through-related provisions from the tariff after May 31, 2022.²²²

²¹⁹ The clean tariff sheets for the first set of tariff revisions are in Attachment A, and the redlined sheets are in Attachment B.

²²⁰ The clean tariff sheets for the second set of tariff revisions are in Attachment C, and the redlined sheets are in Attachment D.

²²¹ See *Cal. Indep. Sys. Operator Corp.*, 172 FERC ¶ 61,263, at Ordering Paragraphs (A) and (C) (2020). The CAISO has included an effective date of 12/31/9998 as part of the tariff records submitted in this filing. The CAISO will notify the Commission of the actual effective date of these tariff records within five business days after implementation in an eTariff submittal using Type of Filing code 150 – Report.

²²² The clean tariff sheets for the third set of tariff revisions are in Attachment E, and the redlined sheets are in Attachment F. Specifically, the CAISO proposes to sunset the following: (1) the definition of Priority Wheeling Through in Appendix A of the CAISO tariff; (2) new tariff section 30.5.1(z); (3) the discussion of the post-HASP process in new tariff section 34.12.3; (4) the tariff revision in section 31.5.5; and (5) the references to Priority Wheeling Through and non-Priority Wheeling Through self-schedules in revised tariff sections 31.4, 34.12.1, and 34.12.2. Regarding removal of the Priority Wheeling Through definition in Appendix A and of tariff record 34.12.3, Systrends does not allow changes to a newly proposed record in the same filing. Therefore, the CAISO will submit a future filing to remove both records in Systrends at least 61 days prior to the June 1, 2022 effective date.

Thus, effective June 1, 2022, the CAISO would revert back to the current tariff provisions that do not specify scheduling priorities for wheeling through transactions

Because the third set of tariff revisions would become effective on June 1, 2022, the CAISO requests the Commission grant waiver of its notice requirement.²²³ The CAISO requests the Commission grant all necessary waivers to allow this. Good cause exists to grant this waiver because the CAISO intends its proposal to implement two categories of wheeling through self-schedules to be interim in nature.

The CAISO has a commenced a new stakeholder initiative to consider more durable measures to address wheeling through priority issues. However, the CAISO may be unable to develop and implement any longer-term measures by June 2022. Thus, the possibility exists the CAISO might seek to extend the wheeling through provisions proposed in this filing or seek to implement other interim measures effective June 1, 2022. Any changes would require the CAISO to submit a new Section 205 filing to supersede the third set of tariff sheets.²²⁴

²²³ Specifically, under Section 35.11 of the Commission's regulations, 18 C.F.R. § 35.11. The CAISO respectfully requests waiver of the notice requirement in section 35.3(a)(1) of the Commission's regulations, 18 C.F.R. §35.3(a)(1), to allow those tariff revisions to go into effect more than 120 days after submittal of this filing.

²²⁴ *Id.*

V. COMMUNICATIONS

Parties should direct any correspondence and other communications regarding this filing should to:

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VI. SERVICE

The CAISO has served copies of this filing on the California Public Utilities Commission, the California Energy Commission, and all parties with scheduling coordinator agreements under the CAISO tariff. In addition, the CAISO has posted a copy of the filing on the CAISO website.

VII. CONTENTS OF FILING

In addition to this transmittal letter, this filing includes the following attachments:

Attachment A	Clean tariff sheets incorporating the first set of revisions described in this filing
Attachment B	Tariff sheets showing in redline format the first set of revisions to the currently effective tariff described in this filing
Attachment C	Clean tariff sheets incorporating the second set of revisions described in this filing ²²⁵
Attachment D	Tariff sheets showing in redline format the second set of revisions to the currently effective tariff described in this filing ²²⁶
Attachment E	Clean tariff sheets incorporating the third set of revisions described in this filing ²²⁷
Attachment F	Tariff sheets showing in redline format the third set of revisions described in this filing ²²⁸
Attachment G	Revised Final Proposal
Attachment H	CAISO Management's Memorandum and Presentation to the CAISO Board regarding the Decision on Market Enhancements for Summer 2021 Readiness – Load, Export, and Wheeling Priorities
Attachment I	Market Surveillance Committee Opinion

²²⁵ Clean tariff sheets for the second set of tariff revisions include the changes from the first tranche as underlying text.

²²⁶ Redlined tariff sheets for the second set of revisions include changes from the first tranche as underlying text.

²²⁷ Clean tariff sheets for the third set of tariff revisions include certain changes from the second tranche as underlying text.

²²⁸ Redlined tariff sheets for the third set of revisions include certain changes from the second tranche as underlying text.

VIII. CONCLUSION

For the reasons set forth in this filing, the CAISO respectfully requests that the Commission accept the proposed tariff revisions effective on the dates proposed herein.

Respectfully submitted,

/s/ Anthony Ivancovich

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Attachment A – Clean Tariff (June 28, 2021)
Load, Exports & Wheeling Tariff Amendment
California Independent System Operator Corporation
April 28, 2021

30.5.1 General Bidding Rules

- (a) All Energy and Ancillary Services Bids of each Scheduling Coordinator submitted to the DAM for the following Trading Day shall be submitted at or prior to 10:00 a.m. on the day preceding the Trading Day, but no sooner than seven (7) days prior to the Trading Day. All Energy and Ancillary Services Bids of each Scheduling Coordinator submitted to the RTM for the following Trading Day shall be submitted starting from the time of publication, at 1:00 p.m. on the day preceding the Trading Day, of DAM results for the Trading Day, and ending seventy-five (75) minutes prior to each applicable Trading Hour in the RTM. Scheduling Coordinators may submit only one set of Bids to the RTM for a given Trading Hour, which the CAISO uses for all Real-Time Market processes. The CAISO will not accept any Energy or Ancillary Services Bids for the following Trading Day between 10:00 a.m. on the day preceding the Trading Day and the publication, at 1:00 p.m. on the day preceding the Trading Day, of DAM results for the Trading Day;

* * * * *

- (x) Scheduling Coordinators can submit Economic Hourly Block Bids with Intra-Hour Option. If accepted in the HASP, such a Bid creates a binding schedule with same MWh awards for each of the four (4) FMM intervals. After that, the RTM can optimize such schedules for economic reasons once through an FMM during the Trading Hour. As specified in Section 11, a cleared Economic Hourly Block Bid with Intra-Hour Option is not eligible for Bid Cost Recovery.
- (y) A Scheduling Coordinator submitting Bids to the RTM is not required to submit a Self-Schedule Hourly Block, a Variable Energy Resource Self-Schedule, an Economic Hourly Block Bid, or an Economic Hourly Block Bid with Intra-Hour Option, and may instead choose to participate in the RTM through Economic Bids or Self-Schedules.
- (z) For a Wheeling Through Self Schedule to be eligible as a Priority Wheeling Through for a given month, the Scheduling Coordinator must notify the CAISO of the MW quantity of

the power supply contract MW supporting the export Self-Schedule of the Priority Wheeling Through transaction and confirm it meets the eligibility requirements to support a Priority Wheeling Through. The Scheduling Coordinator must provide such information to the CAISO (1) by June 29, 2021 for the months of July and August 2021, and (2) by 45 days prior to the applicable month for all months thereafter.

* * * * *

Appendix A

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- Priority Wheeling Through

A Self-Schedule that is part of a Wheeling Through transaction consistent with Section 30.5.4 that is supported by (1) a firm power supply contract to serve an external Load Serving Entity's load throughout the calendar month and (2) monthly firm transmission the external Load Serving Entity has procured under applicable open access tariffs, or comparable transmission tariffs, for Hours Ending 07:00 through 22:00, Monday through Saturday excluding NERC holidays, from the source to a CAISO Scheduling Point.

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Attachment B – Marked Tariff (June 28, 2021)
Load, Exports & Wheeling Tariff Amendment
California Independent System Operator Corporation
April 28, 2021

30.5.1 General Bidding Rules

- (a) All Energy and Ancillary Services Bids of each Scheduling Coordinator submitted to the DAM for the following Trading Day shall be submitted at or prior to 10:00 a.m. on the day preceding the Trading Day, but no sooner than seven (7) days prior to the Trading Day. All Energy and Ancillary Services Bids of each Scheduling Coordinator submitted to the RTM for the following Trading Day shall be submitted starting from the time of publication, at 1:00 p.m. on the day preceding the Trading Day, of DAM results for the Trading Day, and ending seventy-five (75) minutes prior to each applicable Trading Hour in the RTM. Scheduling Coordinators may submit only one set of Bids to the RTM for a given Trading Hour, which the CAISO uses for all Real-Time Market processes. The CAISO will not accept any Energy or Ancillary Services Bids for the following Trading Day between 10:00 a.m. on the day preceding the Trading Day and the publication, at 1:00 p.m. on the day preceding the Trading Day, of DAM results for the Trading Day;

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- (x) Scheduling Coordinators can submit Economic Hourly Block Bids with Intra-Hour Option. If accepted in the HASP, such a Bid creates a binding schedule with same MWh awards for each of the four (4) FMM intervals. After that, the RTM can optimize such schedules for economic reasons once through an FMM during the Trading Hour. As specified in Section 11, a cleared Economic Hourly Block Bid with Intra-Hour Option is not eligible for Bid Cost Recovery.
- (y) A Scheduling Coordinator submitting Bids to the RTM is not required to submit a Self-Schedule Hourly Block, a Variable Energy Resource Self-Schedule, an Economic Hourly Block Bid, or an Economic Hourly Block Bid with Intra-Hour Option, and may instead choose to participate in the RTM through Economic Bids or Self-Schedules.
- (z) For a Wheeling Through Self Schedule to be eligible as a Priority Wheeling Through for a given month, the Scheduling Coordinator must notify the CAISO of the MW quantity of

the power supply contract MW supporting the export Self-Schedule of the Priority Wheeling Through transaction and confirm it meets the eligibility requirements to support a Priority Wheeling Through. The Scheduling Coordinator must provide such information to the CAISO (1) by June 29, 2021 for the months of July and August 2021, and (2) by 45 days prior to the applicable month for all months thereafter.

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Appendix A

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- Priority Wheeling Through

A Self-Schedule that is part of a Wheeling Through transaction consistent with Section 30.5.4 that is supported by (1) a firm power supply contract to serve an external Load Serving Entity's load throughout the calendar month and (2) monthly firm transmission the external Load Serving Entity has procured under applicable open access tariffs, or comparable transmission tariffs, for Hours Ending 07:00 through 22:00, Monday through Saturday excluding NERC holidays, from the source to a CAISO Scheduling Point.

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Attachment C – Clean Tariff (July 2021)
Load, Exports & Wheeling Tariff Amendment
California Independent System Operator Corporation
April 28, 2021

Section 9

9.3.1 CAISO Outage Coordination Functions

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9.3.1.3 Coordinating Outages of RA Resources

9.3.1.3.1 Maintenance Outages Requested Before Cure Period

Other than Outage types identified in Section 9.3.1.3.3, the CAISO denies Maintenance Outage requests or Approved Maintenance Outages on RA Resources requested before the 30-day Supply Plan revision deadline in Section 40.4.7.1(c) for the RA month in which the outage would first take place if the Scheduling Coordinator for the RA Resource does not provide RA Substitute Capacity to cover the extent of the Outage impacting RA Capacity that occurs during the period for which the resource has been shown on a monthly Supply Plan. The Scheduling Coordinator for the resource will notify the CAISO whether and to what extent the Outage affects RA Capacity and any contracted non-RA Capacity (both capacity sold to CAISO Load Serving Entities that is not RA Capacity for the month and capacity sold to external Load Serving Entities for export). The Scheduling Coordinator will promptly notify the CAISO of any changes to this information. The CAISO will incorporate this information into determining RA Substitute Capacity requirements. The RA Substitute Capacity must be provided by the monthly RA Substitute Capacity deadline established in the Business Practice Manual, which cannot be more than 72 hours after the 30-day Supply Plan revision deadline in Section 40.4.7.1(c) for the RA month in which the outage would first take place.

Once the CAISO grants final approval for a Maintenance Outage and the Outage has commenced, the CAISO does not subsequently deny the Outage for failure to provide RA Substitute Capacity by monthly RA Substitute Capacity deadlines that occur after the Outage has begun. Any such period of the Maintenance Outage for which the Scheduling Coordinator does not provide RA Substitute Capacity will be treated as a Forced Outage for purposes of assessing RAIM under Section 40.9 but the resource may not provide RA Substitute Capacity per Section 40.9.3.6.2.

9.3.1.3.2 Maintenance Outages Requested After Cure Period

Other than Outage types identified in Section 9.3.1.3.3, the CAISO denies Maintenance Outage requests on RA Resources submitted after the 30-day Supply Plan revision deadline in Section 40.4.7.1(c) for the RA month in which the outage would first take place if the Scheduling Coordinator for the RA Resource does not provide RA Substitute Capacity to cover the extent of the requested Maintenance Outage impacting RA Capacity that occurs during the period for which the resource has been shown on a monthly Supply Plan. The Scheduling Coordinator for the resource will promptly notify the CAISO whether and to what extent the Outage affects RA Capacity and any contracted non-RA Capacity (both capacity sold to CAISO Load Serving Entities that is not RA Capacity for the month and capacity sold to external Load Serving Entities for export). The Scheduling Coordinator will notify the CAISO of any changes to this information. The CAISO will incorporate this information into determining RA Substitute Capacity requirements. The RA Substitute Capacity must be provided by the post-monthly RA Substitute Capacity deadline established in the Business Practice Manual, which cannot be no more than 72 hours after the Outage request.

Once the CAISO grants final approval for a Maintenance Outage and the Outage has commenced, the CAISO does not subsequently deny the Outage for failure to provide RA Substitute Capacity by monthly RA Substitute Capacity deadlines that occur after the Outage has begun. Any such period of the Maintenance Outage for which the Scheduling Coordinator does not provide RA Substitute Capacity will be treated as a Forced Outage for purposes of assessing RAAIM under Section 40.9 but the resource may not provide RA Substitute Capacity per Section 40.9.3.6.2.

9.3.1.3.3 Exceptions to Requirement to Provide RA Substitute Capacity

The CAISO does not automatically deny an Outage pursuant to Section 9.3.1.3.1 or Section 9.3.1.3.2 if the Maintenance Outage is: (a) an Off-Peak Opportunity RA Maintenance Outage approved Pursuant to Section 9.3.1.3.6; (b) caused by an Outage on transmission facilities in the CAISO Controlled Grid; or (c) on RA Capacity that is solely Flexible RA Capacity.

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9.3.10 Forced Outages

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9.3.10.3.1 The following requirements apply if prior notice of a Forced Outage cannot be given to the CAISO:

- (a) The Operator of a Generating Unit or a Resource-Specific System Resource is required to notify the CAISO within sixty (60) minutes after discovering any change in the maximum output capability of at least ten (10) MW or five percent (5%) of the value registered in the Master File, whichever is greater, from the value registered in the CAISO's outage management system pursuant to Section 9 that lasts for fifteen (15) minutes or longer.
- (b) Notwithstanding Section 9.3.10.3.1(a), and unless otherwise exempted pursuant to the terms of a Business Practice Manual, the Operator of an Eligible Intermittent Resource with a PMax of greater than ten (10) MW for its entire generating facility is required to notify the CAISO within sixty (60) minutes after discovering any change in the maximum output capability of the generating facility of at least one (1) MW from the value registered in the CAISO's outage management system pursuant to Section 9 that lasts for fifteen (15) minutes or longer.

9.3.10.3.2 When a Scheduling Coordinator notifies the CAISO of a Forced Outage that constitutes only a partial derate of the resource, it shall indicate the amount of the derate and how the derate should be allocated among RA Capacity and contracted non-RA capacity (both capacity sold to CAISO Load Serving Entities that is not RA Capacity for the month and capacity sold to external Load Serving Entities for export).

9.3.10.4 The CAISO Control Center shall coordinate any operational changes necessary to accommodate a Forced Outage and Market Participants shall comply with the CAISO's instructions given for that purpose.

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Section 30

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30.5.1 General Bidding Rules

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- (x) Scheduling Coordinators can submit Economic Hourly Block Bids with Intra-Hour Option. If accepted in the HASP, such a Bid creates a binding schedule with same MWh awards for each of the four (4) FMM intervals. After that, the RTM can optimize such schedules for economic reasons once through an FMM during the Trading Hour. As specified in Section 11, a cleared Economic Hourly Block Bid with Intra-Hour Option is not eligible for Bid Cost Recovery.
- (y) A Scheduling Coordinator submitting Bids to the RTM is not required to submit a Self-Schedule Hourly Block, a Variable Energy Resource Self-Schedule, an Economic Hourly Block Bid, or an Economic Hourly Block Bid with Intra-Hour Option, and may instead choose to participate in the RTM through Economic Bids or Self-Schedules.
- (z) For a Wheeling Through Self Schedule to be eligible as a Priority Wheeling Through for a given month, the Scheduling Coordinator must notify the CAISO of the MW quantity of the power supply contract MW supporting the export Self-Schedule of the Priority Wheeling Through transaction and confirm it meets the eligibility requirements to support a Priority Wheeling Through. The Scheduling Coordinator must provide such information to the CAISO (1) by June 29, 2021 for the months of July and August 2021, and (2) by 45 days prior to the applicable month for all months thereafter.
- (aa) A Scheduling Coordinator for a CAISO Balancing Authority Area resource will indicate

through a resource parameter as prescribed in the Business Practice Manual that it has sold capacity to an out-of-balancing authority area Load Serving Entity, and no CAISO Load Serving Entity has a right to such capacity. If the Scheduling Coordinator does not indicate this status, the resource cannot be a designated resource for an export Self-Schedule at Scheduling Points backed by non-Resource Adequacy Capacity. The CAISO will notify a Scheduling Coordinator hourly, to the extent practicable, that its resource, which is flagged to support an export, is designated by another entity to support export Self-Schedules at Scheduling Points backed by non-Resource Adequacy Capacity. Upon receiving the notice, the Scheduling Coordinator for the designated resource shall notify the CAISO if it does not have a contractual commitment to support such export Self-Schedule or does not have a reasonable expectation to be available to support the export Self Schedule. The Scheduling Coordinator for the designated resource and the Scheduling Coordinator for the export Self-Schedule shall designate a resource to support such export only if the resource is expected to have sufficient available capacity to support the export quantity throughout the entire hour. For Variable Energy Resources, this requirement can only be satisfied if the resource's forecasted output for each of the applicable four (4) fifteen (15) minute intervals at the time of bid submission is for Generation that is equal to or greater than the Self Schedule export quantity. The designated capacity must be the deliverable capacity of a resource with Full Capacity Deliverability Status, Partial Capacity Deliverability Status, or Interim Deliverability Status that is shown on the CAISO's NQC list.

- (bb) In addition to meeting any obligations applicable to Resource Adequacy Resources, a Scheduling Coordinator for a resource supporting Self-Schedules of exports at Scheduling Points backed by non-Resource Adequacy Capacity shall submit a \$0/MW RUC Availability Bid for a quantity equal to or greater than the quantity of the export.
- (cc) The Scheduling Coordinator for the resource shall offer Energy Bids into the Real-Time Market to support Self-Schedules of exports at Scheduling Points backed by non-Resource Adequacy Capacity.

- (dd) The positive difference in quantity between a designated resource's RUC Schedule and the RUC Schedule of the corresponding Self-Schedule at a Scheduling Point backed by non-Resource Adequacy Capacity cannot back additional exports at a Scheduling Point backed by non-Resource Adequacy Capacity scheduled in the Real-Time Market.
- (ee) A Scheduling Coordinator shall not schedule an import Self-Schedule to support an export Self-Schedule for a Priority Wheeling Through. The transaction is properly scheduled as a Wheeling Through transaction as described in section 30.5.4.

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Section 31

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31.4 CAISO Market Adjustments To Non-Priced Quantities In The IFM

All Self-Schedules are respected by SCUC to the maximum extent possible and are protected from curtailment in the Congestion Management process to the extent that there are Effective Economic Bids that can relieve Congestion. If all Effective Economic Bids in the IFM are exhausted, resource Self-Schedules between the resource's Minimum Load as defined in the Master File, or if applicable, as modified pursuant to Section 9.3.3, and the first Energy level of the first Energy Bid point will be subject to adjustments by the CAISO Market optimization based on the scheduling priorities listed below. This functionality of the optimization software is implemented through the setting of scheduling parameters as described in Section 27.4.3 and specified in Section 27.4.3.1 and the Business Practice Manuals.

Through this process, imports and exports may be reduced to zero, Demand Bids may be reduced to zero, Price Taker Demand (LAP load) may be reduced, and Generation may be reduced to a lower operating limit (or Regulation Limit) (or to a lower Regulation Limit plus any qualified Regulation Down award or Self-Provided Ancillary Services, if applicable). Any Self-Schedules below the Minimum Load level are treated as fixed Self-Schedules and are not subject to these adjustments for Congestion

Management. The provisions of this section shall apply only to the extent they do not conflict with any MSS Agreement. In accordance with Section 27.4.3.5, the resources submitted in valid TOR, ETC or Converted Rights Self-Schedules shall not be adjusted in the IFM in response to an insufficiency of Effective Economic Bids. Thus the adjustment sequence for the IFM from highest priority (last to be adjusted) to lowest priority (first to be adjusted), is as follows:

- (a) Reliability Must Run (RMR) Generation pre-dispatch reduction;
- (b) Day-Ahead TOR Self-Schedules reduction (balanced demand and supply reduction);
- (c) Day-Ahead ETC and Converted Rights Self-Schedules reduction; different ETC priority levels will be observed based upon global ETC priorities provided to the CAISO by the Responsible PTOs;
- (d) Internal Transmission Constraint relaxation for the IFM pursuant to Section 27.4.3.1;
- (e) The export Self-Schedule of a Priority Wheeling Through; Self-Schedules of CAISO Demand reduction subject to Section 31.3.1.3; exports explicitly identified in a Resource Adequacy Plan to be served by Resource Adequacy Capacity explicitly identified and linked in a Supply Plan to the exports; and Self-Schedules of exports at Scheduling Points explicitly sourced by non-Resource Adequacy Capacity;
- (f) Self-Schedules of exports at Scheduling Points not explicitly sourced by non-Resource Adequacy Capacity, except those exports explicitly identified in a Resource Adequacy Plan to be served by Resource Adequacy Capacity explicitly identified and linked in a Supply Plan to the exports as set forth in Section 31.4(d), and the export Self-Schedule of a non-Priority Wheeling Through;
- (g) Day-Ahead Regulatory Must-Run Generation and Regulatory Must-Take Generation reduction;
- (h) Other Self-Schedules of Supply reduction, and the import Self-Schedule of a

Priority Wheeling Through; and

- (i) The import Self-Schedule of a non-Priority Wheeling Through.

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31.5.5 Selection and Commitment of RUC Capacity

Capacity that is not already scheduled in the IFM may be selected as RUC Capacity through the RUC process of the DAM. The RUC optimization will select RUC Capacity and produce nodal RUC Prices by minimizing total Bid cost based on RUC Availability Bids and Start-Up, Minimum Load Bids and Transition Costs. If RUC cannot schedule sufficient capacity to meet the RUC Procurement Target, a RUC Award or RUC Schedule will be issued to imports providing RA Capacity for the full amount of their RA Capacity. RUC will not consider Start-Up, Minimum Load Bids, or Transition Costs for resources already committed in the IFM. The RUC Capacity of a resource is the incremental amount of capacity selected in RUC above the resource's Day-Ahead Schedule. The resource's Day-Ahead Schedule plus its RUC Capacity comprise the resource's RUC Schedule. The CAISO will only issue RUC Start-Up Instructions to resources committed in RUC that must receive a Start-Up Instruction in the Day-Ahead in order to be available to meet Real-Time Demand. RUC Schedules will be provided to Scheduling Coordinators even if a RUC Start-Up Instruction is not issued at that time. RUC shall not Shut Down resources scheduled through the IFM and RUC will not commit a Multi-Stage Generating Resource to a lower MSG Configuration that is unable to support the Energy scheduled in the IFM. If the RUC process cannot find a feasible solution given the resources committed in the IFM, the RUC process will adjust constraints as described in Section 31.5.4 to arrive at a feasible solution that accommodates all the resources committed in the IFM, and any necessary de-commitment of IFM committed units shall be effectuated through an Exceptional Dispatch.

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Section 34

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34.12.1 Increasing Supply

The scheduling priorities as defined in the RTM optimization to meet the need for increasing Supply as reflected from higher to lower priority are as follows:

- (a) CAISO Forecast of CAISO Demand; the export Self-Schedule of a Priority Wheeling Through; exports explicitly identified in a Resource Adequacy Plan backed by Resource Adequacy Capacity explicitly identified and linked in a Supply Plan to the exports; or Self-Schedules for exports at Scheduling Points in the RTM backed by Generation from non-Resource Adequacy Capacity or from non-RUC Capacity;
- (b) RUC Schedules that are Self-Schedules of exports at Scheduling Points not backed by Generation from non-Resource Adequacy Capacity, or the RUC Schedules that are the export Self-Schedules of non-Priority Wheeling Throughs;
- (c) Real-Time Market Self-Schedules of exports at Scheduling Points not backed by Generation from non-Resource Adequacy Capacity or non-RUC capacity, or the Real-Time Market Self-Schedules that are the export Self-Schedules of a non-Priority Wheeling Through; and
- (d) Contingency Only Operating Reserve if activated by Operator to provide Energy (as indicated by the Contingency Flag and the Contingency condition).

34.12.2 Decreasing Supply

The scheduling priorities as defined in the RTM optimization to meet the need for decreasing Supply as reflected from higher to lower priority are as follows:

- (a) Non-Participating Load increase;
- (b) Reliability Must Run (RMR) Schedule (Day-Ahead manual pre-dispatch or Manual RMR

Dispatches or Dispatches that are flagged as RMR Dispatches following the MPM, for Legacy RMR Units and Exceptional Dispatch for RMR Resources process);

- (c) Transmission Ownership Right (TOR) Self-Schedule;
- (d) Existing Rights (ETC) Self-Schedule;
- (e) Regulatory Must-Run and Regulatory Must-Take (RMT) Self-Schedule;
- (f) Participating Load increase;
- (g) Day-Ahead Supply Schedule;
- (h) Self-Schedule Hourly Block; and
- (i) Import Self-Schedule of a non-Priority Wheeling Through.

These dispatch priorities as defined in the RTM optimization may be superseded by operator actions and procedures as necessary to ensure reliable operations.

34.12.3 In the event an Intertie is constrained in the import direction by a scheduling limit or Path 26 is constrained in the north-south direction, when HASP cannot meet CAISO Forecast of CAISO Demand or fully accommodate a Priority Wheeling Through transaction, the CAISO will perform a post-HASP process to pro rata allocate available transmission capacity between CAISO Load and Priority Wheel Through transactions, as described in the Business Practice Manual. The CAISO Load pro rata share will be based on the lower of each applicable Resource Adequacy Resource's Real-Time Energy Bid quantity or its shown Resource Adequacy Capacity. The Priority Wheeling Through pro rata share for each Self-Schedule will be based on the lowest of (1) 110 percent of the submitted Day-Ahead Market Self-Schedule of the Priority Wheeling Through transaction, (2) the submitted Real-Time Market Self-Schedule of the Priority Wheeling Through transaction, or (3) the Priority Wheeling Through quantity requested 45-days in advance of the month. The available transmission capacity the CAISO awards to Priority Wheeling Through transactions in the post-HASP process cannot exceed the Priority Wheeling Through quantity the CAISO calculates in this pro rata allocation. Energy scheduled via the post-HASP process will be settled as Exceptional Dispatch Energy pursuant to Section 11.5.6.1, as applicable.

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Section 40

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40.6.6 Requirement for Partial Resource Adequacy Resources

Only that output of a Resource Adequacy Resource that is designated by a Scheduling Coordinator as Resource Adequacy Capacity in its monthly or annual Supply Plan shall have an availability obligation to the CAISO. Exports being supported by non-Resource Adequacy Capacity from a Resource Adequacy Resource that becomes unavailable or unusable shall be considered as an export of non-Resource Adequacy Capacity. If a Resource Adequacy Resource goes on a Forced Outage, until the Scheduling Coordinator provides the information requested under section 9.3.10.3.2, the CAISO shall determine if the Scheduling Coordinator indicated under section 30.5.1 (aa) that capacity from its Resource Adequacy Resource is backing a Self-Schedule of exports at Scheduling Points explicitly sourced by non-Resource Adequacy Capacity. If the Scheduling Coordinator has indicated capacity from its Resource Adequacy Resource is backing a Self-Schedule of exports at Scheduling Points explicitly sourced by non-Resource Adequacy Capacity, the CAISO will allocate the derate pro rata between the RA Capacity and the remainder of the resource's capacity up to its PMax.

Attachment D – Marked Tariff (July 2021)
Load, Exports & Wheeling Tariff Amendment
California Independent System Operator Corporation
April 28, 2021

Section 9

9.3.1 CAISO Outage Coordination Functions

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9.3.1.3 Coordinating Outages of RA Resources

9.3.1.3.1 Maintenance Outages Requested Before Cure Period

Other than Outage types identified in Section 9.3.1.3.3, the CAISO denies Maintenance Outage requests or Approved Maintenance Outages on RA Resources requested before the 30-day Supply Plan revision deadline in Section 40.4.7.1(c) for the RA month in which the outage would first take place if the Scheduling Coordinator for the RA Resource does not provide RA Substitute Capacity to cover the extent of the Outage impacting RA Capacity that occurs during the period for which the resource has been shown on a monthly Supply Plan. The Scheduling Coordinator for the resource will notify the CAISO whether and to what extent the Outage affects RA Capacity and any contracted non-RA Capacity (both capacity sold to CAISO Load Serving Entities that is not RA Capacity for the month and capacity sold to external Load Serving Entities for export). The Scheduling Coordinator will promptly notify the CAISO of any changes to this information. The CAISO will incorporate this information into determining RA Substitute Capacity requirements. The RA Substitute Capacity must be provided by the monthly RA Substitute Capacity deadline established in the Business Practice Manual, which cannot be more than 72 hours after the 30-day Supply Plan revision deadline in Section 40.4.7.1(c) for the RA month in which the outage would first take place.

Once the CAISO grants final approval for a Maintenance Outage and the Outage has commenced, the CAISO does not subsequently deny the Outage for failure to provide RA Substitute Capacity by monthly RA Substitute Capacity deadlines that occur after the Outage has begun. Any such period of the Maintenance Outage for which the Scheduling Coordinator does not provide RA Substitute Capacity will be treated as a Forced Outage for purposes of assessing RAIM under Section 40.9 but the resource may not provide RA Substitute Capacity per Section 40.9.3.6.2.

9.3.1.3.2 Maintenance Outages Requested After Cure Period

Other than Outage types identified in Section 9.3.1.3.3, the CAISO denies Maintenance Outage requests on RA Resources submitted after the 30-day Supply Plan revision deadline in Section 40.4.7.1(c) for the RA month in which the outage would first take place if the Scheduling Coordinator for the RA Resource does not provide RA Substitute Capacity to cover the extent of the requested Maintenance Outage impacting RA Capacity that occurs during the period for which the resource has been shown on a monthly Supply Plan. The Scheduling Coordinator for the resource will promptly notify the CAISO whether and to what extent the Outage affects RA Capacity and any contracted non-RA Capacity (both capacity sold to CAISO Load Serving Entities that is not RA Capacity for the month and capacity sold to external Load Serving Entities for export). The Scheduling Coordinator will notify the CAISO of any changes to this information. The CAISO will incorporate this information into determining RA Substitute Capacity requirements. The RA Substitute Capacity must be provided by the post-monthly RA Substitute Capacity deadline established in the Business Practice Manual, which cannot be no more than 72 hours after the Outage request.

Once the CAISO grants final approval for a Maintenance Outage and the Outage has commenced, the CAISO does not subsequently deny the Outage for failure to provide RA Substitute Capacity by monthly RA Substitute Capacity deadlines that occur after the Outage has begun. Any such period of the Maintenance Outage for which the Scheduling Coordinator does not provide RA Substitute Capacity will be treated as a Forced Outage for purposes of assessing RAIM under Section 40.9 but the resource may not provide RA Substitute Capacity per Section 40.9.3.6.2.

9.3.1.3.3 Exceptions to Requirement to Provide RA Substitute Capacity

The CAISO does not automatically deny an Outage pursuant to Section 9.3.1.3.1 or Section 9.3.1.3.2 if the Maintenance Outage is: (a) an Off-Peak Opportunity RA Maintenance Outage approved Pursuant to Section 9.3.1.3.6; (b) caused by an Outage on transmission facilities in the CAISO Controlled Grid; or (c) on RA Capacity that is solely Flexible RA Capacity.

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9.3.10 Forced Outages

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9.3.10.3.1 The following requirements apply if prior notice of a Forced Outage cannot be given to the CAISO:

- (a) The Operator of a Generating Unit or a Resource-Specific System Resource is required to notify the CAISO within sixty (60) minutes after discovering any change in the maximum output capability of at least ten (10) MW or five percent (5%) of the value registered in the Master File, whichever is greater, from the value registered in the CAISO's outage management system pursuant to Section 9 that lasts for fifteen (15) minutes or longer.
- (b) Notwithstanding Section 9.3.10.3.1(a), and unless otherwise exempted pursuant to the terms of a Business Practice Manual, the Operator of an Eligible Intermittent Resource with a PMax of greater than ten (10) MW for its entire generating facility is required to notify the CAISO within sixty (60) minutes after discovering any change in the maximum output capability of the generating facility of at least one (1) MW from the value registered in the CAISO's outage management system pursuant to Section 9 that lasts for fifteen (15) minutes or longer.

9.3.10.3.2 When a Scheduling Coordinator notifies the CAISO of a Forced Outage that constitutes only a partial derate of the resource, it shall indicate the amount of the derate and how the derate should be allocated among RA Capacity and contracted non-RA capacity (both capacity sold to CAISO Load Serving Entities that is not RA Capacity for the month and capacity sold to external Load Serving Entities for export).

9.3.10.4 The CAISO Control Center shall coordinate any operational changes necessary to accommodate a Forced Outage and Market Participants shall comply with the CAISO's instructions given for that purpose.

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Section 30

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30.5.1 General Bidding Rules

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- (x) Scheduling Coordinators can submit Economic Hourly Block Bids with Intra-Hour Option. If accepted in the HASP, such a Bid creates a binding schedule with same MWh awards for each of the four (4) FMM intervals. After that, the RTM can optimize such schedules for economic reasons once through an FMM during the Trading Hour. As specified in Section 11, a cleared Economic Hourly Block Bid with Intra-Hour Option is not eligible for Bid Cost Recovery.
- (y) A Scheduling Coordinator submitting Bids to the RTM is not required to submit a Self-Schedule Hourly Block, a Variable Energy Resource Self-Schedule, an Economic Hourly Block Bid, or an Economic Hourly Block Bid with Intra-Hour Option, and may instead choose to participate in the RTM through Economic Bids or Self-Schedules.
- (z) For a Wheeling Through Self Schedule to be eligible as a Priority Wheeling Through for a given month, the Scheduling Coordinator must notify the CAISO of the MW quantity of the power supply contract MW supporting the export Self-Schedule of the Priority Wheeling Through transaction and confirm it meets the eligibility requirements to support a Priority Wheeling Through. The Scheduling Coordinator must provide such information to the CAISO (1) by June 29, 2021 for the months of July and August 2021, and (2) by 45 days prior to the applicable month for all months thereafter.

(aa) A Scheduling Coordinator for a CAISO Balancing Authority Area resource will indicate

through a resource parameter as prescribed in the Business Practice Manual that it has sold capacity to an out-of-balancing authority area Load Serving Entity, and no CAISO Load Serving Entity has a right to such capacity. If the Scheduling Coordinator does not indicate this status, the resource cannot be a designated resource for an export Self-Schedule at Scheduling Points backed by non-Resource Adequacy Capacity. The CAISO will notify a Scheduling Coordinator hourly, to the extent practicable, that its resource, which is flagged to support an export, is designated by another entity to support export Self-Schedules at Scheduling Points backed by non-Resource Adequacy Capacity. Upon receiving the notice, the Scheduling Coordinator for the designated resource shall notify the CAISO if it does not have a contractual commitment to support such export Self-Schedule or does not have a reasonable expectation to be available to support the export Self Schedule. The Scheduling Coordinator for the designated resource and the Scheduling Coordinator for the export Self-Schedule shall designate a resource to support such export only if the resource is expected to have sufficient available capacity to support the export quantity throughout the entire hour. For Variable Energy Resources, this requirement can only be satisfied if the resource's forecasted output for each of the applicable four (4) fifteen (15) minute intervals at the time of bid submission is for Generation that is equal to or greater than the Self Schedule export quantity. The designated capacity must be the deliverable capacity of a resource with Full Capacity Deliverability Status, Partial Capacity Deliverability Status, or Interim Deliverability Status that is shown on the CAISO's NQC list.

- (bb) In addition to meeting any obligations applicable to Resource Adequacy Resources, a Scheduling Coordinator for a resource supporting Self-Schedules of exports at Scheduling Points backed by non-Resource Adequacy Capacity shall submit a \$0/MW RUC Availability Bid for a quantity equal to or greater than the quantity of the export.
- (cc) The Scheduling Coordinator for the resource shall offer Energy Bids into the Real-Time Market to support Self-Schedules of exports at Scheduling Points backed by non-Resource Adequacy Capacity.

- (dd) The positive difference in quantity between a designated resource's RUC Schedule and the RUC Schedule of the corresponding Self-Schedule at a Scheduling Point backed by non-Resource Adequacy Capacity cannot back additional exports at a Scheduling Point backed by non-Resource Adequacy Capacity scheduled in the Real-Time Market.
- (ee) A Scheduling Coordinator shall not schedule an import Self-Schedule to support an export Self-Schedule for a Priority Wheeling Through. The transaction is properly scheduled as a Wheeling Through transaction as described in section 30.5.4.

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Section 31

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31.4 CAISO Market Adjustments To Non-Priced Quantities In The IFM

All Self-Schedules are respected by SCUC to the maximum extent possible and are protected from curtailment in the Congestion Management process to the extent that there are Effective Economic Bids that can relieve Congestion. If all Effective Economic Bids in the IFM are exhausted, resource Self-Schedules between the resource's Minimum Load as defined in the Master File, or if applicable, as modified pursuant to Section 9.3.3, and the first Energy level of the first Energy Bid point will be subject to adjustments by the CAISO Market optimization based on the scheduling priorities listed below. This functionality of the optimization software is implemented through the setting of scheduling parameters as described in Section 27.4.3 and specified in Section 27.4.3.1 and the Business Practice Manuals.

Through this process, imports and exports may be reduced to zero, Demand Bids may be reduced to zero, Price Taker Demand (LAP load) may be reduced, and Generation may be reduced to a lower operating limit (or Regulation Limit) (or to a lower Regulation Limit plus any qualified Regulation Down award or Self-Provided Ancillary Services, if applicable). Any Self-Schedules below the Minimum Load level are treated as fixed Self-Schedules and are not subject to these adjustments for Congestion

Management. The provisions of this section shall apply only to the extent they do not conflict with any MSS Agreement. In accordance with Section 27.4.3.5, the resources submitted in valid TOR, ETC or Converted Rights Self-Schedules shall not be adjusted in the IFM in response to an insufficiency of Effective Economic Bids. Thus the adjustment sequence for the IFM from highest priority (last to be adjusted) to lowest priority (first to be adjusted), is as follows:

- (a) Reliability Must Run (RMR) Generation pre-dispatch reduction;
- (b) Day-Ahead TOR Self-Schedules reduction (balanced demand and supply reduction);
- (c) Day-Ahead ETC and Converted Rights Self-Schedules reduction; different ETC priority levels will be observed based upon global ETC priorities provided to the CAISO by the Responsible PTOs;
- (d) Internal Transmission Constraint relaxation for the IFM pursuant to Section 27.4.3.1;
- (e) The export Self-Schedule of a Priority Wheeling Through; ~~Other~~ Self-Schedules of CAISO Demand reduction subject to Section 31.3.1.3; exports explicitly identified in a Resource Adequacy Plan to be served by Resource Adequacy Capacity explicitly identified and linked in a Supply Plan to the exports; and Self-Schedules of exports at Scheduling Points explicitly sourced by non-Resource Adequacy Capacity;
- (f) Self-Schedules of exports at Scheduling Points not explicitly sourced by non-Resource Adequacy Capacity, except those exports explicitly identified in a Resource Adequacy Plan to be served by Resource Adequacy Capacity explicitly identified and linked in a Supply Plan to the exports as set forth in Section 31.4(d), and the export Self-Schedule of a non-Priority Wheeling Through;
- (g) Day-Ahead Regulatory Must-Run Generation and Regulatory Must-Take Generation reduction;
- (h) Other Self-Schedules of Supply reduction, and the import Self-Schedule of a

Priority Wheeling Through; and

(i) The import Self-Schedule of a non-Priority Wheeling Through.

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31.5.5 Selection and Commitment of RUC Capacity

Capacity that is not already scheduled in the IFM may be selected as RUC Capacity through the RUC process of the DAM. The RUC optimization will select RUC Capacity and produce nodal RUC Prices by minimizing total Bid cost based on RUC Availability Bids and Start-Up, Minimum Load Bids and Transition Costs. If RUC cannot schedule sufficient capacity to meet the RUC Procurement Target, a RUC Award or RUC Schedule will be issued to imports providing RA Capacity for the full amount of their RA Capacity. RUC will not consider Start-Up, Minimum Load Bids, or Transition Costs for resources already committed in the IFM. The RUC Capacity of a resource is the incremental amount of capacity selected in RUC above the resource's Day-Ahead Schedule. The resource's Day-Ahead Schedule plus its RUC Capacity comprise the resource's RUC Schedule. The CAISO will only issue RUC Start-Up Instructions to resources committed in RUC that must receive a Start-Up Instruction in the Day-Ahead in order to be available to meet Real-Time Demand. RUC Schedules will be provided to Scheduling Coordinators even if a RUC Start-Up Instruction is not issued at that time. RUC shall not Shut Down resources scheduled through the IFM and RUC will not commit a Multi-Stage Generating Resource to a lower MSG Configuration that is unable to support the Energy scheduled in the IFM. If the RUC process cannot find a feasible solution given the resources committed in the IFM, the RUC process will adjust constraints as described in Section 31.5.4 to arrive at a feasible solution that accommodates all the resources committed in the IFM, and any necessary de-commitment of IFM committed units shall be effectuated through an Exceptional Dispatch.

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Section 34

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34.12.1 Increasing Supply

The scheduling priorities as defined in the RTM optimization to meet the need for increasing Supply as reflected from higher to lower priority are as follows:

- (a) CAISO Forecast of CAISO Demand; the export Self-Schedule of a Priority Wheeling Through; ~~Non-Participating Load reduction,~~ exports explicitly identified in a Resource Adequacy Plan ~~backed to be served~~ by Resource Adequacy Capacity explicitly identified and linked in a Supply Plan to the exports; or Self-Schedules for exports at Scheduling Points in the RTM ~~backed served~~ by Generation from non-Resource Adequacy Capacity or from non-RUC Capacity;
- (b) RUC Schedules that are Self-Schedules of exports at Scheduling Points not backed by Generation from non-Resource Adequacy Capacity, or the RUC Schedules that are the export Self-Schedules of non-Priority Wheeling Throughs; Self Schedules for exports at Scheduling Points in the RTM not offered by Generation from non-Resource Adequacy Capacity or not offered by Generation from non-RUC Capacity, except those exports explicitly identified in a Resource Adequacy Plan to be served by Resource Adequacy Capacity explicitly identified and linked in a Supply Plan to the exports as set forth in Section 34.12.1(a); and
- (c) Real-Time Market Self-Schedules of exports at Scheduling Points not backed by Generation from non-Resource Adequacy Capacity or non-RUC capacity, or the Real-Time Market Self-Schedules that are the export Self-Schedules of a non-Priority Wheeling Through; and
- (d) Contingency Only Operating Reserve if activated by Operator to provide Energy (as indicated by the Contingency Flag and the Contingency condition).

34.12.2 Decreasing Supply

The scheduling priorities as defined in the RTM optimization to meet the need for decreasing Supply as reflected from higher to lower priority are as follows:

- (a) Non-Participating Load increase;
- (b) Reliability Must Run (RMR) Schedule (Day-Ahead manual pre-dispatch or Manual RMR Dispatches or Dispatches that are flagged as RMR Dispatches following the MPM, for Legacy RMR Units and Exceptional Dispatch for RMR Resources process);
- (c) Transmission Ownership Right (TOR) Self-Schedule;
- (d) Existing Rights (ETC) Self-Schedule;
- (e) Regulatory Must-Run and Regulatory Must-Take (RMT) Self-Schedule;
- (f) Participating Load increase;
- (g) Day-Ahead Supply Schedule; ~~and~~
- (h) Self-Schedule Hourly Block; and
- (i) Import Self-Schedule of a non-Priority Wheeling Through.

These dispatch priorities as defined in the RTM optimization may be superseded by operator actions and procedures as necessary to ensure reliable operations.

34.12.3 In the event an Intertie is constrained in the import direction by a scheduling limit or Path 26 is constrained in the north-south direction, when HASP cannot meet CAISO Forecast of CAISO Demand or fully accommodate a Priority Wheeling Through transaction, the CAISO will perform a post-HASP process to pro rata allocate available transmission capacity between CAISO Load and Priority Wheel Through transactions, as described in the Business Practice Manual. The CAISO Load pro rata share will be based on the lower of each applicable Resource Adequacy Resource's Real-Time Energy Bid quantity or its shown Resource Adequacy Capacity. The Priority Wheeling Through pro rata share for each Self-Schedule will be based on the lowest of (1) 110 percent of the submitted Day-Ahead Market Self-Schedule of the Priority Wheeling Through transaction, (2) the submitted Real-Time Market Self-Schedule of the Priority Wheeling Through transaction, or (3) the Priority Wheeling Through quantity requested 45-days in advance of the month. The available transmission capacity the CAISO awards to Priority Wheeling Through transactions in the post-HASP process cannot exceed the Priority Wheeling

Through quantity the CAISO calculates in this pro rata allocation. Energy scheduled via the post-HASP process will be settled as Exceptional Dispatch Energy pursuant to Section 11.5.6.1, as applicable.

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Section 40

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40.6.6 Requirement for Partial Resource Adequacy Resources

Only that output of a ~~Partial~~-Resource Adequacy Resource that is designated by a Scheduling Coordinator as Resource Adequacy Capacity in its monthly or annual Supply Plan shall have an availability obligation to the CAISO. Exports being supported by non-Resource Adequacy Capacity from a ~~Partial~~-Resource Adequacy Resource that becomes unavailable or unusable shall be considered as an export of non-Resource Adequacy Capacity. If a Resource Adequacy Resource goes on a Forced Outage, until the Scheduling Coordinator provides the information requested under section 9.3.10.3.2, the CAISO shall determine if the Scheduling Coordinator indicated under section 30.5.1 (aa) that capacity from its Resource Adequacy Resource is backing a Self-Schedule of exports at Scheduling Points explicitly sourced by non-Resource Adequacy Capacity. If the Scheduling Coordinator has indicated capacity from its Resource Adequacy Resource is backing a Self-Schedule of exports at Scheduling Points explicitly sourced by non-Resource Adequacy Capacity, the CAISO will allocate the derate pro rata between the RA Capacity and the remainder of the resource's capacity up to its PMax. based on the pro-rata allocation of derated capacity of the Partial Resource Adequacy Resource as follows:

(a) ~~Resource Adequacy Capacity~~ $[(\text{Resource Adequacy Capacity} / \text{PMax Capacity of Resource Adequacy Resource}) \times \text{MW Derate or Outage}]$; or

(b) ~~[1 - (Resource Adequacy Capacity / PMax Capacity of Resource Adequacy Resource)] x De-rated PMax~~].

Attachment E – Clean Tariff (June 1, 2022)
Load, Exports & Wheeling Tariff Amendment
California Independent System Operator Corporation
April 28, 2021

Section 30

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30.5.1 General Bidding Rules

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- (y) A Scheduling Coordinator submitting Bids to the RTM is not required to submit a Self-Schedule Hourly Block, a Variable Energy Resource Self-Schedule, an Economic Hourly Block Bid, or an Economic Hourly Block Bid with Intra-Hour Option, and may instead choose to participate in the RTM through Economic Bids or Self-Schedules.
- (z) [Not Used]
- (aa) A Scheduling Coordinator for a CAISO Balancing Authority Area resource will indicate through a resource parameter as prescribed in the Business Practice Manual that it has sold capacity to an out-of-balancing authority area load serving entity, and no CAISO Load Serving Entity has a right to such capacity. If the Scheduling Coordinator does not indicate this status, the resource cannot be a designated resource for an export Self-Schedule at Scheduling Points backed by non-Resource Adequacy Capacity. The CAISO will notify a Scheduling Coordinator hourly, to the extent practicable, that its resource, which is flagged to support an export, is designated by another entity to support export Self-Schedules at Scheduling Points backed by non-Resource Adequacy Capacity. Upon receiving the notice, the Scheduling Coordinator for the designated resource shall notify the CAISO if it does not have a contractual commitment to support such export Self-Schedule or does not have a reasonable expectation to be available to support the export Self Schedule. The Scheduling Coordinator for the designated resource and the Scheduling Coordinator for the export Self-Schedule shall designate a resource to support such export only if the resource is expected to have sufficient available capacity to support the export quantity throughout the entire hour. For Variable Energy Resources, this requirement can only be satisfied if the resource's forecasted

output for each of the applicable four (4) fifteen (15) minute intervals at the time of bid submission is for Generation that is equal to or greater than the Self Schedule export quantity. The designated capacity must be the deliverable capacity of a resource with Full Capacity Deliverability Status, Partial Capacity Deliverability Status, or Interim Deliverability Status that is shown on the CAISO's NQC list.

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Section 31

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31.4 CAISO Market Adjustments To Non-Priced Quantities In The IFM

All Self-Schedules are respected by SCUC to the maximum extent possible and are protected from curtailment in the Congestion Management process to the extent that there are Effective Economic Bids that can relieve Congestion. If all Effective Economic Bids in the IFM are exhausted, resource Self-Schedules between the resource's Minimum Load as defined in the Master File, or if applicable, as modified pursuant to Section 9.3.3, and the first Energy level of the first Energy Bid point will be subject to adjustments by the CAISO Market optimization based on the scheduling priorities listed below. This functionality of the optimization software is implemented through the setting of scheduling parameters as described in Section 27.4.3 and specified in Section 27.4.3.1 and the Business Practice Manuals. Through this process, imports and exports may be reduced to zero, Demand Bids may be reduced to zero, Price Taker Demand (LAP load) may be reduced, and Generation may be reduced to a lower operating limit (or Regulation Limit) (or to a lower Regulation Limit plus any qualified Regulation Down award or Self-Provided Ancillary Services, if applicable). Any Self-Schedules below the Minimum Load level are treated as fixed Self-Schedules and are not subject to these adjustments for Congestion Management. The provisions of this section shall apply only to the extent they do not conflict with any MSS Agreement. In accordance with Section 27.4.3.5, the resources submitted in valid TOR, ETC or

Converted Rights Self-Schedules shall not be adjusted in the IFM in response to an insufficiency of Effective Economic Bids. Thus the adjustment sequence for the IFM from highest priority (last to be adjusted) to lowest priority (first to be adjusted), is as follows:

- (a) Reliability Must Run (RMR) Generation pre-dispatch reduction;
- (b) Day-Ahead TOR Self-Schedules reduction (balanced demand and supply reduction);
- (c) Day-Ahead ETC and Converted Rights Self-Schedules reduction; different ETC priority levels will be observed based upon global ETC priorities provided to the CAISO by the Responsible PTOs;
- (d) Internal Transmission Constraint relaxation for the IFM pursuant to Section 27.4.3.1;
- (e) Self-Schedules of CAISO Demand reduction subject to Section 31.3.1.3; exports explicitly identified in a Resource Adequacy Plan to be served by Resource Adequacy Capacity explicitly identified and linked in a Supply Plan to the exports; and Self-Schedules of exports at Scheduling Points explicitly sourced by non-Resource Adequacy Capacity;
- (f) Self-Schedules of exports at Scheduling Points not explicitly sourced by non-Resource Adequacy Capacity, except those exports explicitly identified in a Resource Adequacy Plan to be served by Resource Adequacy Capacity explicitly identified and linked in a Supply Plan to the exports as set forth in Section 31.4(d);
- (g) Day-Ahead Regulatory Must-Run Generation and Regulatory Must-Take Generation reduction;
- (h) Other Self-Schedules of Supply reduction.

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31.5.5 Selection and Commitment of RUC Capacity

Capacity that is not already scheduled in the IFM may be selected as RUC Capacity through the RUC process of the DAM. The RUC optimization will select RUC Capacity and produce nodal RUC Prices by minimizing total Bid cost based on RUC Availability Bids and Start-Up, Minimum Load Bids and Transition Costs. RUC will not consider Start-Up, Minimum Load Bids, or Transition Costs for resources already committed in the IFM. The RUC Capacity of a resource is the incremental amount of capacity selected in RUC above the resource's Day-Ahead Schedule. The resource's Day-Ahead Schedule plus its RUC Capacity comprise the resource's RUC Schedule. The CAISO will only issue RUC Start-Up Instructions to resources committed in RUC that must receive a Start-Up Instruction in the Day-Ahead in order to be available to meet Real-Time Demand. RUC Schedules will be provided to Scheduling Coordinators even if a RUC Start-Up Instruction is not issued at that time. RUC shall not Shut Down resources scheduled through the IFM and RUC will not commit a Multi-Stage Generating Resource to a lower MSG Configuration that is unable to support the Energy scheduled in the IFM. If the RUC process cannot find a feasible solution given the resources committed in the IFM, the RUC process will adjust constraints as described in Section 31.5.4 to arrive at a feasible solution that accommodates all the resources committed in the IFM, and any necessary de-commitment of IFM committed units shall be effectuated through an Exceptional Dispatch.

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Section 34

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34.12.1 Increasing Supply

The scheduling priorities as defined in the RTM optimization to meet the need for increasing Supply as reflected from higher to lower priority are as follows:

- (a) CAISO Forecast of CAISO Demand; exports explicitly identified in a Resource

Adequacy Plan backed by Resource Adequacy Capacity explicitly identified and linked in a Supply Plan to the exports; or Self-Schedules for exports at Scheduling Points backed by Generation from non-Resource Adequacy Capacity or from non-RUC Capacity;

- (b) Day-Ahead RUC schedules that are Self-Schedules of exports at Scheduling Points not backed by Generation from non-Resource Adequacy Capacity;
- (c) Real-Time Market Self-Schedules of exports at Scheduling Points not backed by Generation from non-Resource Adequacy Capacity; and
- (d) Contingency Only Operating Reserve if activated by Operator to provide Energy (as indicated by the Contingency Flag and the Contingency condition).

34.12.2 Decreasing Supply

The scheduling priorities as defined in the RTM optimization to meet the need for decreasing Supply as reflected from higher to lower priority are as follows:

- (a) Non-Participating Load increase;
- (b) Reliability Must Run (RMR) Schedule (Day-Ahead manual pre-dispatch or Manual RMR Dispatches or Dispatches that are flagged as RMR Dispatches following the MPM, for Legacy RMR Units and Exceptional Dispatch for RMR Resources process);
- (c) Transmission Ownership Right (TOR) Self-Schedule;
- (d) Existing Rights (ETC) Self-Schedule;
- (e) Regulatory Must-Run and Regulatory Must-Take (RMT) Self-Schedule;
- (f) Participating Load increase;
- (g) Day-Ahead Supply Schedule; and
- (h) Self-Schedule Hourly Block.

These dispatch priorities as defined in the RTM optimization may be superseded by operator actions and procedures as necessary to ensure reliable operations.

34.12.3 [Not Used]

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Appendix A

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- [Not Used]

Attachment F – Marked Tariff (June 1, 2022)
Load, Exports & Wheeling Tariff Amendment
California Independent System Operator Corporation
April 28, 2021

Section 30

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30.5.1 **General Bidding Rules**

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- (y) A Scheduling Coordinator submitting Bids to the RTM is not required to submit a Self-Schedule Hourly Block, a Variable Energy Resource Self-Schedule, an Economic Hourly Block Bid, or an Economic Hourly Block Bid with Intra-Hour Option, and may instead choose to participate in the RTM through Economic Bids or Self-Schedules.
- (z) ~~[Not Used] For a Wheeling Through Self-Schedule to be eligible as a Priority Wheeling Through for a given month, the Scheduling Coordinator must notify the CAISO of the MW quantity of the power supply contract MW supporting the export Self-Schedule of the Priority Wheeling Through transaction and confirm it meets the eligibility requirements to support a Priority Wheeling Through. The Scheduling Coordinator must provide such information to the CAISO (1) by June 29, 2021 for the months of July and August 2021, and (2) by 45 days prior to the applicable month for all months thereafter.~~
- (aa) A Scheduling Coordinator for a CAISO Balancing Authority Area resource will indicate through a resource parameter as prescribed in the Business Practice Manual that it has sold capacity to an out-of-balancing authority area load serving entity, and no CAISO Load Serving Entity has a right to such capacity. If the Scheduling Coordinator does not indicate this status, the resource cannot be a designated resource for an export Self-Schedule at Scheduling Points backed by non-Resource Adequacy Capacity. The CAISO will notify a Scheduling Coordinator hourly, to the extent practicable, that its resource, which is flagged to support an export, is designated by another entity to support export Self-Schedules at Scheduling Points backed by non-Resource Adequacy Capacity. Upon receiving the notice, the Scheduling Coordinator for the designated resource shall notify the CAISO if it does not have a contractual commitment to support

such export Self-Schedule or does not have a reasonable expectation to be available to support the export Self Schedule. The Scheduling Coordinator for the designated resource and the Scheduling Coordinator for the export Self-Schedule shall designate a resource to support such export only if the resource is expected to have sufficient available capacity to support the export quantity throughout the entire hour. For Variable Energy Resources, this requirement can only be satisfied if the resource's forecasted output for each of the applicable four (4) fifteen (15) minute intervals at the time of bid submission is for Generation that is equal to or greater than the Self Schedule export quantity. The designated capacity must be the deliverable capacity of a resource with Full Capacity Deliverability Status, Partial Capacity Deliverability Status, or Interim Deliverability Status that is shown on the CAISO's NQC list.

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Section 31

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31.4 CAISO Market Adjustments To Non-Priced Quantities In The IFM

All Self-Schedules are respected by SCUC to the maximum extent possible and are protected from curtailment in the Congestion Management process to the extent that there are Effective Economic Bids that can relieve Congestion. If all Effective Economic Bids in the IFM are exhausted, resource Self-Schedules between the resource's Minimum Load as defined in the Master File, or if applicable, as modified pursuant to Section 9.3.3, and the first Energy level of the first Energy Bid point will be subject to adjustments by the CAISO Market optimization based on the scheduling priorities listed below. This functionality of the optimization software is implemented through the setting of scheduling parameters as described in Section 27.4.3 and specified in Section 27.4.3.1 and the Business Practice Manuals. Through this process, imports and exports may be reduced to zero, Demand Bids may be reduced to

zero, Price Taker Demand (LAP load) may be reduced, and Generation may be reduced to a lower operating limit (or Regulation Limit) (or to a lower Regulation Limit plus any qualified Regulation Down award or Self-Provided Ancillary Services, if applicable). Any Self-Schedules below the Minimum Load level are treated as fixed Self-Schedules and are not subject to these adjustments for Congestion Management. The provisions of this section shall apply only to the extent they do not conflict with any MSS Agreement. In accordance with Section 27.4.3.5, the resources submitted in valid TOR, ETC or Converted Rights Self-Schedules shall not be adjusted in the IFM in response to an insufficiency of Effective Economic Bids. Thus the adjustment sequence for the IFM from highest priority (last to be adjusted) to lowest priority (first to be adjusted), is as follows:

- (a) Reliability Must Run (RMR) Generation pre-dispatch reduction;
- (b) Day-Ahead TOR Self-Schedules reduction (balanced demand and supply reduction);
- (c) Day-Ahead ETC and Converted Rights Self-Schedules reduction; different ETC priority levels will be observed based upon global ETC priorities provided to the CAISO by the Responsible PTOs;
- (d) Internal Transmission Constraint relaxation for the IFM pursuant to Section 27.4.3.1;
- (e) ~~The export Self-Schedule of a Priority Wheeling Through~~; Self-Schedules of CAISO Demand reduction subject to Section 31.3.1.3; exports explicitly identified in a Resource Adequacy Plan to be served by Resource Adequacy Capacity explicitly identified and linked in a Supply Plan to the exports; and Self-Schedules of exports at Scheduling Points explicitly sourced by non-Resource Adequacy Capacity;
- (f) Self-Schedules of exports at Scheduling Points not explicitly sourced by non-Resource Adequacy Capacity, except those exports explicitly identified in a Resource Adequacy Plan to be served by Resource Adequacy Capacity explicitly identified and linked in a Supply Plan to the exports as set forth in Section

- 31.4(d), ~~and the export Self-Schedule of a non-Priority Wheeling Through;~~
- (g) Day-Ahead Regulatory Must-Run Generation and Regulatory Must-Take Generation reduction;
 - (h) Other Self-Schedules of Supply reduction, ~~and the import Self-Schedule of a Priority Wheeling Through; and~~
 - ~~(i) The import Self-Schedule of a non-Priority Wheeling Through.~~

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31.5.5 Selection and Commitment of RUC Capacity

Capacity that is not already scheduled in the IFM may be selected as RUC Capacity through the RUC process of the DAM. The RUC optimization will select RUC Capacity and produce nodal RUC Prices by minimizing total Bid cost based on RUC Availability Bids and Start-Up, Minimum Load Bids and Transition Costs. ~~If RUC cannot schedule sufficient capacity to meet the RUC Procurement Target, a RUC Award or RUC Schedule will be issued to imports providing RA Capacity for the full amount of their RA Capacity.~~ RUC will not consider Start-Up, Minimum Load Bids, or Transition Costs for resources already committed in the IFM. The RUC Capacity of a resource is the incremental amount of capacity selected in RUC above the resource's Day-Ahead Schedule. The resource's Day-Ahead Schedule plus its RUC Capacity comprise the resource's RUC Schedule. The CAISO will only issue RUC Start-Up Instructions to resources committed in RUC that must receive a Start-Up Instruction in the Day-Ahead in order to be available to meet Real-Time Demand. RUC Schedules will be provided to Scheduling Coordinators even if a RUC Start-Up Instruction is not issued at that time. RUC shall not Shut Down resources scheduled through the IFM and RUC will not commit a Multi-Stage Generating Resource to a lower MSG Configuration that is unable to support the Energy scheduled in the IFM. If the RUC process cannot find a feasible solution given the resources committed in the IFM, the RUC process will adjust constraints as described in Section 31.5.4 to arrive at a feasible solution that accommodates all the resources committed in the IFM, and any necessary de-commitment of IFM committed units shall be effectuated

through an Exceptional Dispatch.

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Section 34

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34.12.1 Increasing Supply

The scheduling priorities as defined in the RTM optimization to meet the need for increasing Supply as reflected from higher to lower priority are as follows:

- (a) CAISO Forecast of CAISO Demand; ~~the export Self-Schedule of a Priority Wheeling Through;~~ exports explicitly identified in a Resource Adequacy Plan backed by Resource Adequacy Capacity explicitly identified and linked in a Supply Plan to the exports; or Self-Schedules for exports at Scheduling Points ~~in the RTM~~ backed by Generation from non-Resource Adequacy Capacity or from non-RUC Capacity;
- (b) Day-Ahead RUC schedules that are Self-Schedules of exports at Scheduling Points not backed by Generation from non-Resource Adequacy Capacity; ~~RUC Schedules that are Self-Schedules of exports at Scheduling Points not backed by Generation from non-Resource Adequacy Capacity, or the RUC Schedules that are the export Self-Schedules of non-Priority Wheeling Through;~~
- (c) Real-Time Market Self-Schedules of exports at Scheduling Points not backed by Generation from non-Resource Adequacy Capacity ~~or non-RUC capacity, or the Real-Time Market Self-Schedules that are the export Self-Schedules of a non-Priority Wheeling Through;~~ and
- (d) Contingency Only Operating Reserve if activated by Operator to provide Energy (as indicated by the Contingency Flag and the Contingency condition).

34.12.2 Decreasing Supply

The scheduling priorities as defined in the RTM optimization to meet the need for decreasing Supply as reflected from higher to lower priority are as follows:

- (a) Non-Participating Load increase;
- (b) Reliability Must Run (RMR) Schedule (Day-Ahead manual pre-dispatch or Manual RMR Dispatches or Dispatches that are flagged as RMR Dispatches following the MPM, for Legacy RMR Units and Exceptional Dispatch for RMR Resources process);
- (c) Transmission Ownership Right (TOR) Self-Schedule;
- (d) Existing Rights (ETC) Self-Schedule;
- (e) Regulatory Must-Run and Regulatory Must-Take (RMT) Self-Schedule;
- (f) Participating Load increase;
- (g) Day-Ahead Supply Schedule; and
- (h) Self-Schedule Hourly Block; ~~and~~
- ~~(i) Import Self-Schedule of a non-Priority Wheeling Through.~~

These dispatch priorities as defined in the RTM optimization may be superseded by operator actions and procedures as necessary to ensure reliable operations.

34.12.3 [Not Used]

~~In the event an Intertie is constrained in the import direction by a scheduling limit or Path 26 is constrained in the north-south direction, when HASP cannot meet CAISO Forecast of CAISO Demand or fully accommodate a Priority Wheeling Through transaction, the CAISO will perform a post-HASP process to pro-rata allocate available transmission capacity between CAISO Load and Priority Wheel Through transactions, as described in the Business Practice Manual. The CAISO Load pro-rata share will be based on the lower of each applicable Resource Adequacy Resource's Real-Time Energy Bid quantity or its shown Resource Adequacy Capacity. The Priority Wheeling Through pro-rata share for each Self-Schedule will be based on the lowest of (1) 110 percent of the submitted Day-Ahead Market Self-Schedule of the Priority Wheeling Through transaction, (2) the submitted Real-Time Market Self-Schedule of the Priority Wheeling Through transaction, or (3) the Priority Wheeling Through quantity requested 45-~~

~~days in advance of the month. The available transmission capacity the CAISO awards to Priority Wheeling Through transactions in the post-HASP process cannot exceed the Priority Wheeling Through quantity the CAISO calculates in this pro rata allocation. Energy scheduled via the post-HASP process will be settled as Exceptional Dispatch Energy pursuant to Section 11.5.6.1, as applicable.~~

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Appendix A

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- [Not Used] Priority Wheeling Through

~~A Self-Schedule that is part of a Wheeling Through transaction consistent with Section 30.5.4 that is supported by (1) a firm power supply contract to serve an external load serving entity's load throughout the calendar month and (2) monthly firm transmission the external load serving entity has procured under applicable open access tariffs, or comparable transmission tariffs, for Hours Ending 07:00 through 22:00, Monday through Saturday excluding NERC holidays, from the source to a CAISO Scheduling Point.~~