



California Independent  
System Operator Corporation

July 28, 2023

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. ER23- \_\_\_\_-000**

**Transmission Service and Market Scheduling Priorities  
Initiative – Framework for Obtaining Wheeling Through Self-  
Schedule Priorities On a Monthly and Daily Basis**

Dear Secretary Bose:

The California Independent System Operator Corporation (CAISO) submits this tariff amendment<sup>1</sup> to implement a durable framework for external load serving entities and suppliers serving them to obtain in advance, on a monthly and daily basis, Wheeling Through self-schedule priorities equal to the scheduling priority of CAISO demand, as well as related updates to the CAISO's calculation of Available Transfer Capability (ATC). The tariff revisions in this filing resulted from extensive discussion with stakeholders in Phase 2 of the CAISO's Transmission Service and Market Scheduling Priorities initiative and satisfy the Commission's expectation that the CAISO will implement a framework to replace the existing Wheeling Through Priority tariff provisions the Commission approved on an interim basis until June 1, 2024.<sup>2</sup>

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<sup>1</sup> 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 or in the proposed tariff revisions, and references to specific sections and appendices are references to sections and appendices in the current CAISO tariff and as revised or proposed in this filing, unless otherwise indicated.

<sup>2</sup> See *Cal. Indep. Sys. Operator Corp.*, 175 FERC ¶ 61,245 (2021) (June 2021 Order), *order addressing arguments raised on reh'g, denying clarification, & dismissing reh'g request*, 178 FERC ¶ 61,180 (2022) (March 2022 Rehearing Order) (accepting interim Wheeling Through tariff provisions effective until June 1, 2022); *Cal. Indep. Sys. Operator Corp.*, 178 FERC ¶ 61,182 (2022) (March 2022 Extension Order) (accepting interim Wheeling Through tariff provisions, as modified, effective June 1, 2024).

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The CAISO is submitting two sets of tariff revisions with different effective dates in this filing. The CAISO proposes to implement the first set of tariff provisions effective November 1, 2023, and the second set effective June 1, 2024.<sup>3</sup> The CAISO respectfully requests that the Commission issue an order by October 30, 2023, approving all of the tariff revisions proposed herein. Approving the tariff revisions by that date will provide important regulatory certainty for the CAISO and market participants regarding the scheduling priorities and rules that will apply to Wheeling Through transactions that will be effective starting June 1, 2024, allowing parties sufficient time to plan for the critical summer period next year.

The first set of tariff revisions largely pertains to the new proposed processes and rules for (1) calculating ATC on a rolling 13-month basis and rolling seven-day basis to determine what capacity remains available for Scheduling Coordinators to obtain a monthly or daily Wheeling Through Priority, and (2) allowing Scheduling Coordinators to request and obtain in advance a monthly or daily Wheeling Through Priority to support Priority Wheeling Through transactions during the month(s) or day(s).<sup>4</sup> The second set consists of the balance of the tariff revisions proposed in this filing.<sup>5</sup> The CAISO also proposes to retain the scheduling run priorities for Priority Wheeling Throughs and non-Priority Wheeling Throughs that would otherwise expire on June 1, 2024.

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<sup>3</sup> The CAISO respectfully requests waiver of the Commission's 120-day notice requirement to permit a June 1, 2024 effective date for the second set of tariff revisions.

<sup>4</sup> These tariff provisions can be effective concurrently with the interim Wheeling Through tariff provisions because they expressly do not apply to Wheeling Through transactions prior to June 1, 2024 and, as such, do not create a risk of "dueling" or inconsistent tariff provisions being in effect at the same time. The tariff revisions must go into effect much earlier than June 1, 2024, however, because they pertain to processes and actions that must occur in the months prior to June 1, 2024 to allow the CAISO to determine the quantity of Wheeling Through Priorities it can award for June 2024 (and thereafter) and to award Wheeling Through Priorities in advance of June 1, 2024.

<sup>5</sup> The Transmission Service and Market Scheduling Priorities initiative that resulted in this tariff amendment is still ongoing because the CAISO is also developing in the initiative a new and separate process to study requests for a Wheeling Through Priority for a year or longer that would commence beyond the rolling 13-month horizon in which the CAISO calculates ATC and that may require the construction of network or other upgrades. Enabling a process for customers to request Wheeling Through Priorities with a term of a year or longer commencing beyond the 13-month ATC calculation horizon is an enhancement to the framework proposed in this filing and is not necessary for the Commission to find the tariff revisions in the instant filing are just and reasonable. Nonetheless, to build on the progress made in the Transmission Service and Market Scheduling Priorities initiative, the CAISO commits to file the tariff revisions implementing that distinct long-term process by January 9, 2024. The CAISO notes that the existing, interim Wheeling Through tariff provisions do not provide for Wheeling Through priorities longer than one month.

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## I. EXECUTIVE SUMMARY

The existing, interim Wheeling Through tariff provisions the CAISO implemented in the summer of 2021 expire on June 1, 2024. In accepting the interim Wheeling Through tariff provisions, the Commission took into account a CAISO commitment to develop successor provisions. The Commission made clear it expects the CAISO to implement a more permanent framework to replace the interim provisions by that expiration date.<sup>6</sup> Consistent with its commitment, and the Commission's expectation, the CAISO proposes to replace the interim provisions with a new, "durable" framework for obtaining Available Transfer Capability (ATC) in advance to establish a monthly or daily Wheeling Through market scheduling priority on the CAISO system, while also effectively accounting for transmission capacity needed to serve native load.<sup>7</sup>

The proposed framework minimizes seams between the *pro forma* Open Access Transmission Tariff (OATT) framework that is prevalent across the Western Interconnection and the CAISO's organized market by providing external load serving entities and the suppliers serving them the opportunity to obtain a scheduling priority for monthly Wheeling Through transactions up to a year in advance and for daily Wheeling Through transactions up to seven days in advance. In particular, the proposed framework accords Priority Wheeling Through transactions a priority equal to CAISO demand and a priority higher than non-Priority Wheeling Through transactions. It effectively balances the CAISO's need to meet its native load obligations and the needs of external load serving entities to obtain transmission service on the CAISO system with a high priority to serve their own native load obligations.

The proposed framework also is compatible with and will facilitate compliance with other resource adequacy programs in the West. Further, it is

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<sup>6</sup> See, e.g., March 2022 Extension Order at P 29 ("[G]iven the impact throughout the West of how CAISO allocates transmission capacity, as well as the importance of developing a durable solution, we urge CAISO and stakeholders to continue working expeditiously towards a long-term solution"); *id.* at P 31 ("In addition, to encourage progress towards – and to reiterate to CAISO the importance of – a long-term solution, we also adopt CPUC's suggestion and direct CAISO to file quarterly informational reports to update the Commission on CAISO's progress toward a long-term solution and progress made in the stakeholder process.").

<sup>7</sup> The proposed framework replaces the existing interim Wheeling Through rules and does not modify the existing processes and priorities for exports from the CAISO balancing authority area (BAA). Existing Tariff appendix A defines Native Load as "Load required to be served by a utility within its Service Area pursuant to applicable law, franchise, or statute." For the sake of clarity, this transmittal letter distinguishes between existing tariff provisions (*i.e.*, provisions in the current CAISO tariff), new tariff provisions (*i.e.*, tariff provisions the CAISO proposes to add in this filing), revised tariff provisions (*i.e.*, existing tariff provisions the CAISO proposes to revise in this filing), and deleted tariff provisions (*i.e.*, existing tariff provisions the CAISO proposes to delete in this filing).

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compatible with and does not require changes to the CAISO's existing, unique market and transmission service model, which the Commission has recognized provides numerous benefits to consumers. It is also compatible with the Commission-approved resource adequacy (RA) program in which the California Public Utilities Commission (CPUC) and local regulatory authorities determine system RA requirements (including import procurement) for their load serving entities (LSEs) in the CAISO BAA, and in which LSEs are not required to procure and show 100 percent of their system RA Capacity until 45 days before the applicable month.

The following are the key design elements of the proposed framework for establishing a monthly or daily Wheeling Through scheduling priority across the CAISO system:

- *Calculating Available Transfer Capability in monthly and daily increments:*  
The CAISO will calculate ATC across the interties between the CAISO BAA and its neighboring BAAs monthly across a rolling 13-month horizon and daily across a rolling seven-day horizon to derive the amount of capacity available for entities seeking a Wheeling Through Priority for a month(s) or day(s). Entities obtaining a Wheeling Through Priority will be able to schedule Priority Wheeling Throughs during the specific hours of their priority, and Priority Wheeling Through self-schedules will have a priority equal to self-scheduled CAISO Demand and higher than non-Priority Wheeling Through transactions. In calculating ATC, the CAISO will set aside an amount of transmission capacity for existing transmission commitments, including anticipated native load needs and forecasted native load growth.

The CAISO will initially forecast native load needs each month over the 13-month horizon based on historical volumes of import supply contracted by CAISO LSEs, which will be represented as the highest volume of total RA imports shown on RA Plans plus eligible non-RA supply under contract for the month during the past two years (plus native load growth and permitted contract adjustments). However, after LSEs "show" their monthly supply contracts to the CAISO – 45 days before the start of the month plus a 15-day cure period – the CAISO will set aside capacity for native load for the applicable month and for the individual days in the month based on the actual RA and non-RA contract showings, not historical showings.

Holders of a Wheeling Through Priority cannot lose a previously awarded priority if actual LSE contract showings in the month-ahead timeframe exceed the ATC previously set aside for native load based on historical showings. If actual monthly LSE RA and non-RA contract showings are less than the transmission capacity the CAISO has set aside for native

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load based on historical volumes, the CAISO will release the unused transmission capacity as ATC, which, as discussed below, will then be available in the monthly and daily request window process for establishing additional Wheeling Through Priorities and in the daily request window for potential CAISO LSE ATC awards.

The proposed design also allows the CAISO to set aside transmission capacity for uncertainty that may materialize across the different horizons as a Transmission Reliability Margin (TRM), consistent with the Commission's open access policies and the requirements of North American Electric Reliability Corporation (NERC) Reliability Standard MOD-008-1.

- Accessing ATC: The CAISO will conduct monthly and daily request windows in which Scheduling Coordinators can submit requests to access ATC on the interties to establish a Wheeling Through Priority for a month(s) or day(s) across the next 12 months (beyond the current month for which the CAISO has calculated ATC) or seven days, respectively. CAISO LSEs will also be able to request ATC in the daily request window. If there is insufficient ATC to accommodate all the requests on a particular intertie, the requests will compete with each other based upon the number of hours for which they seek a priority across the horizon for which ATC is calculated. In the event of a tie, the CAISO will allocate the priorities *pro rata* to those entities that indicated a willingness to accept a *pro rata* or partial allocation.

Each Scheduling Coordinator seeking a monthly or daily Wheeling Through Priority and each CAISO LSE seeking a daily priority must demonstrate its request is supported by an executed firm power supply contract, a firm power supply contract contingent on obtaining a priority, or LSE ownership of the supporting resource(s).<sup>8</sup> The requested priority hours must align with the service hours in the underlying, supporting supply contract or the capabilities of the supporting resource, whichever applies.

The CAISO will treat all requests submitted in a request window as being submitted simultaneously and will treat them as confidential during the request window. All priorities granted during a request window will be unconditional – they cannot be unwound by awards in a future request

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<sup>8</sup> The CAISO is not seeking to reinstate the interim tariff requirement (which terminates on June 1, 2024) that requires Priority Wheeling Through customers to demonstrate they have acquired firm transmission to the CAISO border as part of the durable approach set forth in this filing.

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window or by a subsequent monthly RA and non-RA contract showings by CAISO LSEs. Holders of a Wheeling Through Priority can resell a monthly Wheeling Through Priority for the entire month or remainder of the month/term.

The CAISO also proposes processes to enable capacity currently held under Transmission Ownership Rights (TORs) or Existing Transmission Contracts (ETCs) to support Priority Wheeling Through transactions.

- Application of priorities in post-HASP process: The CAISO proposes to retain, with some modifications to reflect the new ATC/TRM and Wheeling Through Priority processes, the existing post-Hour-Ahead Scheduling Process (post-HASP process) to adjust or curtail Priority Wheeling Through transactions and CAISO load *pro rata* in specified conditions. Under the modified post-HASP process, curtailments can occur only in stressed system conditions if there is (1) a transmission limitation on the intertie **and** (2) a power balance infeasibility due to an inability to serve load. Thus, a mere CAISO supply shortage cannot trigger curtailments of Priority Wheeling Through transactions.

Further, to ensure a mere overload on an intertie that is not derated or out-of-service cannot cause a curtailment of Priority Wheeling Through transactions, the proposed tariff revisions provide that the amount of awarded Priority Wheeling Through transactions plus the amount of capacity represented as CAISO load for the hour cannot exceed the Total Transfer Capability (TTC) of the intertie for purposes of conducting the post-HASP process. Given these rules and because the CAISO optimizes its entire system and available supply, including re-dispatching resources if necessary to effectuate all service requests, the CAISO provides transmission service for Priority Wheeling Throughs that is comparable to the firm point-to-point transmission service under the *pro forma* OATT.<sup>9</sup>

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<sup>9</sup> Whereas under the *pro forma* OATT transmission providers can curtail firm point-to-point transmission solely as a result of a transmission derate or outage, the CAISO's proposed framework requires both a transmission derate or outage **and** an overall system supply shortfall to curtail a Priority Wheeling Through. Further, if there is a derate or transmission outage on the CAISO system, the CAISO will seek to redispatch other available supply to satisfy the self-scheduled Priority Wheeling Through transaction. This will better enable external LSEs to meet any obligations they have under the Western Resource Adequacy Program (WRAP), an emerging regional program that requires a large portion of the resource adequacy supply be deliverable on firm transmission. The Commission recently accepted the Western Power Pool's proposed WRAP tariff, effective January 1, 2023. See *Nw. Power Pool*, 182 FERC ¶ 61,063 (2023).

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- Compensation framework for a Wheeling Through scheduling priority:  
The CAISO proposes that Scheduling Coordinators obtaining a Wheeling Through Priority will pay the applicable Wheeling Access Charge (WAC) for all of the hours during the month(s) or day(s) for which they have a Wheeling Through Priority (the duration of which cannot be greater than or non-coincident with the service hours under the power supply contract supporting the Wheeling Through Priority). For example, a Scheduling Coordinator with a monthly Wheeling Through Priority supported by a 6-days-by-16-hour (6 x 16) supply contract would pay a fixed charge for the month for its Wheeling Through Priority megawatt (MW) quantity for all of the hours during the month the 6 x 16 contract applies, whether or not the Scheduling Coordinator actually schedules a Priority Wheeling Through transactions in all of those hours. This approach recognizes the value of establishing a Wheeling Through Priority equal to CAISO Demand compared to a Wheeling Through self-schedule with no priority.

The CAISO will credit any monthly Wheeling Through Priority payment toward the WAC prepayment amount required for an external load serving entity to obtain Congestion Revenue Rights (CRRs) through the Out-of-Balancing Authority Area Load Serving Entity (OBAALSE) CRR allocation process to the extent the external load serving entity with a monthly Wheeling Through Priority seeks an allocation CRRs. If the external load serving entity wants the seller under the supporting firm power supply contract to hold the Wheeling Through Priority, the external load serving entity can transfer any CRRs it obtains through the OBAALSE CRR process to the seller through the CAISO's secondary registration system for CRRs.

These tariff revisions afford non-discriminatory access to entities seeking a Wheeling Through scheduling priority on CAISO interties in a manner that is consistent with the CAISO's unique market design and tariff framework. Unlike the tariff provisions of other transmission providers, the existing CAISO tariff historically has not set aside capacity for native load or native load growth. The CAISO implemented the interim Wheeling Through tariff provisions as a means to protect native load during stressed grid conditions pending development of a long-term and more durable solution. Compared to the interim measures, the CAISO's proposal establishes a more sustainable and more traditional type of framework for protecting native load needs and establishing market scheduling priorities for transactions that wheel through the CAISO system to serve external native load. It allows entities seeking to wheel through the CAISO system to establish a market scheduling priority equal to CAISO demand by securing priority access to ATC across different time horizons. Entities that do not secure a Wheeling Through Priority can continue to wheel through the CAISO system but, as is the case today, those Wheeling Through transactions will have a lower

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market scheduling priority than CAISO Demand and Priority Wheeling Through transactions utilizing a Wheeling Through Priority secured in advance.

The proposal provides a just and reasonable approach to allocating scarce intertie capacity between the CAISO system and neighboring systems that is consistent with prior Commission decisions and recognizes the unique nature of the CAISO's market, transmission service, and RA paradigm. The CAISO's longstanding RA framework necessitates using historical contract showings to forecast the native load set-aside amount initially (along with using California Energy Commission (CEC) forecasts of LSE load to project native load growth) and then "true-up" ATC values to reflect actual LSE contract showings that occur in the month-ahead time frame. Setting aside native load capacity for a month based on the higher quantity of total RA and non-RA imports contracted by CAISO LSEs for that month during the prior two calendar years mitigates the risk of setting aside insufficient native load capacity. Further, in the month-ahead timeframe, the amount ultimately set aside for native load will be based on actual month-ahead LSE contract showings, provided that previously awarded Wheeling Through Priorities cannot be unwound by higher than forecasted month-ahead contract showings. To the extent actual month-ahead contract showings are less than the transmission capacity that has been set aside for native load based on historical values, the difference will be available to establish additional Wheeling Through and CAISO LSE import priorities in the applicable request window process. The proposed request window process provides a non-discriminatory opportunity for interested parties to obtain a monthly or daily Wheeling Through Priority, facilitates planning, and provides needed certainty because awarded Wheeling Through Priorities are unconditional and cannot be undone at a later point in time. The CAISO's proposal also prices each Wheeling Through Priority in a manner that appropriately recognizes its value, particularly compared to non-Priority Wheeling Throughs, without having to overhaul the CAISO's transmission rate design.

Overall, most stakeholders generally did not object to replacing the interim design requirements for establishing Wheeling Through scheduling priority with a framework that transparently calculates ATC to determine transmission capacity available for establishing Wheeling Through Priority, protects native load needs, and enables customers to establish scheduling priority in the monthly and daily timeframes. Some stakeholders, however, raised issues with the proposal that the CAISO addresses in this filing.

A few stakeholders argued that the CAISO should not use RA and non-RA contract showings from the last two years to determine the amount of capacity it will set aside for native load uses for a given month 13 months in advance of the month. Rather, they suggested that the CAISO should only set aside capacity under the native load priority that LSEs have procured 13 months in advance of the applicable month. Requiring LSEs to procure their capacity 13 months in



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advance is fundamentally at odds with, and would require the CAISO to drastically change, its longstanding, Commission-approved RA framework. Also, it is inconsistent with the CPUC's RA showing requirements. Under the CAISO's framework, LSEs are not required to procure 100 percent of their system RA Capacity until 45 days before the applicable month. Further, nothing in Order Nos. 888 or 890 requires LSEs to procure their supply 13 months in advance in order for the transmission provider to set aside capacity under the native load priority. Indeed, numerous transmission providers rely on native load forecasts (including forecasted native load growth) and generation assumptions to determine their native load priority set-aside quantity. The CAISO's approach is consistent with the range of practices transmission providers in the West and elsewhere use to determine the amount of transmission capacity set aside for native load on a forward basis. Importantly, the CAISO's proposal aligns with its RA program, and it ensures that in the month-ahead time frame ATC calculations will be based on LSEs' actual contract showings, not the historically based values.

A couple of stakeholders objected to the requirement for an executed firm power supply contract, contingent power supply contract, or resource ownership interest to obtain a Wheeling Through Priority because it is not a *pro forma* OATT requirement. In approving the CAISO's interim Wheeling Through tariff provisions the Commission found the requirement to be just and reasonable and consistent with or superior to the *pro forma* OATT. The firm power supply contract requirement also is consistent with the Commission-approved contract requirement applicable to external load serving entities seeking to obtain an allocation of CRRs – it demonstrates a “legitimate need” for a Wheeling Through Priority. As discussed herein, the firm power supply contract requirement is a reasonable means of rationing scarce intertie capacity. It enables external load serving entities that are relying on external supply to serve their native load to obtain a Wheeling Through Priority. The requirement essentially allows external load serving entities to obtain priority service to serve their native load reliably and with more certainty, promoting regional coordination and cooperation and reducing seams. The contract requirement also recognizes that the capacity set aside for native load is based on supply contract showings (historical and then month-ahead).

The CAISO notes it is working with stakeholders in the Transmission Service and Market Scheduling Priorities initiative to develop a separate and distinct process for entities to request Wheeling Through Priorities for a term of a year or longer that commence after the 13-month horizon in which the CAISO calculates ATC. In these circumstances, the CAISO will study the transmission upgrades needed to accommodate any requested long-term Wheeling Through Priority. These long-term Wheeling Through Priority tariff provisions are an enhancement to the CAISO's Wheeling Through Priority rules proposed herein and do not affect the justness and reasonableness of such rules. In order to

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implement the outcome of its stakeholder process, the CAISO commits to filing its long-term Wheeling Through Priority and upgrade proposal with the Commission by January 9, 2024. Assuming the Commission timely accepts the proposal, interested parties will be able to submit long-term Wheeling Through Priority requests annually, starting with the first window that would be open April 1-15, 2024.

Finally, the CAISO committed to its Board of Governors (CAISO Board) and the Western Energy Imbalance Market (WEIM) Governing Body that it would monitor the effectiveness of the proposed market design changes and whether actual outcomes are consistent with the intent of the proposal. Based on its operational experience, the CAISO is committed to exploring with stakeholders to explore possible future enhancements to the Wheeling Through Priority framework.

## **II. BACKGROUND AND NEED FOR THE FILING**

### **A. The CAISO's Market and Transmission Service Model**

As the Commission has recognized on numerous occasions, the CAISO's transmission paradigm is significantly different from the transmission paradigm under the Commission's *pro forma* OATT. This paradigm supports the CAISO market structure, which provides a wide range of benefits to consumers. It is financially based and does not involve the physical reservation of transmission capacity by individual customers in advance of acquiring capacity and energy through the market.<sup>10</sup> There are no long-term, annual, monthly, or weekly transmission reservations of capacity like those under the *pro forma* OATT. The CAISO does not offer Network Integration Transmission Service, Firm Point-to-Point Transmission Service, or Non-Firm Point to-Point Transmission Service. Likewise, the CAISO's transmission service framework does not have designated Network Resources or Network Loads. Unlike the tariff provisions of some other transmission providers, the CAISO tariff has not set aside any capacity under its Available Transfer Capability (ATC) calculation for native load or native load growth.<sup>11</sup> As described *infra*, the interim Wheeling Through tariff provisions

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<sup>10</sup> June 2021 Order at P 144; March 2022 Rehearing Order at P 28, citing *Pac. Gas & Elec. Co., et al.*, 81 FERC ¶ 61,122, at 61,472 (1997).

<sup>11</sup> The CAISO tariff defines the ATC for purposes of the CAISO market optimization as the Total Transfer Capability (TTC), less the Transmission Reliability Margin (TRM), less the sum of any unused existing transmission commitments (ETComm), less the Capacity Benefit Margin (CBM) which is set at zero, less the scheduled Net Energy from Imports and Exports, less Ancillary Service capacity from Imports. Tariff appendix L, existing section L.1.1. To avoid confusion with the term "ETC" as defined in the CAISO tariff to refer to Existing Transmission Contracts or Existing Contracts, in this transmittal letter the CAISO will use the full term "existing transmission commitments" or "ETComm" to refer to that ATC component.

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approved by the Commission in 2021 provide a different type of native load protection, but they expire June 1, 2024.

The CAISO only has one category of transmission service in its BAA not associated with existing rights – new firm use. New firm use is scheduled on a daily basis,<sup>12</sup> and all transmission scheduled is considered new firm use whether it is an export (high- or low-priority), import, Wheeling Through (Priority or non-Priority), or wholly internal transaction. Daily new firm use transmission service is available on a non-discriminatory basis to all eligible customers. All new firm use transmission service on the CAISO system is associated with awards and schedules arising out of the day-ahead and real-time markets.<sup>13</sup> The CAISO optimizes and redispatches supply on its system as necessary to attempt to provide *all* of the existing contract and new firm use services that have been scheduled that day, both higher-priority and lower-priority. Reserving transmission service is not a prerequisite to participate in the CAISO markets, either the day-ahead market or the real-time market, and the CAISO does not use transmission reservations to manage the priority of schedules to address system constraints.

Under the CAISO's service model, Scheduling Coordinators can submit economic bids and self-schedules (*i.e.*, price-taker bids) for energy and ancillary services, including self-schedules of load, exports, and Wheeling Through transactions.<sup>14</sup> The CAISO uses a bid-based, security constrained economic

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<sup>12</sup> Existing tariff section 23 defines new firm use as “any use of CAISO transmission service, except for uses associated with Existing Rights or TORs.” As discussed below, the CAISO revises this provision herein to make clear that Priority Wheeling Through and non-Priority Wheeling Through transactions and transactions serving CAISO Demand are new firm uses.

<sup>13</sup> The day-ahead market consists of the following processes: the market power mitigation process, the integrated forward market (IFM), and the residual unit commitment (RUC). Existing tariff section 31. The real-time market consists of the following processes: the hour-ahead scheduling process (HASP), the real-time unit commitment (RTUC), the short-term unit commitment (STUC), the fifteen minute market (FMM), and the real-time dispatch. Existing tariff section 34.

<sup>14</sup> Existing tariff section 30, *et seq.* A self-schedule is a market bid a Scheduling Coordinator submits to the CAISO that indicates a quantity in megawatt-hours (MWh) but does not specify a price. This indicates the Scheduling Coordinator is a price-taker. Tariff Appendix A, existing definition of Self-Schedule. Effectively, self-schedules are requests that the market schedule the transaction irrespective of the market price.

Besides self-scheduling load and exports, Scheduling Coordinators can self-schedule Wheeling Through transactions through the CAISO markets. Existing tariff section 30.5.4. Wheeling Through self-schedules consist of both an import self-schedule and an export self-schedule and can occur between any two intertie points. *Id.* Scheduling Coordinators can also submit Wheeling Through transactions using economic bids, with both the import and export legs providing economic bids. *Id.* If there is sufficient supply to support all self-schedules, Wheeling

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dispatch/re-dispatch process to balance BAA requirements,<sup>15</sup> utilize the full capability of the grid to maximize the transmission service it can provide to eligible customers, provide customers with maximum flexibility to schedule transactions, and ration capacity when the demand for transfer capability exceeds supply.

The CAISO manages schedules on its grid through the day-ahead and real-time markets and applies scheduling priorities defined in its tariff to adjust self-schedules in its markets.<sup>16</sup> The CAISO markets honor these self-schedules if there is sufficient generation and transmission capacity to support them. If there is insufficient supply or binding transmission constraints and all economic bids have been exhausted, the CAISO markets will adjust self-schedules to clear the market.<sup>17</sup> The market software determines the priority order in which the various self-schedules are adjusted or curtailed using market parameters known as “penalty prices.”<sup>18</sup> These penalty prices are set to specific values to (1) determine the conditions under which the market may relax a constraint or curtail a self-schedule, and (2) establish the market prices when these events happen.<sup>19</sup>

## **B. The CAISO’s Resource Adequacy Model**

The CAISO has an RA framework unique among independent system operators (ISOs) and regional transmission organizations (RTOs) that recognizes the important role of local regulatory authorities in setting system resource obligations for their jurisdictional entities. Since 2006, the CAISO has coordinated with the CPUC and local regulatory authorities within the CAISO

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Through transactions and exports with economic bids compete for the remaining transmission capacity.

<sup>15</sup> The CAISO’s day-ahead market currently is just for the CAISO balancing authority area; however, the CAISO is extending it to other balancing authority areas through its Extended Day-Ahead Market initiative. However, the real-time market includes transactions with all WEIM balancing areas, including the CAISO.

<sup>16</sup> Existing tariff section 31.4 contains the scheduling priorities in the day-ahead market, and existing tariff section 34.12 contains the scheduling priorities for the real-time market.

<sup>17</sup> For example, in the IFM, all self-schedules are respected by the security constrained unit commitment to the maximum extent possible and are protected from curtailment in the congestion management process to the extent there are effective economic bids that can relieve congestion. Existing tariff section 31.4.

<sup>18</sup> 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.

<sup>19</sup> See existing tariff section 27.4.3, *et seq.*; see also Business Practice Manual for Market Operations, section 6.6.5. The CAISO discusses the current scheduling run priorities reflecting the interim Wheeling Through tariff provisions that terminate effective June 1, 2024 below in Section II.G of this transmittal letter.

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BAA to develop resource adequacy requirements enforced under the CAISO tariff.<sup>20</sup> In its initial order accepting the CAISO's current market design (the Market Redesign and Technology Upgrade or MRTU), the Commission recognized the states' historical role in ensuring resource adequacy and approved the CAISO's "balanced jurisdictional approach" to resource adequacy that adopts system resource adequacy requirements by state and local regulatory authorities in the first instance."<sup>21</sup>

The RA program requires LSEs to procure capacity to meet their forecasted peak load monthly plus a reserve margin (*i.e.*, system RA requirements), local area capacity requirements, and flexible capacity requirements. The CPUC and local regulatory authorities determine the reserve margin applicable to their jurisdictional LSEs. If they set no reserve margin, the CAISO applies a 15 percent default reserve margin.<sup>22</sup> The CEC establishes the load forecasts for CAISO LSEs used to establish RA requirements for the upcoming year.<sup>23</sup> The CPUC and local regulatory authorities also can – and do – order additional procurement of non-RA Capacity (above and beyond RA requirements) to meet LSEs' service needs.<sup>24</sup> The annual and monthly RA Plans LSEs submit do not reflect this capacity. Also, some LSEs historically have met, and currently meet, their native load needs through a small percentage of non-RA imports because they cannot obtain import capability for 100 percent of their import entitlements, which is a requirement for capacity to be considered RA under the CAISO tariff.<sup>25</sup> Thus, LSEs currently meet their native load needs not only by RA Capacity, but also by some non-RA capacity.

Under the CAISO's RA framework, CPUC and non-CPUC jurisdictional LSEs must demonstrate that they have procured RA Capacity to meet their RA

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<sup>20</sup> To that end, the CAISO system has a large number and variety of LSEs that comprise investor owned utilities, energy service providers, municipal utilities, community choice aggregators, the California Department of Water Resources State Water Project, water districts, federal agencies, and a host of other entities that serve load. The CPUC and numerous local regulatory authorities oversee these various LSEs. The CAISO works closely with the CPUC and other local regulatory authorities to maintain jointly a resource adequacy program that includes roles for the CAISO and state and local agencies and seeks to ensure resource adequacy for the diverse load serving entities in the CAISO BAA. See <https://www.cpuc.ca.gov/industries-and-topics/electrical-energy/electric-power-procurement/resource-adequacy-homepage>.

<sup>21</sup> *Calif. Indep. Sys. Operator Corp.*, 116 FERC ¶ 61,274, at PP 1117-18 (2006).

<sup>22</sup> Existing tariff section 40.2.2.1(b).

<sup>23</sup> Existing tariff section 40.2.2.3.

<sup>24</sup> See <https://www.cpuc.ca.gov/irp/> and materials cited therein. See also CPUC decisions [D.21-03-056](#) and [D.21-12-015](#) that ordered load serving entity procurement above and beyond RA requirements.

<sup>25</sup> See existing tariff section 40.4.6.2.

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obligations by submitting an annual RA Plan and monthly RA Plans for each month of the calendar year. At a minimum, LSEs must show 100 percent of their local area capacity in the annual Resource Adequacy showing, but there is no annual showing requirement for system RA Capacity unless the CPUC or a local regulatory authority establishes one for its LSEs.<sup>26</sup> In other words, LSEs are not required to show system RA Capacity in their annual RA Plans unless the CPUC or local regulatory authority requires it.<sup>27</sup>

All LSEs are required to show 100 percent of the RA Capacity needed to meet their system RA requirements in their monthly RA Plans.<sup>28</sup> Monthly RA Plans are due 45 days before the month to which the RA Plan applies.<sup>29</sup> LSEs have 30 days before the month to cure any RA showing deficiencies.<sup>30</sup> In their annual and monthly RA Plans, LSEs must also show their procurement of 90 percent and 100 percent, respectively, of their flexible capacity requirements for each month.<sup>31</sup>

### **C. The CAISO's April 2021 Tariff Amendment to Implement the Interim Wheeling Through Tariff Provisions**

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, CPUC, and CEC then undertook a root cause analysis of these events, and the CAISO's Department of Market Monitoring (DMM) separately

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<sup>26</sup> Existing tariff section 40.2.2.4(a).

<sup>27</sup> For example, the CPUC requires its jurisdictional LSEs to show 90 percent of their system RA obligations for the summer months in the annual RA Plans (which are due at the end of October for the upcoming year).<sup>27</sup> See Business Practice Manual for Reliability Requirements, exhibits A-2 and A-4. See also <https://www.cpuc.ca.gov/industries-and-topics/electrical-energy/electric-power-procurement/resource-adequacy-homepage>. CPUC-jurisdictional LSEs are not required to show any system RA Capacity for non-summer months in their annual RA Plans. System RA requirements can be met by the procurement of numerous types of RA Capacity, including both Resource-Specific and Non-Resource-Specific System Resources. System Resources are essentially imports into the CAISO. See tariff appendix A, existing definition of "System Resource." A System Resource can be a group of resources, a single resource, or a part of a resource located outside of the CAISO BAA. System Resources can be either Resource-Specific or Non-Resource-Specific.

<sup>28</sup> Existing tariff section 40.2.2.4(b).

<sup>29</sup> *Id.*

<sup>30</sup> Existing tariff section 40.7(a).

<sup>31</sup> Existing tariff section 40.10.5.1.

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issued a report on CAISO market performance during the events.<sup>32</sup> In the first half of 2021, the CAISO undertook an expedited stakeholder initiative to evaluate market enhancements to prepare for expected stressed system conditions in summer 2021.<sup>33</sup>

Following those stakeholder discussions, the CAISO filed tariff revisions on April 28, 2021 (April 2021 Tariff Amendment) to modify load, export, and Wheeling Through priorities in the day-ahead and real-time market optimization process and establish related market rules.<sup>34</sup> The CAISO filed the tariff revisions to ensure that, during constrained system conditions, the CAISO reliably and fairly could manage transactions at the interties and internal transmission paths to meet its native load obligations, while continuing to provide access to external entities that also rely on the CAISO grid to serve their native load.<sup>35</sup>

To address the potential effects Wheeling Through transactions might have on the CAISO's ability to meet native load obligations, the CAISO proposed, on an interim basis (initially through May 31, 2022), to establish two categories of Wheeling Through self-schedule transactions – a Priority Wheeling Through and a non-Priority Wheeling Through. As proposed by the CAISO (and accepted in the June 2021 Order as discussed below), a Priority Wheeling Through transaction is 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." All other Wheeling Through Self-Schedules are non-Priority Wheeling Through transactions.<sup>36</sup>

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<sup>32</sup> See June 2021 Order at PP 7-8. Wheeling Through priorities were not a cause of the 2020 events, but they were identified as potentially affecting the CAISO's ability to serve native load.

<sup>33</sup> Materials related to this stakeholder initiative are available at <https://stakeholdercenter.caiso.com/StakeholderInitiatives/Market-enhancements-for-summer-2021-readiness>.

<sup>34</sup> The CAISO submitted the April 2021 Tariff Amendment in Docket No. ER21-1790-000.

<sup>35</sup> The CAISO discusses below only the tariff revisions in the April 2021 Tariff Amendment that are relevant to the instant tariff amendment filing.

<sup>36</sup> Tariff appendix A, existing definition of Priority Wheeling Through.

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For a Wheeling Through self-schedule to be eligible as a Priority Wheeling through for a given month under the interim provisions, a Scheduling Coordinator must notify the CAISO of the megawatt (MW) quantity of the power supply contract supporting the Wheeling Through self-schedule and confirm it meets the eligibility requirements to support a Priority Wheeling through 45 days prior to the applicable month.<sup>37</sup> The CAISO proposed that Priority Wheeling Through transactions would have a priority equal to self-scheduled imports needed to serve CAISO Demand. Non-Priority Wheeling Through transactions would have a lower priority. The CAISO proposed establishing two categories of Wheeling Through self-schedules because, unlike other ISOs and RTOs and other transmission providers, the CAISO lacked any transmission reservation mechanism or express measures to set aside capacity for native load. As part of the interim Wheeling Through tariff revisions, the CAISO also proposed to perform a new process after the HASP (the post-HASP process) to allocate available transmission capacity *pro rata* between supply needed to meet CAISO load and Priority Wheeling Through transactions if certain transmission constraints arise.<sup>38</sup> The CAISO explained that the Wheeling Through tariff revisions would enable the CAISO to manage intertie constraints more effectively and balance the interests of market participants to minimize the need to shed load across the West during tight supply conditions.<sup>39</sup>

The CAISO also explained in the April 2021 Tariff Amendment that it had commenced a stakeholder initiative to identify and implement a more permanent solution that will enable external entities to obtain firm transmission for Wheeling Through schedules on a forward basis.<sup>40</sup> The CAISO stated it was aiming to request approval from the CAISO Board for the proposals developed in that stakeholder initiative and to file a tariff amendment to implement the proposals by summer 2022.<sup>41</sup> However, the CAISO also stated that it might need to extend the interim Wheeling Through provisions or seek to implement other interim measures effective June 1, 2022.<sup>42</sup>

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<sup>37</sup> Existing tariff section 30.5.1(z).

<sup>38</sup> Existing tariff section 34.12.3.

<sup>39</sup> Transmittal letter for April 2021 Tariff Amendment at 49-78.

<sup>40</sup> *Id.* at 62. The CAISO later explained in its answer to comments and protests regarding the April 2021 Tariff Amendment that it would consider a more durable solution in the External Load Forward Scheduling Rights Process stakeholder initiative, which it subsequently renamed the Transmission Service and Market Scheduling Priorities initiative. See CAISO Motion for Leave to File Answer and Answer to Comments and Protests, Docket No. ER21-1790-000, at 71-72 & n.142 (June 2, 2021).

<sup>41</sup> Transmittal letter for April 2021 Tariff Amendment at 62.

<sup>42</sup> *Id.* at 78.



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#### **D. The June 2021 Order and March 2022 Rehearing Order**

On June 25, 2021, the Commission issued the June 2021 Order accepting the tariff revisions contained in the April 2021 Tariff Amendment effective as of the dates requested by the CAISO, subject to the CAISO submitting a compliance filing within 30 days.<sup>43</sup>

Regarding the interim tariff revisions on Wheeling Through priorities, the Commission found the “CAISO’s wheeling through proposal represents a just and reasonable and not unduly discriminatory or preferential prioritization of the use of CAISO’s transmission system.”<sup>44</sup> The Commission also found that although the interim Wheeling Through tariff provisions were different from the measures other transmission providers use to protect native load, they were not inconsistent with the open access principles in Order Nos. 888 and 890.<sup>45</sup> Further, they were “consistent with the balance described in Order No. 890 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.’”<sup>46</sup> The Commission rejected arguments that the interim Wheeling Through Priority provisions degraded firm transmission products under other transmission providers, finding the CAISO’s proposal only established scheduling priorities across the CAISO controlled transmission system.<sup>47</sup> The Commission concluded the Wheeling Through tariff provisions were further justified by tight system conditions and the reliability risks related to allocating scarce transmission capacity on the CAISO system between capacity to serve CAISO load and external load.<sup>48</sup>

The Commission also found the CAISO’s proposed Priority Wheeling Through requirements were just and reasonable and not unduly discriminatory. The Commission, noting prior precedent,<sup>49</sup> reaffirmed that internal load and

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<sup>43</sup> June 2021 Order at P 1 and Ordering Paragraphs (A)-(C).

<sup>44</sup> *Id.* at P 140.

<sup>45</sup> *Id.* at PP 140-47.

<sup>46</sup> *Id.* at P 141 (quoting *Preventing Undue Discrimination & Preference in Transmission Serv.*, Order No. 890, 118 FERC ¶ 61,119, at P 107 (Order No. 890), *order on reh’g*, Order No. 890-A, 121 FERC ¶ 61,297 (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)).

<sup>47</sup> *Id.* at P 146.

<sup>48</sup> *Id.* at P 161.

<sup>49</sup> Previously the Commission had found that it was not unduly discriminatory for the CAISO to adopt different requirements for external LSEs to obtain an allocation of CRRs. *Cal. Indep. Sys. Operator Corp.*, 116 FERC ¶ 61,274, at PP 766-69, *order on reh’g*, 119 FERC ¶ 61,076, at P

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external load are not similarly situated with respect to their membership in the CAISO or reliance on the CAISO grid.<sup>50</sup> The Commission found the Priority Wheeling Through requirements were a reasonable proxy that allows external LSEs to demonstrate that they plan to use the CAISO grid to serve their load in the same manner as CAISO LSEs.<sup>51</sup> In particular, the Commission found that the monthly contract requirement was reasonable, and not unduly discriminatory or preferential, and it provided sufficient flexibility to external LSEs.<sup>52</sup>

The Commission “agree[d] with commenters, such as DMM, that recommend that CAISO develop a long-term solution that will clearly delineate rights across CAISO’s transmission system.”<sup>53</sup> Nevertheless, the Commission found the “CAISO’s proposal represents a just and reasonable approach,” because “[i]n light of potentially challenging summer conditions across the Western interconnection, it is particularly important that CAISO’s transmission capacity is allocated in a balanced and fair manner that is not inconsistent with the principles embodied in Order Nos. 888 and 890.”<sup>54</sup> The Commission stated the CAISO’s Wheeling Through proposal “accomplishes this for the interim period as CAISO develops a more comprehensive solution.”<sup>55</sup>

The Commission also found that penalty pricing parameters that determine the relative scheduling priorities of transactions in the CAISO market optimization software must be specified in the tariff because they affect the conditions of transmission service on the CAISO grid. The Commission directed the CAISO to submit a compliance filing within 30 days of the June 2021 Order that “incorporates the penalty pricing parameters associated with the revised

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369-71 (2007). Specifically, to be eligible for an allocation of CRRs, external LSEs had to show legitimate need – in the form of an executed power supply contract to serve their load and firm transmission to the CAISO border – and they had to prepay their WAC for all of the hours during the CRR period. The Commission further rejected claims that the different requirements for external LSEs violated Order No. 888 open access policies. *Id.* at P 371.

<sup>50</sup> June 2021 Order at P 148.

<sup>51</sup> *Id.* at P 149.

<sup>52</sup> *Id.* at P 150. The Commission noted the CAISO’s clarification that nothing in the proposal required a Priority Wheeling Through transaction to use energy from the originally contracted resource, but it instead allowed a Scheduling Coordinator to use a substitute resource if the originally contracted resource was unavailable. *Id.*

<sup>53</sup> *Id.* at P 142.

<sup>54</sup> *Id.* See also *id.* at P 177 (reiterating that the Wheeling Through tariff provisions are an interim solution and encouraging the CAISO to “continue to work with stakeholders to develop a long-term solution that will clearly delineate rights across CAISO’s transmission system”).

<sup>55</sup> *Id.* at P 142.

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scheduling priorities into the relevant sections of the CAISO Tariff.”<sup>56</sup> The Commission stated it would review the filed penalty pricing parameters under Section 205 of the FPA to ensure they are just and reasonable and not unduly discriminatory or preferential.<sup>57</sup>

On March 15, 2022, the Commission issued the March 2022 Rehearing Order in which it continued to find that the interim solution was just and reasonable and consistent with open access principles, including the native load priority principles enunciated in Order No. 888.<sup>58</sup>

In particular, the Commission confirmed that, although the CAISO’s measures were different in form, they were comparable in effect to the native load priority permitted by the Commission for other transmission providers, including other ISOs and RTOs, and were consistent with the open access principles of Order No. 888 and 890.<sup>59</sup> The Commission recognized that the interim provisions reflected the unique nature of the CAISO’s services and markets, in which there are no advance transmission reservations, only a single class of transmission service -- a daily or hourly transmission service (*i.e.*, new firm use), and a volumetric access rate. The Commission thus concluded that the CAISO’s interim tariff provisions that rely on scheduling priorities rather than transmission reservations to meet native load obligations are consistent with Commission open access principles.<sup>60</sup>

The Commission also reaffirmed that the requirements for Priority Wheeling Through transactions were not unduly discriminatory and did not violate Order No. 888 open access policies.<sup>61</sup> The Commission concluded that it properly referenced the MRTU CRR precedent, finding “it is reasonable to require external load serving entities to demonstrate ongoing reliance and intent to use the CAISO transmission system in a manner that is similar to internal load serving entities in order to receive comparable terms and conditions of service, *i.e.*, a financial right or equal curtailment priority.”<sup>62</sup> The Commission also found

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<sup>56</sup> *Id.* at PP 166-67.

<sup>57</sup> *Id.* at P 167. In response to the June 2021 Order, the CAISO timely submitted the required compliance filing on July 26, 2021 (July 26 Compliance Filing), as supplemented on August 4, 2021. The Commission accepted the July 26 and August 4 compliance filings on March 15, 2022, subject to a further compliance filing. *Cal. Indep. Sys. Operator Corp.*, 178 FERC ¶ 61,181 (2022).

<sup>58</sup> March 2022 Rehearing Order at P 21.

<sup>59</sup> *Id.* at P 24.

<sup>60</sup> *Id.*

<sup>61</sup> *Id.* at PP 44-58.

<sup>62</sup> *Id.* at P 45.

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that the power supply contract requirement was similar to the existing requirement in the CPUC's RA program that Scheduling Coordinators for CAISO LSEs must procure a specified amount of RA Capacity to meet their RA obligations.<sup>63</sup>

#### **E. Extension of the Interim Wheeling Through Provisions**

On January 27, 2022, the CAISO submitted a tariff amendment (January 2022 Tariff Amendment) to maintain in effect for an additional two years – until June 1, 2024 – the Wheeling Through tariff provisions the Commission approved in the June 2021 Order to be in effect until June 1, 2022 to establish Wheeling Through priorities in the day-ahead and real-time market optimization processes and allocate capacity between CAISO load and Wheeling Through transactions during stressed system conditions.<sup>64</sup> As the CAISO explained in its filing, extending the interim Wheeling Through tariff provisions (with minor modifications) would (1) provide market participants certainty regarding the rules for Wheeling Through the CAISO system for summer 2022 and 2023, (2) give them sufficient time to make the necessary contractual arrangements for summer 2022 and 2023, and register their Priority Wheeling Through transactions by the April 17, 2022, deadline for Wheeling Through transactions for the month of June 2022, and (3) allow stakeholders and the CAISO to focus their efforts on developing a more durable framework for allowing Wheeling Through customers to establish a scheduling priority in advance.<sup>65</sup>

On March 15, 2022, the Commission issued the March 2022 Extension Order, which accepted the CAISO's tariff revisions to extend the interim Wheeling Through tariff provisions through May 31, 2024. In its order, the Commission urged stakeholders and the CAISO to continue working expeditiously toward developing a more permanent solution.<sup>66</sup> Further, "to encourage progress towards – and to reiterate to CAISO the importance of – a long-term solution," the Commission directed the CAISO to "file quarterly informational reports to update the Commission on CAISO's progress toward a long-term solution and progress made in the stakeholder process."<sup>67</sup> The CAISO has filed a series of quarterly informational reports, on the schedule established

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<sup>63</sup> *Id.* at P 48.

<sup>64</sup> See June 2021 Order at PP 140-63, 166-67, 177. The CAISO submitted the January 2022 Tariff Amendment in Docket No. ER22-906-000.

<sup>65</sup> Transmittal letter for January 2022 Tariff Amendment at 17-26.

<sup>66</sup> March 2022 Extension Order at P 29.

<sup>67</sup> *Id.* at P 31.

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by the Commission, providing updates regarding the development of a new framework to replace the interim solution.<sup>68</sup>

## **F. Stakeholder Process for this Tariff Amendment**

The CAISO conducted an extensive stakeholder process to develop this tariff amendment.<sup>69</sup> The CAISO began the External Load Forward Scheduling Rights Process initiative, the predecessor to the Transmission Service and Market Scheduling Priorities initiative that resulted in this tariff amendment, by hosting a workshop with stakeholders on July 13, 2021. In the workshop, the CAISO explained that the initiative would (1) explore near-term enhancements implementable by the summer of 2022, and (2) build upon the policy discussion that resulted in the April 2021 Tariff Amendment, in which in the CAISO committed to undertake an initiative to develop a more permanent framework for establishing priority scheduling rights in its markets.<sup>70</sup>

From the outset, the CAISO envisioned the initiative would proceed in two phases. The first phase would consider enhancements the CAISO could implement by the summer of 2022 and present to the CAISO Board for approval in early 2022. In the second phase, the CAISO and stakeholders would consider a more durable, holistic framework for establishing market scheduling priorities that the CAISO could present for CAISO Board approval and implement later.<sup>71</sup> The CAISO conducted Phase 1 and Phase 2 simultaneously. As discussed above, Phase 1 culminated in an extension of the interim Wheeling Through tariff provisions that the Commission approved in the March 2022 Extension Order.

To “kick off” Phase 2 of the Transmission Service and Market Scheduling Priorities initiative, the CAISO established three stakeholder working groups to consider the key components of a long-term transmission reservation process. As described in the CAISO’s August 31, 2021 Issue Paper, the three working groups and their areas of focus were:<sup>72</sup>

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<sup>68</sup> The CAISO has submitted the quarterly informational reports in Docket No. ER22-906, the docket in which the Commission issued the March 2022 Extension Order.

<sup>69</sup> Materials related to the stakeholder process are available at <https://stakeholdercenter.caiso.com/StakeholderInitiatives/Transmission-service-and-market-scheduling-priorities>.

<sup>70</sup> See CAISO presentation, *External Load Forward Scheduling Rights Process Workshop*, at slide 6 (July 13, 2021), available at [ISOPresentation-ExternalLoadForwardSchedulingRightsProcessWorkshop-Jul13-2021.pdf](https://www.caiso.com/Documents/ISOPresentation-ExternalLoadForwardSchedulingRightsProcessWorkshop-Jul13-2021.pdf) (caiso.com).

<sup>71</sup> *Id.* at slide 12.

<sup>72</sup> The Issue Paper, which is entitled *External Load Forward Scheduling Rights Process Initiative*, is available on the website for the stakeholder initiative at [IssuePaper-](#)

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### ***Working Group 1 – Calculating Native Load Needs and Available Transfer Capability (ATC)***

This working group would evaluate approaches, processes, and inputs for calculating native load needs as an existing transmission commitment (ETComm) and the overall calculation of ATC. The scope of the work included:

- Calculating ETComm for native load – inputs and assumptions;
- Calculating margins, including Capacity Benefit Margin;
- Accounting for uncertainties (generation, load, topology uncertainties);
- Calculating ATC across different timeframes;
- Transparency and data requirements; and
- Tools and system supporting the calculations and process.

This working group focused on (1) discussing (and learning from) other Western transmission providers' practices for calculating the different components of the ATC methodology and reserving transmission capacity for native load needs, and (2) identifying and developing an approach (or approaches) for consideration.

### **Working Group 2 – Transmission Products and Reserving Transmission Service**

This working group focused on evaluating the different transmission products that could be offered in the CAISO's markets and the process for reserving transmission service. The scope of the work included:

- Evaluating types of transmission products;
- Evaluating transmission product time increments;
- Evaluating process for requesting transmission service;
- The process for evaluating transmission service requests to determine if these can be awarded;
- Transparency and data requirements regarding awarding of transmission service; and
- Tools and systems supporting the different aspects of processes.

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### **Working Group 3 – Studying Requests for Long-Term Service and Identifying Upgrades**

This working group focused on evaluating planning processes the CAISO can integrate into its existing transmission planning process to study requests for long-term transmission service the CAISO cannot otherwise accommodate. The scope of the work included:

- The process for requesting a study;
- Study process to evaluate whether an upgrade may be needed to accommodate a request, including consideration of individual studies or clustered studies (multiple requests);
- Processes and requirements (financial or otherwise) for proceeding with a transmission upgrade; and
- Identifying the rights that an individual entity secures if it proceeds with an upgrade.

In 2021, the CAISO held five Working Group 1 meetings. The CAISO commenced meetings for Working Groups 2 and 3 in January 2022. The working group meetings were open to all stakeholders. The CAISO also held numerous meetings with representatives of other ISOs and RTOs to benchmark their practices regarding market scheduling priorities, treatment of Wheeling Through and export transactions, calculation of native load needs, and related matters. The CAISO summarized its findings in the Issue Paper.<sup>73</sup>

In its Phase 1 Draft Final Proposal, the CAISO discussed the status of the Phase 2 effort and considerations for developing a more durable process for Wheeling Through customers to access ATC in advance and obtain a priority for their Wheeling Through transactions.<sup>74</sup> The CAISO reconfirmed the three key components of such a framework:

- *Calculation of Available Transfer Capability* – Deriving the transmission capacity available for Wheeling Throughs requires consideration of the transmission capacity needed to serve native load and other existing commitments, as well as associated margins for which transmission capacity can be set aside to maintain system reliability before deriving ATC.

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<sup>73</sup> Issue Paper at 28-33.

<sup>74</sup> *Transmission Service and Market Scheduling Priorities – Phase 1*, Draft Final Proposal at 23-29 (Phase 1 Draft Final Proposal), available at <http://www.caiso.com/InitiativeDocuments/DraftFinalProposal-TransmissionService-MarketSchedulingPriorities.pdf>.

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- *Transmission product(s) and reservation timeframes* – The CAISO and stakeholders must identify the transmission priority product(s) that can be offered across the CAISO system and across different timeframes to minimize seams issues between the CAISO tariff and the OATT frameworks of other western transmission providers.
- *Study process and transmission priority service requests driving transmission upgrades* – The CAISO and stakeholders must identify a process under which parties seeking to establish a high market scheduling priority on a long-term basis, to the extent there is insufficient ATC, can request studies to identify needed system upgrades and can drive those system upgrades.<sup>75</sup>

From November 2021 through February 2022, the CAISO held a series of meetings on each of the three working group topics in Phase 2 to learn about the practices of other transmission service providers in the West. The working groups were open to all stakeholders.

Three transmission service providers<sup>76</sup> shared their practices regarding the working group topics. In the Working Group 1 meetings, these transmission service providers discussed in detail their processes for calculating ATC and its different components. In particular, they focused on how they derive native load needs based on different assumptions and the unique natures of their transmission systems and supply portfolios. In the Working Group 2 meetings, these same transmission service providers discussed processes for reserving transmission service and the transmission products they offer across different timeframes under their OATT frameworks. The discussion included these entities' transmission request processes and their criteria for evaluating requests, in different timeframes, to determine if there is sufficient ATC to accommodate a transmission request. Finally, in the Working Group 3 meetings the three transmission service providers shared their practices and processes for incorporating requests for transmission service for a year or longer into their transmission planning study processes to identify potential transmission upgrades that might allow them to provide transmission service on a long-term basis.

Throughout the discussion, stakeholders and the CAISO had the opportunity to ask questions and consider the implications of a potential process for establishing scheduling priority across the CAISO system for Wheeling Through transactions. Vistra/Powerex and the California LSEs also made

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<sup>75</sup> *Id.* at 25.

<sup>76</sup> The transmission service providers sharing their practices were the Bonneville Power Administration (BPA), Idaho Power Company (IPC), and Salt River Project (SRP).



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separate presentations on potential frameworks for establishing scheduling priorities across the CAISO system. The information these presenters provided and the discussions in the working groups have helped inform the CAISO's development of a straw proposal for establishing Wheeling Through scheduling priorities across the CAISO system.

In March 2022, the CAISO retained OATI, Inc. (OATI) as a consultant to help the CAISO develop a process to allow Wheeling Through transactions to establish a scheduling priority across the CAISO system and evaluate implementation needs. The CAISO worked closely with OATI to identify the different elements of a workable framework and develop its proposal and tariff language. A particular focus was developing an ATC calculation across different timeframes that would be robust enough to establish Wheeling Through Priorities across the CAISO system, while maintaining reliable service to native load. This effort required the CAISO to undertake a significant data collection effort going back to 2020 so it could evaluate the various components it would consider in an updated ATC methodology, assess usage of the CAISO transmission system, and consider appropriate TRM needs. The CAISO and OATI also collaborated to analyze data that derives ATC across different points on the CAISO system to illustrate the potential availability and feasibility of Wheeling Through transactions establishing scheduling priority across the CAISO system. The data the CAISO and OATI evaluated reflected different ranges of potential assumptions informing the transmission capacity that might be set aside for native load needs. The CAISO incorporated this data into the straw proposals for stakeholder review and discussion.

The CAISO published a Straw Proposal on July 29, 2022, in which it described a new, proposed process for establishing Wheeling Through scheduling priority across the CAISO system.<sup>77</sup> Under the proposed design, the CAISO would calculate ATC across its interties that external load serving entities could access in to establish a Wheeling Through Priority equal to CAISO load to enable Priority Wheeling Through transactions traversing the CAISO system. Entities seeking to wheel through the CAISO system without first obtaining a Wheeling Through Priority would continue to be able to do so, albeit with a lower scheduling priority akin to the priority currently afforded to non-Priority Wheeling Throughs.

In the Straw Proposal, the CAISO proposed to calculate ATC on the interties in monthly increments across both a 13-month horizon and a daily horizon. This would allow entities seeking to wheel through the CAISO system

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<sup>77</sup> *Transmission Service and Market Scheduling Priorities – Phase 2, Straw Proposal* (Straw Proposal), available at <http://www.caiso.com/InitiativeDocuments/StrawProposal-TransmissionService-MarketSchedulingPrioritiesPhase2.pdf>.

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the opportunity to access the ATC and establish Wheeling Through Priority on a monthly and daily basis. In calculating ATC, the CAISO proposed to set aside transmission capacity for existing commitments and native load needs, including native load growth to ensure sufficient transmission capacity is available at the interties to serve native load needs reliably. In the proposal, the CAISO introduced different potential approaches for deriving the transmission capacity needed to serve native load needs across the time horizon. The CAISO held a meeting with stakeholders to discuss the Straw Proposal and provide them an opportunity to submit written comments.

On December 9, 2022, the CAISO published its Phase 2 Draft Final Proposal in which it described a new proposed process for establishing Wheeling Through scheduling priority across the CAISO system.<sup>78</sup> The Draft Final Proposal contained several revisions to the Straw Proposal to reflect stakeholder input. Under the proposed design, the CAISO would calculate ATC across its interties that Scheduling Coordinators could access in advance to establish a Wheeling Through priority equal to CAISO Demand. Scheduling Coordinators seeking to wheel through the CAISO system without reserving remaining ATC in advance would continue to be able to wheel through the CAISO system a lower scheduling priority. The CAISO held a stakeholder meeting to discuss the Draft Final Proposal, and provided stakeholders a further opportunity to submit written comments.

On January 18, 2023, the CAISO published its Final Proposal describing its proposed process for establishing Wheeling Through scheduling priority across the CAISO system.<sup>79</sup> The final proposal contained minor revisions to the Draft Final Proposal to reflect further stakeholder input.

In January 2023, OATI provided its Opinion on the Straw Proposal.<sup>80</sup> The OATI Opinion recognizes the differences in the CAISO's markets compared to other ISO/RTO markets and also considers the practices of other transmission service providers in the West. The OATI Opinion concludes the CAISO's set-aside of ATC for native load based on resource assumptions derived from

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<sup>78</sup> *Transmission Service and Market Scheduling Priorities – Phase 2, Draft Final Proposal*(Draft Final Proposal), available at <http://www.caiso.com/InitiativeDocuments/DraftFinalProposal-TransmissionService-MarketSchedulingPrioritiesPhase2.pdf>.

<sup>79</sup> *Transmission Service and Market Scheduling Priorities – Phase 2, Final Proposal* (Final Proposal), available at <http://www.caiso.com/InitiativeDocuments/FinalProposal-TransmissionService-MarketSchedulingPrioritiesPhase2.pdf> and included as Attachment E to this filing.

<sup>80</sup> *OATI Opinion on CAISO Straw Proposal* (OATI Opinion), available at <http://www.caiso.com/InitiativeDocuments/OATIOpinion-TransmissionService-MarketSchedulingPrioritiesPhase2FinalProposal.pdf> and included as Attachment G to this filing.

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historical RA and non-RA contract showings is functionally not dissimilar from the approaches used by other transmission providers to forecast native load needs and make generation assumptions.<sup>81</sup> OATI also recommended that the CAISO consider possible enhancements to the framework in the future as the CAISO and stakeholders gain experience with the design.<sup>82</sup> As part of the CAISO's commitment to the CAISO Board and WEIM Governing Body to monitor the operation of the new framework and consider enhancements where appropriate, the CAISO will consider the enhancements suggested by OATI, and other potential enhancements, in the future. However, pursuing such enhancements now would preclude implementing a durable approach by June 1, 2024. Finally, OATI concluded that the CAISO was deriving TRM in a manner similar to other ISOs and RTOs and in a manner that accounts for its markets, which other transmission providers do not have.<sup>83</sup>

On February 1, 2023, the WEIM Governing Body (in its advisory capacity) and the CAISO Board approved the proposed design and the filing of the Wheeling Through proposal reflected in this tariff amendment.<sup>84</sup> Both bodies requested the CAISO monitor on an ongoing basis the functioning of the new framework, and the CAISO agreed it would undertake such monitoring.

Following approval of the proposal, the CAISO commenced a tariff stakeholder process to develop the tariff language necessary to implement the proposal. The CAISO posted two drafts of tariff language during the course of this process and held meetings with stakeholders to discuss them. The CAISO also provided stakeholders an opportunity to submit written comments on the draft tariff language.

This tariff filing only includes tariff revisions to replace the interim Wheeling Through tariff provisions that expire June 1, 2024. The CAISO commits to file tariff revisions to implement a Wheeling Through framework to accommodate requests for a Wheeling Through Priority for a year or longer that commences after the rolling 13-month horizon in which the CAISO calculates

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<sup>81</sup> OATI Opinion at 8.

<sup>82</sup> *Id.*

<sup>83</sup> *Id.* at 15.

<sup>84</sup> The materials CAISO management provided to the WEIM Governing Body and the CAISO Board included a memorandum dated January 26, 2023 (Board Memorandum), available at <http://www.caiso.com/Documents/DecisiononTransmissionServiceandMarketSchedulingPrioritiesPhase2-Memo-Feb2023.pdf>, and a presentation dated February 1, 2023, available at <http://www.caiso.com/Documents/DecisiononTransmissionServiceandMarketSchedulingPrioritiesPhase2-Presentation-Feb2023.pdf> (Board Presentation). Both the Board Memorandum and the Board Presentation are included in Attachment F to this filing.

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ATC – and a process whereby the CAISO will study whether transmission upgrades are necessary to accommodate the long-term request. The CAISO Board has approved a conceptual proposal subject to the CAISO developing the implementation details in the tariff stakeholder process.<sup>85</sup> The CAISO posted an initial draft of tariff language regarding its proposed long-term Wheeling Through Priority and upgrade processes on July 14, 2023. The CAISO will work closely with stakeholders this fall to refine the initial draft of the long-term Wheeling Through Priority and upgrade tariff revisions. The CAISO commits to make a tariff amendment filing with the Commission by January 9, 2024, to implement its long-term Wheeling Through and upgrade proposal. This will allow interested parties to request a long-term Wheeling Through Priority during the April 1 through April 15, 2024, window.

The proposal to process requests for Wheeling Through Priorities with annual terms of a year or longer that commence beyond the 13-month horizon for which the CAISO calculates ATC and to study related upgrade requirements would be an enhancement to the tariff revisions proposed herein; however, it is not an element of the CAISO's proposal to replace the interim Wheeling Through provisions. The CAISO currently does not have, and has never had, a process for requesting a long-term Wheeling Through Priority and requesting a study of the upgrades that might be necessary to accommodate such a long-term priority. The process for requesting an annual or longer Wheeling Through Priority and studying upgrades will be separate and distinct from the process for obtaining a monthly and daily Wheeling Through Priority. Also, requests for a monthly and daily Wheeling Through Priority occur within different time horizons – monthly requests occur within a rolling 13-month horizon and daily requests occur within a rolling seven-day horizon, whereas long-term requests apply to time periods beyond the rolling 13-month horizon. In that regard, the NERC reliability standards only require transmission providers to calculate ATC within a 13-month horizon.<sup>86</sup> Thus, the just and reasonable tariff revisions in this filing do not depend on any provisions that will be contained in the long-term Wheeling Through Priority and upgrade tariff amendment filing, and the Commission can and should issue an order on this filing without having to wait to review the filing the CAISO expects to submit by January 9, 2024.

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<sup>85</sup> See Board Memorandum at 1-2; <http://www.caiso.com/Documents/Approved-DecisiononTransmissionService-MarketSchedulingPrioritiesPhase2-Board-Motion-Feb2023.pdf>.

<sup>86</sup> See NERC Reliability Standard MOD-001-1a, available at <https://www.nerc.com/pa/Stand/Reliability%20Standards/MOD-001-1a.pdf>; see also *Mandatory Reliability Standards for the Calculation of Available Transfer Capability, Capacity Benefit Margins, Transmission Reliability Margins, Total Transfer Capability, and Existing Transmission Commitments and Mandatory Reliability Standards for the Bulk-Power System*, 129 FERC ¶ 61,155, at P 191 (2009).

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**G. Current Scheduling Priorities Framework in the CAISO Markets and Need for a New, More Durable Framework**

As noted above, the CAISO manages schedules on its grid through the day-ahead and real-time markets and applies scheduling priorities defined in its tariff to adjust self-schedules (*i.e.*, price-taker bids) in its markets. The table below summarizes the current relevant scheduling priorities in the day-ahead and real-time markets (excluding Existing Contracts and Transmission Ownership Rights) that reflect the interim Wheeling Through tariff provisions.

<b>Day-Ahead Market<sup>87</sup></b>	<b>Real-Time Market<sup>88</sup></b>
Priority Wheeling Through, high-priority exports, CAISO Load	Priority Wheeling Through, high-priority exports, CAISO Load
Non-Priority Wheeling Through, low-priority exports	Day-ahead market low-priority exports, Day-ahead market non-Priority Wheeling Throughs
Economic transactions (exports, wheels)	Real-time market low-priority exports, real-time market non-Priority Wheeling Throughs
	Economic transactions (exports, wheels)

Thus, under the existing, interim scheduling priority framework, Priority Wheeling Through transactions have a priority equal to CAISO Demand and high-priority exports and a priority greater than non-Priority Wheeling Throughs.

However, the interim Wheeling Through tariff provisions expire on June 1, 2024. Absent new tariff provisions, there will be no references to Priority Wheeling Throughs or non-Priority Wheeling Throughs, in the CAISO tariff, and Wheeling Through self-schedules will not have a specified scheduling run priority in the day-ahead and real-time markets. The CAISO implemented the interim Wheeling Through tariff provisions as a means to protect native load during stressed grid conditions pending development of a long-term solution. This tariff amendment filing reflects the more durable solution the CAISO promised to deliver in its April 2021 Tariff Amendment and January 2022 Tariff Amendment, and which the Commission urged the CAISO to develop and file in the June 2021 Order and the March 2022 Extension Order.<sup>89</sup> This new Wheeling Through Priority framework will also address some additional deficiencies in the interim

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<sup>87</sup> Existing tariff section 31.4. Transmission Ownership Rights and Existing Transmission Contracts have a scheduling priority higher than the new firm uses on this list.

<sup>88</sup> Existing tariff section 34.12.

<sup>89</sup> See Section II.E of this transmittal letter above.

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Wheeling Through tariff provisions and the tariff provisions that pre-existed the interim Wheeling Through tariff provisions:

- Lack of a mechanism for setting aside transmission capacity for native load and native load growth;
- Applying the same pricing structure for Priority Wheeling Throughs and non-Priority Wheeling Throughs;
- The interim process allows for an unlimited number of Priority Wheeling Throughs regardless of ATC limitations or native load needs, which has the potential to cause inappropriate curtailments; and
- Lack of ability to secure a priority for Wheeling Throughs for a term shorter than one month.

The tariff revisions proposed herein address these deficiencies and ensure an efficient and transparent transition when the interim Wheeling Through tariff provisions expire on June 1, 2024.

### **III. PROPOSED TARIFF REVISIONS**

#### **A. Design Principles**

In the stakeholder initiative for this tariff amendment, the CAISO identified several important principles for designing and developing a long-term framework for establishing Wheeling Through scheduling priorities:

- Ensure the CAISO maintains sufficient transmission capacity to meet native load needs reliably while providing non-discriminatory access to the transmission system consistent with open access principles;
- Ensure the framework is compatible with the CAISO's existing, unique market design and does not unduly disrupt that design;
- Minimize seams issues between the CAISO organized market and the *pro forma* OATT framework prevalent across the west, while recognizing differences between the two frameworks exist;
- Support reliable service to load in the CAISO and across western BAAs; and
- Ensure the CAISO has the tools and processes necessary to continue to manage the grid reliably.

The design proposed in this tariff amendment filing is consistent with, and adheres to, the aforementioned principles. These guiding principles recognize the importance of continuing to ensure open access to the CAISO transmission system, while also ensuring that the CAISO can reliably meet native load needs. The CAISO's proposal sets aside capacity for native load based on historical contract showing (and for native load growth), while allowing a reasonable Transmission Reliability Margin (TRM) to account for uncertainty that is

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consistent with both Commission and NERC requirements. The proposal also provides certainty for entities that are awarded a Wheeling Through Priority – the awards are unconditional. In addition, the principles recognize there are inherent differences between the CAISO’s organized market paradigm and the *pro forma* OATT paradigm, and the design proposed in this filing will help “bridge” seams to support competitive markets and the dependability of transactions that rely on the CAISO system. Moreover, as discussed *infra* in Section III.G.2, the proposed Wheeling Through framework supports showings and delivery of supply under the Western Resource Adequacy Program (WRAP) by providing for Wheeling Through service that is comparable or superior to firm transmission service under the *pro forma* OATT.<sup>90</sup> The rest of this Section III of the transmittal letter describes the specific tariff revisions to implement the proposed design.

## **B. Method to Assess Available Transfer Capability**

Existing tariff appendix L defines the Available Transfer Capability (ATC) determined by the CAISO for purposes of the CAISO Market optimization as the Total Transfer Capability (TTC), less the Transmission Reliability Margin (TRM), less the sum of any unused existing transmission commitments (ETComm), less the Capacity Benefit Margin (CBM) which is set at zero, less the scheduled Net Energy from Imports and Exports, less Ancillary Service capacity from Imports.<sup>91</sup> The CAISO proposes to revise existing tariff appendix L to calculate ATC on interties between the CAISO BAA and neighboring BAAs for the applicable monthly or daily horizon to determine the capacity available to award Wheeling Through Priorities that will become effective June 1, 2024. The CAISO will designate this revised version of appendix L as new tariff appendix L-1.<sup>92</sup> The CAISO also proposes to modify the ATC calculation by (i) revising the meaning of ETComm to include transmission capacity for Wheeling Through Priorities and native load needs, including native load growth, and (ii) revising the meaning of TRM to include additional components of uncertainty consistent with the NERC Reliability Standards.

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<sup>90</sup> See *Nw. Power Pool*, 182 FERC ¶ 61,063.

<sup>91</sup> Tariff appendix L, existing section L.1.1.

<sup>92</sup> Existing appendix L will apply through May 31, 2024, and will apply the existing ATC process, *i.e.*, will not be used to determine ATC that will be available in the request window process to award Wheeling Through Priorities that will go into effect on June 1, 2024. Proposed appendix L-1 will go into effect on November 1, 2023, and will be used solely to determine ATC that will be available in the request window process to award Wheeling Through Priorities that will go into effect on June 1, 2024. The CAISO plans to file a ministerial tariff amendment in the future to redesignate appendix L-1 as appendix L (to replace existing appendix L) effective June 1, 2024. Because it will be a new appendix to the tariff, appendix L-1 is shown entirely in red-line in Attachment B to this filing, but apart from the red-lined revisions shown in yellow highlighting in Attachment B to indicate provisions newly proposed in this filing, appendix L-1 will be identical to existing appendix L.



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## 1. Monthly and Daily Calculation of ATC

The CAISO proposes to revise the ATC process described in tariff appendix L-1 to state that the CAISO will calculate ATC on the interties each calendar month across a rolling 13-month horizon. The CAISO will also calculate ATC on the interties each day prior to the close of the Day-Ahead Market across a rolling seven-day horizon, and will publish the resulting ATC values daily on the CAISO's Open Access Same-Time Information System (OASIS).<sup>93</sup> The components of the monthly ATC calculation will be consistent with those of the daily ATC calculation, and the CAISO will carry forward inputs from the monthly calculation into the daily ATC calculation horizon.

Calculating ATC each month across a rolling 13-month horizon is consistent with the horizon other transmission providers in the Western Interconnection use under their OATTs to calculate monthly firm ATC.<sup>94</sup> The 13-month horizon is also consistent with the NERC Reliability Standard MOD-001-1a, which includes a 13-month minimum horizon for calculating monthly ATC increments.<sup>95</sup> In addition, transmission providers across the Western Interconnection commonly use a rolling seven-day horizon for allowing transmission reservations of daily ATC.<sup>96</sup>

A primary purpose of this tariff amendment is to give Scheduling Coordinators seeking to wheel through the CAISO the ability to access ATC in advance in monthly and daily increments across the 13-month and seven-day horizons to establish a Wheeling Through scheduling priority that is the highest priority of new firm use, equal to the priority of CAISO Demand.<sup>97</sup> Calculating ATC and allowing entities to access it in advance across the 13-month and seven-day horizons will help bridge seams between the CAISO tariff and the transmission reservation practices of other transmission providers across the Western Interconnection. Moreover, calculating ATC across the seven-day horizon will provide additional flexibility compared with today's framework,<sup>98</sup> in

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<sup>93</sup> Tariff appendix L-1, revised section L.3. The CAISO also proposes minor clarifying edits to the provisions in tariff appendix L-1 regarding the ATC algorithm. Tariff appendix L-1, revised section L.2.

<sup>94</sup> BPA, IPC, and SRP, which shared their practices during stakeholder working groups to prepare this tariff amendment, all explained that their monthly ATC calculation horizons are 13 months. Final Proposal at 59-60.

<sup>95</sup> <https://www.nerc.com/pa/Stand/Reliability%20Standards/MOD-001-1a.pdf>.

<sup>96</sup> Final Proposal at 30-31.

<sup>97</sup> See Section III.C of this transmittal letter below.

<sup>98</sup> As indicated above, under the interim Wheeling Through tariff provisions, Scheduling



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particular allowing the CAISO to deal with more near-term stressed system conditions. Calculating ATC monthly also aligns with the RA framework in the CAISO, which relies on monthly RA resource showings by LSEs. Calculating ATC on a daily horizon also aligns with the CAISO's day-ahead market.

Calculating ATC in the daily horizon will also give the CAISO more up-to-date information regarding Outages across the interties and allow the CAISO to adjust the expected conditions of transmission topology on the grid, which may affect the amount of TTC used as the starting point of the ATC calculation. Therefore, the CAISO proposes to revise the TTC calculation process under tariff appendix L-1 to allow the CAISO to update the determination of TTC to be used in calculating daily ATC across a rolling seven-day horizon to reflect current information on the anticipated transfer capability of the transmission network, including information on Outages affecting the transfer capability on interties.<sup>99</sup> Also, as discussed *infra*, the CAISO proposes to specify that, to the extent the holder of a TOR<sup>100</sup> makes some or all of its TOR capacity available to the CAISO, the CAISO will account for the additional capacity in the ATC calculation<sup>101</sup> For example, about 1,200 MW out of the 3,200 MW of ATC at the important Malin intertie are held by TORs. This will allow more capacity to be made available for native load needs or Wheeling Through Priority.

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Coordinators can only obtain a one-month priority.

<sup>99</sup> Tariff appendix L-1, new section L.4.4. If a transmission Outage is submitted that affects a particular intertie, and the Outage spans multiple days, the CAISO will reduce the starting TTC when calculating ATC for the days of the Outage. This may reduce ATC, to the extent there is remaining ATC available, for the timeframe of the Outage. If TRM capacity were set aside at the intertie due to the risk of the Outage, the CAISO would not release the capacity as ATC, but if later the Outage did not materialize, the capacity previously set aside could later support non-Priority Wheeling Through transactions and other transactions that may clear in the CAISO Market. Final Proposal at 31.

<sup>100</sup> A TOR is "[t]he ownership or joint ownership right of 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." Tariff appendix A, existing definition of Transmission Ownership Right.

<sup>101</sup> New tariff section 23.3.4.

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## **2. Modifications to the Determination of ETComm**

### **a. Overview**

Under the current version of tariff appendix L, existing transmission commitments (ETComm) only include Existing Transmission Contracts (ETCs)<sup>102</sup> and TORs.<sup>103</sup> The CAISO proposes to revise the meaning of ETComm to also include transmission capacity for Wheeling Through Priorities and native load needs determined in accordance with appendix L-1, including native load growth in the applicable horizon.<sup>104</sup> These additional categories of existing transmission commitments should be exempt from inclusion in ATC, just like ETCs and TORs are today.

### **b. Transmission Capacity for Wheeling Through Priorities**

The CAISO proposes to specify that ETComm include transmission capacity for Wheeling Through Priorities awarded under provisions in tariff section 23, which the CAISO discusses below in Section III.C of this transmittal letter.<sup>105</sup> Such transmission capacity will have a scheduling priority that is the highest priority of new firm use, equal to the priority of CAISO Demand. Because the transmission capacity will not be available for use by others (*i.e.*, will be an existing transmission commitment), it should be excluded from the calculation of ATC.

Also, the ATC calculation for Wheeling Through Priorities will not include certain components of the more generally applicable ATC calculation used in the CAISO Market optimization – namely, the CBM (which is set at zero), the Scheduled Net Energy from Imports and Exports, and Ancillary Service capacity from Imports. Therefore, the CAISO proposes to specify that the ATC for Wheeling Through Priorities is calculated solely as TTC, less TRM, less

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<sup>102</sup> ETCs “[t]he contracts which grant transmission service rights in existence before the CAISO Operations Date (including any contracts entered into pursuant to such contracts) as may be amended in accordance with their terms or an agreement between the parties thereto from time to time.” Tariff appendix A, existing definition of Existing Transmission Contracts.

<sup>103</sup> Tariff appendix L, existing section L.1.3.

<sup>104</sup> Tariff appendix L-1, revised section L.1.3. The CAISO also proposes revisions to sections L.1.1 and L.1.3.1 of tariff appendix L-1, and proposes to update the numbering of section L.1.4 to include its provisions in section L.1.3.1.1 (without revising the provisions), to conform with the updated determination of ETComm.

<sup>105</sup> Tariff appendix L-1, new section L.1.3.2 (cross-referencing tariff sections 23.4, 23.5, and 23.6).

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ETComm.<sup>106</sup>

### c. Native Load Needs

As described below, the CAISO proposes to include native load needs, including native load growth, in ETComm used to determine ATC on the interties pursuant to the revisions to tariff appendix L-1. The CAISO also proposes to adjust the native load calculation to account for subsequent contract showings to improve the accuracy of the calculation.<sup>107</sup>

Unlike the tariff provisions of certain other transmission providers, the CAISO tariff does not currently include capacity for native load or native load growth in the existing transmission commitments component of its ATC calculation. The CAISO implemented the interim Wheeling Through tariff provisions as a different means to protect native load during stressed grid conditions pending development of a longer-term solution.<sup>108</sup> The tariff revisions contained in this filing fully address the issue by including transmission capacity for native load and native load growth in the calculation of ETComm, thereby accounting for native load needs in the calculation of ATC.

In accepting the interim Wheeling Through tariff provisions, the Commission explained that its “precedent does not preclude adoption of different methods to ensure native load protection, provided they are consistent with or superior to the *pro forma* OATT.”<sup>109</sup> The Commission recognized that its application of the “consistent with or superior to” standard under which the Commission can accept variations from the *pro forma* OATT “can take into account the unique tariff structure or market design of an ISO or RTO.”<sup>110</sup> The Commission also noted that “a number of RTOs/ISOs have tariff provisions reserving a certain amount of existing transmission commitments for native load.”<sup>111</sup> The Commission found that the CAISO’s currently effective tariff provisions regarding native load priorities are consistent with or superior to the

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<sup>106</sup> Tariff appendix L-1, new section L.1.3.2.

<sup>107</sup> Appendix 1 to the Final Proposal (at pp. 55-57) provides an example of the native load calculation based on the CAISO’s proposed methodology.

<sup>108</sup> See Section II.C of this transmittal letter above.

<sup>109</sup> March 2022 Rehearing Order at P 27.

<sup>110</sup> *Id.* at P 27 n.80. See also Final Proposal at 58-59 (listing treatment of native load by other ISOs/RTOs, and by transmission providers in the Western Interconnection (BPA, ITC, and SRP)).

<sup>111</sup> June 2021 Order at P 4.

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*pro forma* OATT,<sup>112</sup> and has made similar findings with regard to other CAISO tariff changes.<sup>113</sup> Tariff revisions that are consistent with or superior to the *pro forma* OATT are also just and reasonable.<sup>114</sup>

The CAISO proposes to include native load and forecasts of native load growth in ETComm using tariff provisions specific to the CAISO tariff, market design, and RA framework. For this reason, the CAISO's tariff provisions will necessarily differ in some respects from the tariff provisions of other transmission providers, ISOs, and RTOs that exclude transmission capacity for their own native load and native load growth from their calculations of ATC. The CAISO-specific tariff provisions described below satisfy the consistent with or superior to standard.

**i. Initial Calculation of Native Load Needs Based on Historical Resource Adequacy and Non-Resource Adequacy Import Supply Contract Showings**

Under the revised tariff provisions, ETComm will include transmission capacity at the interties that is set aside to meet native load needs. The CAISO will initially determine amount of transmission capacity to set aside for native load (apart from the amount of transmission capacity to serve expected native load growth) at each intertie for each calendar month based on equal the highest MW quantity of total RA and non-RA import supply under contract to CAISO LSEs' load dedicated to serving their load as demonstrated by RA showings, and showings of historical contract information regarding non-RA import supply,<sup>115</sup> at

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<sup>112</sup> March 2022 Rehearing Order at P 27 ("By providing non-discriminatory open access to all customers, CAISO's method of implementing native load priority satisfies Principle No. 3 of Order No. 888, and is 'consistent with or superior to' the *pro forma* OATT."); *id.* at P 36 ("We disagree with ACC's contention that CAISO has not explained how its proposed native load protections are 'consistent with or superior to' the *pro forma* OATT native load protections.").

<sup>113</sup> See, e.g., *Cal. Indep. Sys. Operator Corp.*, 127 FERC ¶ 61,172, at P 4 (2009) ("As for regional transmission organizations and independent system operators with Commission-approved transmission planning processes already on file, such as the CAISO, the Commission explained that, when it approved these processes, it had found them to be consistent with or superior to the existing *pro forma* OATT."); *Cal. Indep. Sys. Operator Corp.*, 126 FERC ¶ 61,099 at P 47 (2009) ("[W]e conclude that the CAISO's settlement of energy and generator imbalances using the locational marginal pricing market mechanisms is also consistent with or superior to the *pro forma* OATT as modified by Order No. 890-A").

<sup>114</sup> See, e.g., *Black Hills Colo. Elec.*, 182 FERC ¶ 61,065, at P 15 (2023); *Duke Energy Carolinas, LLC*, 180 FERC ¶ 61,156, at P 21 (2022).

<sup>115</sup> A Scheduling Coordinator for a CAISO LSE may attest to the CAISO and submit information regarding firm non-RA import supply contracts the LSE had in place to serve its load during the two years prior to the month for which the CAISO is determining ATC. New tariff

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the intertie for that same calendar month during the previous two years. This calculation will be subject to subsequent adjustment by the CAISO based on new contract information and monthly updates.<sup>116</sup> For example, in calculating the ETComm component of the ATC calculation for September 2024, the CAISO will consider the historical import volumes of RA and non-RA capacity under contract shown for September 2023 and September 2022 and will use the higher of the two values, subject to any subsequent adjustment for new contract information provided to the CAISO and monthly updates.

This calculation methodology recognizes the formal RA program used in the CAISO BAA, which allows load serving entities to secure import supply under contract to meet their Resource Adequacy obligations and reliably serve load.<sup>117</sup> The monthly RA Plans required under the RA program provide a more complete picture of the dependency and volume of contracted imports to serve native load.<sup>118</sup> In addition, the calculation methodology also recognizes that many CAISO LSEs rely on a small quantity of import supply under contract that is not shown on RA Plans to meet their native load needs. In that regard, the CPUC and local regulatory authorities have ordered additional procurement of non-RA capacity (above and beyond RA requirements) to meet specific reliability requirements and ensure LSEs can meet their service needs. This capacity is not reflected on RA Plans. For example, as indicated in Section II.B., *supra*, in recent years the CPUC has ordered its LSEs to procure additional supplies above established RA requirements. Also as indicated in Section II.B, some LSEs, in particular municipal utilities, indicated that historically they have met, and currently meet, their native load needs through non-RA imports because they cannot obtain import capability for 100 percent of their import entitlements, and imports that cannot obtain import capability cannot be RA under the CAISO tariff. Therefore, calculating the quantity of capacity set aside for native load properly

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section 23.3.2. The contracts must be contracts greater than one month (that include the applicable month), monthly contracts for the month, or a portfolio of short-term contracts for the month. *Id.* This ensures capacity set aside for a month is supported by a contract (or contracts) for a month.

<sup>116</sup> Tariff appendix L-1, new section L.1.3.3. As cross-referenced therein, the provisions on historical contract information regarding non-RA import supply are contained in new tariff section 23.3 (discussed below in Section III.C.2 of this transmittal letter), and the provisions regarding adjustments based on new contract information and monthly updates are contained in new tariff sections L.1.3.3.2 and L.1.3.3.3, respectively (discussed below in Section III.B.2(c)(iii) of this transmittal letter).

<sup>117</sup> Existing tariff section 40, *et seq.*

<sup>118</sup> As discussed above in Section II.B of this transmittal letter, under the existing RA program, CAISO LSEs are not required to procure (and show) 100 percent of their system RA Capacity until 45 days before the month, and they have until 30 days before the month to cure any deficiencies. There is no requirement that LSEs procure 100 percent of their capacity a year in advance of the applicable month or even before the start of the calendar year.

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accounts for demonstrated amounts of contracted, non-RA import supply that CAISO LSEs rely on to serve their load.

Using historical data to estimate native load needs at the interties best reflects the existing RA tariff requirements whereby CAISO LSEs primarily procure import supply in the month-ahead timeframe to meet the month-ahead RA showing requirements. Because CAISO LSEs are not required to show 100 percent of their system RA Capacity for a month until 45 days before the month (with a 15-day cure period), the CAISO reasonably must rely on historical contract showings to forecast native load needs for a particular month 13 months in advance. Under these circumstances, relying on historical RA and non-RA supply imports under contract constitutes a reasonable estimation of native load needs and does not require a complete overall of the CAISO's Commission-approved RA program.

There is no single standard or practice adopted by transmission providers in the West and nationwide for forecasting or estimating the amount of transmission capacity to set aside for native load needs on a forward basis. Transmission providers have developed different practices to estimate these native load needs based on their unique circumstances, e.g., by setting aside transmission capacity based on reasonable assumptions about generation to the extent it has not yet under contract to serve load.<sup>119</sup> The CAISO's proposed historical approach to estimating native load needs is in-line with the range of approaches used by other transmission providers. In particular, to the extent sufficient supply is not under contract at the time of calculating ATC and native load needs, other transmission providers estimate or forecast where that additional supply will be contracted to serve native load.<sup>120</sup> The OATI Opinion recognizes that "the use of historical data for Resource Adequacy to serve CAISO LSE load along with Non-Resource Adequacy Contracted Capacity Supply allocated to the Transmission Paths from External Balancing Entities is not dissimilar, and in our opinion is adequate as a start as a simple forecasting method for Native Load needs."<sup>121</sup>

Some stakeholders expressed concern about basing the set-aside of transmission capacity for native load on historical volumes of contracted imports rather than contracted import supply at the time of the initial ATC calculation, *i.e.*,

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<sup>119</sup> Final Proposal at 58. These assumptions are generally informed by historical patterns of resource procurement and may also be informed by other factors. For example, section 29.2(v) of the Commission's *pro forma* OATT provides for load serving entities taking network integration transmission service to submit annual 10-year resource projections that the transmission provider can use to support various processes, including ATC calculation.

<sup>120</sup> Final Proposal at 59-60 and materials cited therein.

<sup>121</sup> OATI Opinion at 8.

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13 months in advance. The CAISO believes such concerns are misplaced. Any requirement for LSEs to procure capacity 13 months in advance is completely misaligned with the established, Commission-approved, RA framework. As discussed above, under the existing RA program, CAISO LSEs typically will not have procured 100 percent of the supply necessary to meet their load 13 months in advance. Thus, requiring ATC to be set solely based on contracted capacity 13 months out would unreasonably and inappropriately create a *de facto* new set of RA requirements for CAISO LSEs. Moreover, limiting the native load priority set-aside only to contracted supply 13 months ahead of time would under-reserve transmission capacity compared to the actual native load need, and would undersell the transmission capacity from the native load by making it available as ATC for others to reserve. If other Scheduling Coordinators then fully procure the ATC, CAISO LSEs may be unable to serve their load reliably, and the CAISO may be unable to serve native load adequately. In any event, as discussed *infra* in Section III.B.2.c.iii, in the month-ahead timeframe, after the monthly RA showing deadline, the CAISO will “true up” its native load priority set-aside calculations based on actual monthly contract showings (but without undoing any previously awarded Wheeling Through Priorities). If those monthly contract showings are less than the amount of capacity set aside based on historical RA and non-RA showings, the CAISO will release the excess reserved capacity as ATC that can be used to for Wheeling Through Priority requests. Because the CAISO explains why its design approach is just and reasonable, the Commission should not consider such an alternative design approach that would contravene the current RA tariff framework.<sup>122</sup> Further, neither Order No. 888, Order No. 890, nor the NERC Reliability Standards require LSEs to procure their supply 13 months in advance in order for the transmission provider to set aside capacity under the native load priority.

The requirement under the CAISO’s calculation methodology to take the higher value for the same calendar month during the previous two years accounts for the fact that the procurement of RA and non-RA imports (and resources in general) can vary from year to year. This can be driven by several factors, including load forecasts, in-state hydroelectric power availability, changes in grid conditions, availability of transmission, changes in the availability of supply, sellers’ decisions on where to sell their energy, and price competition. Relying solely on the prior year’s imports may not adequately account for native load needs because the prior year may not demonstrate a sufficient pattern of need for the upcoming year. Looking at the higher value for the prior two years provides more data points and more accurately accounts for potential changes in

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<sup>122</sup> See, e.g., *City of Bethany v. FERC*, 727 F.2d 1131, 1136 (D.C. Cir. 1984) (*City of Bethany*) (finding that, when determining whether a proposed rate was “just and reasonable”, as required by the FPA, the Commission properly did not consider “whether a proposed rate schedule is more or less reasonable than the alternative rate designs.”).

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RA and non-RA import procurement patterns and provides some protection against underestimating native load needs, which would be far more damaging than overestimating them. Further, a two-year look-back does not go so far back such that data points may become overly stale. In that regard, the CAISO settled on a two-year look-back rather than a five-year look-back. Moreover, to the extent there is a concern about a decrease in RA and non-RA imports, reduced imports serving CAISO demand will be reflected in the native load priority set-aside from year to year because each subsequent calculation will reflect lower historical contracted import values in the two-year look-back. Moreover, as discussed below,<sup>123</sup> the CAISO proposes to implement a true-up at 30 days prior to the start of the month based on actual contract showings. Thus, in the month-ahead timeframe, the ATC will be based on actual contract showings not historical showings. If actual shown contracted RA and non-RA import volumes are less than the historical assumptions for which the CAISO has set aside transmission capacity for native load, more ATC will be available in the request window process.

## **ii. Calculation of Native Load Growth**

Transmission capacity at the interties that is set aside in ETComm to meet native load needs will also include transmission capacity to serve expected native load growth in the rolling 13-month horizon. The CAISO will calculate the amount of transmission capacity at each intertie set aside in ETComm to meet native load growth by (1) comparing the CEC load forecast for the applicable future period to the forecasts used to set CAISO RA requirements for a similar period for the previous two years to determine an overall native load growth amount, and (2) then assigning a portion of this expected native load growth amount to each intertie using the highest ratio of RA imports shown for that calendar month to total RA Capacity shown for that calendar month during the previous two years.<sup>124</sup>

This aspect of the proposed tariff revisions is consistent with Commission precedent allowing a transmission provider to include in transmission capacity set aside to meet native load needs transmission capacity set aside to serve native load growth expected across the horizon for which it calculates ATC. The Commission permits transmission providers, as part of their ATC calculations, “to reserve existing transmission capacity needed for native load growth reasonably

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<sup>123</sup> See Section III.C.2(c)(iii) of this transmittal letter.

<sup>124</sup> Tariff appendix L-1, new section L.1.3.3.1. Typically, native load growth is approximately 2-3 percent, but the CAISO expects it to increase in the future with increased electrification. Imports reasonably may serve a fraction of the native load growth, with internal resources serving the rest. Final Proposal at 25.



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forecasted within the utility's current planning horizon."<sup>125</sup> The Commission has not adopted a generally applicable test or standard for evaluating native load growth forecasts.<sup>126</sup> In cases addressing the matter, the Commission has held that native load growth forecasts must be "based on specific projections of native load growth that are accompanied by supporting evidence."<sup>127</sup> The Commission has suggested, for example, that acceptable native load growth forecasts can be based on "a resource plan submitted to and accepted by a state commission including projections of the transmission provider's need for additional transmission capacity in the future to serve native load."<sup>128</sup>

The CAISO's proposal accords with this Commission precedent. The CAISO will base the native load growth forecasts on specific projections accompanied by supporting evidence – specifically, the CEC (*i.e.*, state commission) load forecast and the forecasts used with the applicable set of CAISO RA. As discussed in Section II.B, *supra*, the CAISO tariff already recognizes the use of CEC load forecasts in setting RA requirements.

### **iii. Adjustments to the Calculation of Native Load Needs**

The tariff revisions provide two ways for the CAISO to adjust its calculation of native load needs reflected in ETComm based on more accurate and updated information. Using this more up-to-date information will improve the accuracy of the ATC calculation and ultimately will ensure that the amount of transmission capacity set aside for native load in the month-ahead and daily timeframes is based on actual import supply that is under contract.

First, before the CAISO initially establishes ATC for a month that is 13 months away, LSEs must notify the CAISO of any new contracts for imports to serve their load that are not reflected by RA or non-RA contracts accounted for in the historical two-year period.<sup>129</sup> CAISO LSEs also must attest whether such contracts replace contracts reflected in the historical two-year accounting or are incremental to such contracts and provide the requisite information. LSEs must also notify the CAISO of any import contracts reflected in the historical two-year

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<sup>125</sup> Order No. 890 at P 107.

<sup>126</sup> See *id.* at P 1256.

<sup>127</sup> *Am. Elec. Power Serv. Corp.*, 101 FERC ¶ 61,384, at P 15 (2002); see also *S. Co. Servs., Inc.*, 110 FERC ¶ 61,379, at P 15 (2005) ("The projections of native load growth must be sufficiently specific and supported in the record").

<sup>128</sup> *S. Co. Servs., Inc.*, 110 FERC ¶ 61,379, at P 15; see also *Nev. Power Co., et al.*, 97 FERC ¶ 61,324 (2001).

<sup>129</sup> New tariff section 23.3.3 and Appendix L-1, section L.1.3.3.3.2.

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period that will be discontinued anytime in the 13-month horizon and will not be replaced with another import at the same Scheduling Point.<sup>130</sup> The CAISO will use these representations in establishing the initial ATC for the month.<sup>131</sup>

Second, under new appendix L-1, section L.1.3.3.3, following the RA and non-RA import contract showings at the end of the monthly RA cure period under the tariff,<sup>132</sup> the CAISO will update or “true up” the amount of transmission capacity set aside in ETComm to meet native load needs at each intertie to include the sum of the most recent actual showings of (i) RA import supply contained in monthly RA Plans and (ii) non-RA import supply under contract delivered at the intertie reported to the CAISO for that same calendar month.<sup>133</sup> The CAISO will use the updated native load set-aside values following the month-ahead RA and non-RA contract showings to calculate updated ATC values for the month and applicable days during the month, while also accounting for any applicable Capacity Procurement Mechanisms (CPM) designations that utilize ATC. Any contract not shown to the CAISO by the end of the RA cure period cannot count for purposes of setting aside native load capacity in the ATC calculation for the applicable month.<sup>134</sup>

The tariff revisions in section L.1.3.3.3 of proposed appendix L-1 also include examples describing the different possible outcomes if the amount of transmission capacity set aside at an intertie to meet native load needs for a calendar month based on historical RA and non-RA import showings for that month (and including transmission capacity to serve expected native load growth) is either greater than or less than the most recent actual month-ahead showings of RA and non-RA import supply to be delivered at the intertie for that same month. Holders of a Wheeling Through Priority cannot lose a previously awarded priority if actual RA and non-RA import showings in the month-ahead timeframe exceed the transmission capacity that has been set aside for native load based on two-year historical showings (and calculated native load growth and permitted new contract adjustments). If actual import showings are less than the transmission capacity that has been set aside for native load based on historical volumes, the CAISO will release the unused ATC and it will be available for Wheeling Through Priority requests. Further, if no ATC remains at

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<sup>130</sup> *Id.*

<sup>131</sup> *Id.*

<sup>132</sup> See existing tariff section 40.7.

<sup>133</sup> Before the end of the RA cure period under tariff section 40.7 for the applicable month, a LSE may show to the CAISO any firm non-RA contracts it has for the month that the CAISO should consider including in the existing transmission commitments (ETComm) component of the ATC calculation for the month under tariff appendix L-1. New tariff section 23.3.4.

<sup>134</sup> Tariff appendix L-1, new section L.1.3.3.3 (cross-referencing existing tariff section 40).

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an intertie because it has been awarded in prior months' request windows pursuant to the process described below<sup>135</sup> and the TRM cannot accommodate all native load needs, then the amount of transmission capacity set aside at the intertie to meet native load needs for a calendar month will remain as originally calculated by the CAISO.<sup>136</sup>

### **3. Modifications to the Determination of Transmission Reliability Margin**

Under the existing tariff, the CAISO can use the TRM to account for specified and NERC-approved components of uncertainty.<sup>137</sup> The CAISO proposes to update the tariff provisions governing determination of TRM to state the CAISO will use TRM as described in the Transmission Reliability Margin Implementation Document<sup>138</sup> and to include two additional NERC-approved components of uncertainty: (1) aggregate load forecast uncertainty and (2) variations in generation dispatch (including, but not limited to, forced or unplanned Outages, maintenance Outages, and future resource conditions).<sup>139</sup> It is appropriate to include these two additional uncertainty components because NERC has approved them, they are included in the TRM calculations of many transmission providers, and they will improve the accuracy of the ATC calculation.

Under the revised tariff provisions, the CAISO will establish TRM in all applicable horizons, including monthly and daily, and may change (increase or decrease) TRM values across all such horizons, including prior to market close of the day-ahead market and real-time market. If the CAISO reduces the TRM value in a given horizon, additional ATC would become available in that

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<sup>135</sup> See Section III.C.2 of this transmittal letter.

<sup>136</sup> Tariff appendix L-1, new section L.1.3.3.3 (cross-referencing new tariff section 23.4). New section L.1.3.3.3 also provides hypothetical examples to illustrate the scenarios described above.

<sup>137</sup> Tariff appendix L, existing section L.1.5. The existing components of uncertainty listed in tariff appendix L are: forecast uncertainty in transmission system topology, including forced or unplanned outages or maintenance outages; allowances for parallel path (loop flow) impacts, including unscheduled loop flow; and allowances for simultaneous path interactions. *Id.* NERC's Reliability Standard regarding components of uncertainty is available at <https://www.nerc.com/pa/Stand/Reliability%20Standards/MOD-008-1.pdf>.

<sup>138</sup> The Transmission Reliability Margin Implementation Document is "[a] document that describes the implementation of a Transmission Reliability Margin methodology, and provides information related to a Transmission Operator's [in this case, the CAISO's] calculation of TRM." Glossary of Terms Used in NERC Reliability Standards, at definition of "Transmission Reliability Margin Implementation Document" (NERC Glossary of Terms), available at [https://www.nerc.com/pa/Stand/Glossary%20of%20Terms/Glossary\\_of\\_Terms.pdf](https://www.nerc.com/pa/Stand/Glossary%20of%20Terms/Glossary_of_Terms.pdf).

<sup>139</sup> Tariff appendix L-1, revised section L.1.5.

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horizon.<sup>140</sup>

As the Commission has noted:

NERC defines TRM as the amount of transmission transfer capability necessary to provide reasonable assurance that the interconnected transmission network will be secure. TRM accounts for the inherent uncertainty in system conditions and the need for operating flexibility to ensure reliable system operation as system conditions change.<sup>141</sup>

Consistent with this NERC definition, the CAISO exercises operational flexibility as needed to address changing system conditions. The CAISO proposes updates to the TRM component of its ATC tariff provisions regarding the transmission system topology, aggregate load forecast, and generation dispatch components of uncertainty to enhance this needed flexibility.<sup>142</sup> Including these additional components in the TRM is consistent with NERC Reliability Standard MOD-008-1.

The CAISO's proposed tariff provisions will allow it to adjust or evolve the application of the TRM on specific interties to account for uncertainty consistent with the NERC Reliability Standards. The CAISO will be able to adjust the TRM on the interties over the 13-month period for which ATC is established. This is necessary to, among other things, account for changed conditions, new information, and the level of uncertainty associated with the timing of the ATC calculations. It also allows the CAISO to account for different components of uncertainty over time. The CAISO will more fully describe these implementation details in the Transmission Reliability Margin Implementation Document and will discuss them with stakeholders.

Because of the need to respond rapidly to evolving system conditions in the Western U.S. and consistent with the practices of transmission providers nationwide, the CAISO will include additional implementation details in the Transmission Reliability Margin Implementation Document rather than in the tariff, consistent with how other transmission providers include information in the two documents. Several factors can drive changes in TRM on particular interties across the different components of uncertainty. For example, if there is a low

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<sup>140</sup> *Id.*

<sup>141</sup> *Preventing Undue Discrimination & Preference in Transmission Serv.*, 115 FERC ¶ 61,211, at P 114 n.112 (2006) (citing NERC Glossary of Terms).

<sup>142</sup> See the revisions the CAISO proposes to add to section L.1.5 of tariff appendix L-1 after the phrase "The methodology the CAISO uses to establish each component of uncertainty is as follows."

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hydroelectric year in California, there likely will be increased dependency on import supply that may warrant consideration of a larger TRM on select interties to account for additional imports. The CAISO will describe any changes in the TRM methodology or factors in the methodology consistent with the tariff in the Transmission Reliability Margin Implementation Document and discuss them with stakeholders to provide the appropriate rationale, justification, and transparency. The ability to adjust and evolve the TRM values is consistent with industry practice and other Commission-transmission provider tariffs where over time, in particular seasons or conditions, the transmission provider may need to adjust the TRM to account for different types of uncertainty. Similarly, the CAISO will continue to monitor and review the effectiveness of the TRM and adjust it as necessary through a transparent process. The OATI Opinion recognizes that the CAISO is using TRM in a manner similar to other ISOs and RTOs, and the main components are common to ISOs and RTOs.<sup>143</sup>

### **C. Monthly and Daily Requests for a Wheeling Through Priority**

As a successor to its existing interim Wheeling Through provisions, the CAISO proposes to establish a process under its tariff for Scheduling Coordinators to access the ATC calculated using the methodology described immediately above, to allow the Scheduling Coordinators to obtain in advance a monthly or daily Wheeling Through Priority to support Priority Wheeling Through transactions. The provisions to implement the new process will expressly apply to Wheeling Through Priorities, Priority Wheeling Through Transactions, and non-Priority Wheeling Through transactions that will be effective beginning June 1, 2024 and thereafter.<sup>144</sup>

The ability to access ATC in advance to establish a scheduling priority will provide external load serving entities greater confidence and certainty regarding transactions through the CAISO system to serve their native load. As is true today, their Priority Wheeling Throughs will have priority equal to CAISO Demand. External parties can also continue to wheel through the CAISO system without accessing ATC in advance by establishing a Wheeling Through Priority, but such transactions will have a lower market scheduling priority, as they do today.<sup>145</sup>

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<sup>143</sup> OATI Opinion at 15.

<sup>144</sup> New tariff section 23, *et seq.*

<sup>145</sup> See existing tariff sections 31.4 and 34.12.1.

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## 1. General Provisions and Definitions

Section 23 of the existing tariff lists four categories of transmission capacity, one of which is transmission capacity that must be allocated for use as CAISO transmission service (*i.e.*, new firm uses).<sup>146</sup> The CAISO clarifies that this category includes capacity to serve CAISO Demand, as well as capacity for Priority Wheeling Through and non-Priority Wheeling Through transactions.<sup>147</sup>

In addition, the CAISO proposes to revise the existing definition of a Priority Wheeling Through to mean a Wheeling Through self-schedule that has obtained a priority under tariff section 23.<sup>148</sup> As a companion to this revised definition, the CAISO proposes to add the new defined term Wheeling Through Priority, which means a priority that allows a Scheduling Coordinator to self-schedule Priority Wheeling Throughs during the term and hours of the priority up to the MW quantity of the priority and at the import and export Scheduling Points authorized under the priority.<sup>149</sup>

## 2. Requirements for Monthly and Daily Requests

Under the new process, the CAISO proposes two types of request windows in which Scheduling Coordinators can request a Wheeling Through Priority – monthly request windows and daily request windows. In the monthly request window, a Scheduling Coordinator can submit a request for a Wheeling Through Priority no sooner than twelve (12) months before the month(s) for which it seeks the priority and no later than one month prior to the effective date of the priority.<sup>150</sup> A Scheduling Coordinator can request a Wheeling Through

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<sup>146</sup> Existing tariff section 23(b). The other three categories generally relate to Existing Rights.

<sup>147</sup> Revised tariff section 23.1(b) and new tariff section 23.2.2. In addition, the CAISO proposes to renumber existing tariff section 23 as tariff section 23.1.

<sup>148</sup> Tariff appendix A, revised definition of Priority Wheeling Through. The CAISO proposes to delete the requirements for a Priority Wheeling Through in the existing definition and the requirements for a Priority Wheeling Through in existing tariff section 30.5.1(z). The CAISO will replace them with the new requirements for monthly and daily requests for a Wheeling Through Priority described below in Section III.C.2 of this transmittal letter. The deleted provisions include details under the interim approach that are not applicable to the long-term and durable approach proposed in the instant filing.

<sup>149</sup> Tariff appendix A, new definition of Wheeling Through Priority. A Scheduling Coordinator with a Wheeling Through Priority does not lose its priority if it fails to schedule a Priority Wheeling Through in the day-ahead market. New tariff sections 23.5 and 23.5. The Scheduling Coordinator can still schedule the Priority Wheeling Through in the real-time market.

<sup>150</sup> New tariff section 23.4. The CAISO will issue an annual Wheeling Through Priority request calendar that specifies the date the CAISO will open each monthly request window. *Id.*

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Priority for any month or months within that 12-month horizon. A Scheduling Coordinator can submit a request for a daily Wheeling Through Priority no sooner than seven days before the day(s) for which it seeks a priority and no later than one-day before the effective date of the priority.<sup>151</sup> A Scheduling Coordinator can request a Wheeling Through Priority for any day or days within that seven-day horizon as long as it submits its request by the deadline for the applicable day-ahead market for which it seeks a priority.

To be eligible for a Wheeling Through Priority, the Scheduling Coordinator must submit a Wheeling Through Priority request and make specified attestations regarding its request to ensure its validity, including an attestation that the request is supported by an executed firm power supply contract to serve an external load serving entity's load, a firm power supply contract to serve an external load serving entity's load where execution is contingent upon the availability of a Wheeling Through Priority on the CAISO system, or the external load serving entity's ownership of an external resource to serve external load.<sup>152</sup> A Scheduling Coordinator for either the seller or buyer under a firm power supply contract can hold a Wheeling Through Priority associated with the contract, whatever they agree. However, the same MW in a firm power supply contract cannot support a Wheeling Through Priority for both the seller and buyer for the same time period.<sup>153</sup> Scheduling Coordinators must also provide additional information to the CAISO pertinent to the Wheeling Through Priority request.<sup>154</sup> A Scheduling Coordinator for a CAISO LSE will also be able to request ATC in the daily request window to support an import into the CAISO BAA, subject to similar attestation and information requirements.<sup>155</sup>

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Closure of the monthly request window will coincide with closure of the monthly RA cure period for that month under existing tariff section 40.7. *Id.* The CAISO will hold the monthly request window open for 14 days and will determine monthly Wheeling Through Priority awards within three business days after the close of the monthly request window. *Id.*

<sup>151</sup> New tariff section 23.5. The CAISO will hold the daily request window open during the five hours specified in the Business Practice Manual and will make its daily Wheeling Through Priority awards no later than two hours after the daily request window closes and one-hour before the day-ahead market runs. *Id.*

<sup>152</sup> New tariff section 23.2.1. Scheduling Coordinators cannot seek, and the CASO will not award, a monthly or daily Wheeling Through Priority for a period greater than or non-coincident with the hours of the underlying firm power supply contract or for a MW quantity or duration greater than the physical and operational capabilities of the external load serving entity's resource, whichever applies. *Id.* For example, if the supporting power supply contract is a six (6)-days-by-sixteen (16)-hours contract, the priority will only apply to Priority Wheeling Throughs that the Scheduling Coordinator self-schedules during those specified hours during the month of the priority. *Id.*

<sup>153</sup> *Id.*

<sup>154</sup> *Id.*

<sup>155</sup> New tariff sections 23.3.1 and 23.5.

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The firm power supply contract requirement is an extension of the existing requirement of a firm power supply contract under the interim Wheeling Through tariff provisions.<sup>156</sup> In approving the interim Wheeling Through provisions, the Commission found the contractual requirement is consistent with or superior to the *pro forma* OATT and is “consistent with the balance described in Order No. 890 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.’”<sup>157</sup> The contract requirement also is consistent with the power supply contract requirement for external LSEs seeking to obtain an allocation of CRRs.<sup>158</sup> The contract requirement helps ensure that the limited ATC on interties<sup>159</sup> is accessible to those external load serving entities that demonstrate they need it to serve their load. In other words, it is comparable to the “legitimate need” contract showing requirement external load serving entities must make for an allocation of CRRs. Meeting the contract showing requirement demonstrates the external load serving entity has a legitimate need for a Wheeling Through Priority, just like the contract requirement shows the external load serving entity has a need for an allocation of CRRs. The firm power supply contract requirement is a reasonable and effective means of rationing scarce import capacity on the CAISO interties, and it ensures external load serving entities that need the Wheeling Through Priority to access external supply to serve their native load reliably and with greater certainty can get it. Absent such a requirement, these external load serving entities might be unable to schedule Priority Wheeling Through transactions, thus jeopardizing their ability to serve their native load. The CAISO essentially is allowing external load serving entities to obtain priority service to serve their own native load, promoting regional coordination and cooperation with external BAAs and reducing seams. Finally,

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<sup>156</sup> See existing tariff section 30.5.1(z); tariff appendix A, existing definition of Priority Wheeling Through. The firm power supply contract requirement would also apply to CAISO LSEs requesting ATC in the daily request window process. New tariff section 23.3.1.

<sup>157</sup> June 2021 Order at PP 140-141 (quoting Order No. 890 at P 107); March 2022 Rehearing Order at P 36. The Commission also recognized in its June 2021 Order that the proposed Priority Wheeling Through eligibility requirements were not unduly discriminatory or preferential even though the requirements were not identical to the criteria applicable to RA imports that serve load. June 2021 Order at P 149; March 2022 Rehearing Order at PP 47-48. The Commission recognized that internal and external load are not similarly situated.

<sup>158</sup> See existing tariff sections 36.9 and 36.9.1. The Commission found that requiring external load serving entities to make a showing of legitimate need to be eligible for a CRR allocation was not unduly discriminatory because external load and internal load are not similarly situated. *Cal. Indep. System Operator Corp.*, 119 FERC ¶ 61,076, at PP 369-77 (requiring external load serving entities to demonstrate an energy contract for the period of the CRRs nominated and to prepay WAC for the entire CRR period).

<sup>159</sup> Appendix 1 to the Final Proposal shows the limited ATC at NOB and Malin in the summer months.



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the CAISO notes that the transmission capacity set aside for native load too is based on contract showings, historical contract showings initially and then actual month-ahead contract showings.

In both the monthly and daily request windows, Scheduling Coordinators compete, if necessary, for limited ATC on the interties. The processes include a minimum firm power supply contract requirement to support a priority request.<sup>160</sup> The CAISO will treat all requests submitted in a request window as having been submitted simultaneously, and it will treat them as confidential during the request window.<sup>161</sup> The CAISO will award ATC to support Wheeling Through Priority requests based on the total number of hours of the requested priority over the entire 13-month horizon for monthly requests and the entire seven-day horizon for daily requests. Thus, supported priority requests for more hours during the 13-month or seven-day period will be awarded ATC before requests for fewer hours. The requested priority hours must be supported by the service hours in the underlying supporting supply contract.<sup>162</sup> If there is a tie among requests and insufficient remaining ATC to accommodate all such priority requests for the month or day, the CAISO will allocate Wheeling Through Priorities on a *pro rata* MW basis, or grant part of the Wheeling Through Priority request, to those Scheduling Coordinators that indicated they would accept a *pro rata* allocation or

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<sup>160</sup> New tariff sections 23.4 and 23.5. At a minimum, Wheeling Through Priority requests for a month(s) must be supported by a six-days-by-four-hours firm power supply contract for each full week during the month and the relevant days in any partial week during the month. This is consistent with the CPUC's requirement that only contracts with a minimum duration of only 100 hours per month (96 hours in February) can count as RA Capacity. See CPUC Decision D.23-06-029, p. 14, available at <https://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M513/K132/513132432.PDF>. LSEs are permitted to procure no more than 17 percent of their RA Capacity from resources meeting this minimal requirement. On the other hand, 24.9 percent of their RA Capacity can come from 6 x 8 contracts and 34.8 percent from 6 x 16 contracts, with the remainder coming from other types of RA Resources. Also at a minimum under the CAISO's proposal, Wheeling Through Priority requests for a day must be supported by a four-hour firm power supply contract for each day the requestor seeks a Wheeling Through Priority.

<sup>161</sup> *Id.*

<sup>162</sup> For example, a priority request supported by a six (6)-days-by-sixteen (16)-hours power supply contract for one month will have priority over a request supported by a six (6)-days-by-eight (8)-hours power supply contract for the same month, and a priority request supported by a six (6)-days-by-four (4)-hours power supply contract for five months will have priority over a request supported by a six (6)-days-by-eight (8)-hours power supply contract for just one of those months. Similarly, a priority request rolling seven-day window request process supported by a sixteen (16)-hour power supply contract for one day will have priority over a request supported by an eight (8)-hour power supply contract for the same day, and a priority request supported by a four (4)-hours per day power supply contract for five days will have priority over a request supported by a eight (8)-hours-per-day power supply contract for one of those days. In other words, the supply contract with the most hours in the requested period will have priority over other supply contracts with fewer hours.

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partial awards.<sup>163</sup>

The tariff provisions specify that Wheeling Through Priorities awarded are unconditional, *i.e.*, the amount of MW awarded in a monthly or daily Wheeling Through Priority cannot be taken back or superseded by a longer-duration request in a subsequent request window.<sup>164</sup> Also, as discussed *supra*, awarded Wheeling Through Priorities cannot be unwound when month-ahead RA showings exceed the amount of capacity set aside for native load based on historical RA and non-RA showings, calculated native load growth, and permitted contract showing adjustments under tariff section 23.3.3. This provides certainty to entities awarded a Wheeling Through Priority.

During the stakeholder initiative, many stakeholders expressed the need to include measures addressing instances where the underlying power supply contract supporting the Wheeling Through Priority is subsequently terminated or modified. The CAISO proposes to add such measures in new tariff section 23.2.3. Scheduling Coordinators must notify the CAISO within a specified number of days after termination or modification of the underlying contract.<sup>165</sup> Also, they must indicate the reason for the termination or modification and the surrounding circumstances. If the underlying firm power supply contract is terminated at least 11 business days before the date on which a Scheduling Coordinator can first schedule a Priority Wheeling Through transaction using its priority, the CAISO will terminate the Wheeling Through Priority and release the associated capacity unless the Scheduling Coordinator provides sufficient information regarding a replacement contract by the earlier of 60 days from the date of termination or 11 business days before the Scheduling Coordinator can first schedule a Priority Wheeling Through using its priority.<sup>166</sup> If the replacement contract is for fewer hours or a reduced MW quantity, the CAISO will adjust the Wheeling Through Priority downward by a corresponding amount and release the capacity associated with the downward adjustment.

Similarly, if the MW quantity or hours of service in the power supply contract supporting the Wheeling Through Priority are subsequently reduced, the CAISO will correspondingly reduce the MW quantity or hours of the Wheeling Through Priority unless the Scheduling Coordinator provides sufficient information regarding a replacement contract that cures the reduction(s) by the earlier of 60 days from the date of termination or 11 business days before the Scheduling Coordinator can first schedule a Priority Wheeling Through using its

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<sup>163</sup> New tariff sections 23.4 and 23.5.

<sup>164</sup> *Id.*

<sup>165</sup> New tariff section 23.2.3(a).

<sup>166</sup> New tariff section 23.2.3(b).

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priority.<sup>167</sup> If the total MW quantity or hours of service of the amended contract and the replacement contract are less than the respective values in the original power supply contract, the CAISO will reduce the Wheeling Through Priority accordingly and release the capacity associated with the downward adjustment.<sup>168</sup>

If the supply contract supporting the Wheeling Through Priority is terminated or modified after 11 business days before the day-ahead market run for the date on which the Scheduling Coordinator can first schedule a Priority Wheeling Through transaction using the priority, the Scheduling Coordinator will retain the Wheeling Through Priority, and the CAISO will charge the Scheduling Coordinator for the priority accordingly.<sup>169</sup> The CAISO will account for any capacity associated with a terminated or reduced Wheeling Through Priority that is released back to the CAISO in a revised ATC calculation.<sup>170</sup>

The proposed termination/modification provisions reasonably balance the interests of the CAISO, the Wheeling Through Priority holder, and other market participants. The provisions recognize that, if the underlying power supply contract supporting the Wheeling Through Priority is terminated or modified and the holder of the priority cannot find replacement supply by the reasonable deadline in the tariff, the priority holder no longer demonstrates a legitimate need for the Wheeling Through Priority. Thus, the capacity should be released back to

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<sup>167</sup> New tariff section 23.2.3(c). Based on its experience with Master File changes and accounting for the specific actions required herein, the CAISO needs up to 11 business days to fully reflect the termination or modification of the Wheeling Through Priority in its systems and then make it available in the request window process.

<sup>168</sup> Similar to the practice under the existing, interim tariff provisions, to the extent the power supply contract supporting the Wheeling Through Priority remains in effect, nothing in the proposed tariff provisions requires a Scheduling Coordinator to support its Priority Wheeling Transactions only from the resource or supply specified in the underlying firm power supply contract. See June 2021 Order at PP 151, 154. This provides the holder of a Wheeling Through Priority with flexibility to use substitute resources or supply to respond to short-term derates or outages on its supporting resources. *Id.*

<sup>169</sup> New tariff section 23.2.3(e). The CAISO will not charge a Scheduling Coordinator for the capacity released back to the CAISO *by the tariff deadline* as the result of any contract termination or modification. This will allow holders of Wheeling Through Priorities to mitigate the impacts of potential power supply contract termination/modification if they are unable to secure a replacement contract in a timely manner. As discussed below, the holder of a monthly Wheeling Through Priority can also resell such priority while it retains it.

<sup>170</sup> New tariff section 23.2.3(b) and -(c). If the Scheduling Coordinator seeks a priority for a MW quantity greater than the MW quantity in the original contract, the Scheduling Coordinator must re-apply for a Wheeling Through Priority in a subsequent request window. New tariff section 23.2.3(d). The Scheduling Coordinator must also re-apply if either the import or export Scheduling Point in the replacement contract is different from the import or export point in the original contract supporting the Wheeling Through Priority. *Id.*

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the CAISO and made available in the request window process to Scheduling Coordinators that can demonstrate such a need. Rather than resulting in Wheeling Through Priority capacity that may go unused by the Wheeling Through Priority holder whose supply contract has been terminated or modified (and which the CAISO may be able to use only on a last-minute basis in real-time), terminating the Wheeling Through Priority or reducing it and releasing capacity back to the CAISO before the specified deadline will enable the CAISO to utilize the capacity to support higher-priority transactions for which customers have demonstrated a need (through the power supply contract requirement). The proposal thus allows the CAISO to use capacity that may otherwise go unscheduled to award additional Wheeling Through Priorities in the monthly or daily request window process or award ATC to CAISO LSEs in the daily request window to support imports to serve their load.

Further, under the CAISO's proposal a Wheeling Through Priority holder will not be unduly exposed to fixed Wheeling Through Priority charges if (1) major events occur that result in contract termination or modification (e.g., loss of supply or facilities supporting the contract) and prevent the Wheeling Through Priority holder from effectively exercising its priority, and (2) there is sufficient time for the CAISO to process and release the capacity associated with the Wheeling Through Priority (before it would otherwise commence) for use by other customers with a demonstrated need. This is a reasonable corollary to the power supply contract requirement. The proposal recognizes there are legitimate reasons why a contract may be terminated or modified. Under these circumstances, the CAISO can terminate the Wheeling Through Priority without unduly punishing the holder of the Wheeling Through Priority and the CAISO can use the released capacity to support other priority requests.<sup>171</sup> However, under the proposal, if contract termination or modification occurs after the deadline in the tariff, the Wheeling Through Priority holder retains the priority and remains responsible for the fixed charges associated with it. In circumstances where an

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<sup>171</sup> Consistent with the CAISO's commitment to its Board and the WEIM Governing Body to monitor operations under the new framework and ensure outcomes track the proposal's intent, the CAISO will monitor any Wheeling Through Priority releases to ensure Scheduling Coordinators are not executing contracts with a large number of hours just to jump to the front of the queue in the competition to obtain a Wheeling Through Priority in the request window process and then willfully reducing the hours in those contracts to a more desirable level after they have received the priority. Although this scenario seems unlikely where contracts are negotiated at arms-length and the seller under the power purchase agreement must mutually agree to any reduction in the contract quantity, the CAISO will monitor for such behavior. Also, power purchase agreements typically contain damages clauses for failure to take service, defaults, and early termination. To help the CAISO monitor for any actions that may be inconsistent with the intent of the proposed tariff revisions, the new tariff section requires Scheduling Coordinators to attest to the reason for the contract termination/modification and the surrounding circumstances. Referral to the Commission is an appropriate remedy for behavior that may be contrary to the Commission's rules or the intent of the CAISO's tariff.

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affected Wheeling Through Priority holder must pay for its priority, the CAISO believes it is appropriate for the holder to retain the priority for which it is paying. The proposal also recognizes the CAISO needs a reasonable amount of time to process Wheeling Through Priority terminations/modifications, reflect them in its systems, recalculate ATC, and make the released capacity available in its request window process.

Moreover, once Scheduling Coordinators have started scheduling Priority Wheeling Throughs using their Wheeling Through Priority, they should not be released from their payment obligations. At least during the initial implementation of its proposal, the CAISO is not prepared to account for partial-month settlements of Wheeling Through Priority charges.<sup>172</sup> Even if the holder of the priority may be unable to use its priority due to a last-minute change in supply arrangements, the Wheeling Through Priority holder, not the CAISO, should retain the risk of such last-minute contract terminations and modifications that occur after the tariff deadline. This result recognizes the particularities of the CAISO's proposal and is consistent with or superior to the Commission's *pro forma* OATT transmission service model, where once a customer has executed the point-to-point transmission service agreement and service has commenced, it is required to pay for the firm transmission service it contracted even if the customer later has no use for that transmission service. However, up until that point in time the customer can withdraw its transmission service request and decline to execute a transmission service agreement, and the transmission provider must refund the customer's deposit (less any costs the transmission provider has incurred to process the request).<sup>173</sup>

As in the *pro forma* OATT, the CAISO's proposal also has a resale option. Specifically, the CAISO proposes to allow holders of a monthly Wheeling Through Priority to resell the priority for the month or remainder of the month/term of the priority similar to the procedures under the *pro forma* OATT for the sale or assignment of transmission service.<sup>174</sup> The ability to resell or assign

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<sup>172</sup> If stakeholders express sufficient interest, the CAISO may discuss the possibility of accounting for partial-month settlements of Wheeling Through Priority charges in a future stakeholder process.

<sup>173</sup> *Pro forma* OATT, Section 17.3. Under the OATT, short-term point-to-point transmission service awards are conditional up until the established deadline in the tariff.

<sup>174</sup> Compare new tariff section 23.8, *et seq.* with Commission *pro forma* OATT section 23, *et seq.* The CAISO also proposes to add to the tariff the new defined term Wheeling Through Priority Reseller, which is defined in a similar way as the term Reseller under the *pro forma* OATT. Compare tariff appendix A, new definition of Wheeling Through Priority Reseller, with Commission *pro forma* OATT, section 23.1(a). In addition, the CAISO proposes CAISO-specific revisions regarding sale or assignment of Wheeling Through Priorities that address transfers of capacity directly from a Transmission Ownership Rights (TOR) holder to an assignee. New tariff section 23.8.3.

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will give Scheduling Coordinators more flexibility as to their Wheeling Through Priorities and enable a liquid market for such resales and assignments.<sup>175</sup> Many stakeholders recommended the CAISO require that any buyer procuring a Wheeling Through Priority via a resale demonstrate it has a supporting firm power supply contract just like Scheduling Coordinators seeking a Wheeling Through Priority in the monthly request window are required to demonstrate. They expressed concern that parties could “end-run” the contract requirement by using a contract to demonstrate initial eligibility for a Wheeling Through Priority and then voluntarily terminate the contract and resell the Wheeling Through Priority to a third-party that does not meet the initial contract requirement. The CAISO understands these parties’ concerns, but it does not want to limit unduly a Scheduling Coordinator’s ability to resell its monthly Wheeling Through Priority for legitimate business reasons, especially given a Scheduling Coordinator is paying for the priority on a fixed basis for specified hours for the entire month regardless of whether it actually schedules Priority Wheeling Throughs during all of those hours. However, the proposed tariff language includes two provisions to address stakeholder concerns. First, new tariff section 23.8.1 expressly states that a Wheeling Through Priority Reseller cannot resell a monthly Wheeling Through Priority for the purpose of enabling avoidance of the firm power supply contract requirements of Section 23.2.1. Second, new tariff section 23.8.1 requires Wheeling Through Priority Resellers to attest to the CAISO why they are reselling the Wheeling Through Priority. This will facilitate the CAISO’s monitoring and auditing of resales to ensure they are not effectuated for the purpose of avoiding the supporting firm power supply contract requirement. The CAISO’s proposed termination/modification and release provisions (discussed above) will also help address the expressed concerns.

### **3. Utilizing Transmission Ownership Rights (TORs) or Existing Transmission Contracts (ETCs) to Support a Wheeling Through Priority**

Non-Participating Transmission Owners (TOs) own a significant amount of capacity on the northern interties into California, and such capacity is not part of the CAISO Controlled Grid. Also, certain entities hold capacity under Existing Transmission Contracts (ETCs) between the Participating TOs and individual parties that predate the CAISO. The CAISO proposes new tariff language to facilitate the use of TOR capacity and, if permitted in accordance with the terms

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<sup>175</sup> The CAISO notes that Scheduling Coordinators are subject to all applicable requirements of the Rules of Conduct contained in existing tariff section 37. The CAISO may pursue further tariff revisions in the future if experience with the resale and assignment provisions shows additional measures are needed.

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and conditions of the ETC, ETC capacity,<sup>176</sup> to support Wheeling Through Priorities. First, in new tariff section 23.8.3, the CAISO addresses situations where a TOR or ETC rights holder transfers its TOR/ETC rights directly to a third party to support a Priority Wheeling Through. In these circumstances, the assignee of such capacity will have the same rights and obligations as the holder of the TOR or ETC with respect to such capacity, including, *inter alia*, the associated (higher) scheduling priority. The assignee will be subject to all applicable terms and conditions of the CAISO tariff, including having a Scheduling Coordinator with a Scheduling Coordinator Agreement. The holder of the TOR or ETC must notify the CAISO of the sale, assignment, or transfer by the deadline specified in the Business Practice Manual and indicate the MW quantity sold, assigned, or transferred, the party to whom it sold, assigned, or transferred, the start and end hours and dates of the transaction, and the resource ID the assignee will be using for the Priority Wheel Through. The compensation from an assignee to the holder of a TOR or ETC for the sale transfer of TOR or ETC rights to the assignee will be at rates established by the agreement between the holder of the TOR or ETC and assignee (possibly the Participating TO depending on the contract) and such transaction and payment will occur outside of the CAISO's settlements systems and processes. The assignee will be responsible for all applicable CAISO charges associated with its use of the assigned capacity.<sup>177</sup>

The proposed tariff language provides that a Scheduling Coordinator can use TOR or ETC capacity to support a Wheeling Through Priority.<sup>178</sup> The Scheduling Coordinator may use its TOR/ETC capacity for that portion of the Wheeling Through Priority from the import Scheduling Point to the export Scheduling Point that is covered by the TOR or ETC capacity the Scheduling Coordinator chooses to use. The Scheduling Coordinator would use transmission capacity on the CAISO Controlled Grid to support the balance of the Wheeling Through Priority.<sup>179</sup> The Scheduling Coordinator will pay the applicable Wheeling Through Priority charges per tariff section 26.1.4.5 for the MW quantity of the Wheeling Through Priority.<sup>180</sup> Thus, the proposed tariff revisions enable

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<sup>176</sup> The CAISO is uncertain whether any ETCs that predate the CAISO allow the ETC rights holder to resell its capacity. To the extent any ETC permits such resales and the resale right is reflected in the Participating TO's Transmission Rights and Curtailment Instructions (TRTC), required under existing tariff section 16.4, the CAISO will allow ETC capacity to be resold to support a Priority Wheeling Through. New tariff section 23.8.3. As stated in existing tariff section 16.4.8, the CAISO has no role in interpreting ETCs. The CAISO relies on the TRTC instructions to understand the rights reflected in an ETC.

<sup>177</sup> New tariff section 23.8.3.

<sup>178</sup> New tariff section 23.7.

<sup>179</sup> *Id.*

<sup>180</sup> *Id.*

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Scheduling Coordinators to use their TOR or ETC capacity to provide a portion of the total transmission capacity needed to support a Wheeling Through Priority.

TORs can also provide capacity to support additional Wheeling Through Priorities if the TOR holder releases that capacity to the CAISO pursuant to a separate contract with the CAISO.<sup>181</sup> For example, there are contracts in place where the TOR holder has released TOR capacity to the CAISO on (1) a long-term basis in exchange for other CAISO services; and (2) a quarterly basis in return for CRRs. The contracts permit the CAISO to use such capacity for new firm use. To the extent the holder of a TOR makes some or all of its TOR capacity available to the CAISO pursuant to a contract, the CAISO will implement the release of the capacity under the contract and reflect any released capacity in its ATC calculations as being available for new firm use and monthly and daily priority requests.<sup>182</sup> This can make more capacity available in the monthly and daily request windows.

#### **4. CPM Access to ATC**

Under provisions of the existing tariff regarding the Capacity Procurement Mechanism (CPM), which the CAISO does not propose to modify in this tariff amendment filing, the CAISO secures supply to remedy deficiencies in RA showings, serve load in stressed system conditions, and maintain reliability.<sup>183</sup> CPM is a longstanding, integral tool to enable the CAISO to ensure there are sufficient supplies to serve load and to maintain reliable grid operations. Although infrequent, at times the CAISO may procure CPM supply from imports at the interties.

Under this tariff amendment, the CAISO will account for CPM imports in its ATC calculations in two ways depending on the reason for the CPM designation. First, if the CAISO designates import capacity under the CPM to address an annual or monthly RA deficiency, the CAISO will first utilize ATC to the extent any ATC is available for all or part of the term and, if no ATC is available, then it will utilize the TRM.<sup>184</sup> Second, if the CAISO designates import capacity under the CPM for any reason other than to address an annual or monthly Resource Adequacy deficiency, the CAISO will first utilize the CPM import capacity under the TRM to the extent any TRM capacity available.<sup>185</sup> If insufficient TRM

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<sup>181</sup> ETC rights holders have no right in their contracts to release their capacity to the CAISO in return for CRRs, as their contracts pre-date the CAISO.

<sup>182</sup> New tariff section 23.9 (cross-referencing new tariff sections 23.4 and 23.5).

<sup>183</sup> See *generally* existing tariff section 43A.

<sup>184</sup> New tariff section 23.3.5.

<sup>185</sup> *Id.*



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capacity is available, then the CAISO will utilize ATC for the term of the CPM designation, or for part of the term, but only to the extent ATC is available at the time of the designation.<sup>186</sup> Thus, under the CAISO's proposal new CPM import designations cannot displace or undo any Wheeling Through Priorities that have already been awarded.

One stakeholder recommended that the CAISO should utilize ATC before TRM to support CPM import designations for reasons other than filling RA deficiencies. The CAISO declined to make this change because the CPM designation types other than remedying RA deficiencies address contingency-type, unexpected, or uncertain events.<sup>187</sup> The only time the CAISO has designated CPM import capacity for a non-RA deficiency is to address a CPM Significant Event. Tariff appendix A defines a CPM Significant Event as

[a] substantial event, or a combination of events, that is determined by the CAISO to either result in a material difference from what was assumed in the resource adequacy program for purposes of determining the Resource Adequacy Capacity requirements, or produce a material change in system conditions or in CAISO Controlled Grid operations, that causes, or threatens to cause, a failure to meet Reliability Criteria absent the recurring use of a non-Resource Adequacy Resource(s) on a prospective basis.

In filings with the Commission, the CAISO has identified significant events as including, *inter alia*, events like load forecast changes after RA requirements have been established, significant loss of supply, or loss of transmission.<sup>188</sup> These are the type of events and uncertainty the TRM is intended to cover,<sup>189</sup> not the native load priority set-aside. By definition, CPM Significant Events cover material changes that occur outside of the RA assumptions or material changes that affect grid operations. Thus, these events are unlike LSE procurement requirements established by the CPUC and local regulatory authorities. Using

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<sup>186</sup> *Id.*

<sup>187</sup> See existing tariff sections 43A.2.4 (CPM Significant Events) and 43A.2.5 (Exceptional Dispatch CPM).

<sup>188</sup> See transmittal letter for CAISO Tariff Amendment Filing, Docket No. ER08-760-000, at 23-24 (Jan. 8, 2008).

<sup>189</sup> Under NERC Reliability Standard MOD-008-01, the following components of uncertainty can be used in establishing TRM: aggregate load forecast; forecast uncertainty in transmission system topology (including, but not limited to, forced or unplanned outages and maintenance outages); allowances for parallel path impacts; variations in generation dispatch (including, but not limited to forced or unplanned outages, maintenance outages, and location of future generation); short system operator response (operating reserve actions); reserve sharing requirements; and inertial response and frequency bias.

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ATC first for CPM import designations that cure RA deficiencies is appropriate because RA Capacity is a key and proper component of the native load priority set-aside (and the CPM capacity is essentially substituting for an LSE's RA showing obligation), but using ATC first for other types of CPM designations is inappropriate.

## **5. Annual Meeting(s) with Stakeholders**

Under the proposed tariff revisions, before the summer season (May-October) each year, the CAISO will issue a Market Notice and hold one or more meetings with stakeholders to discuss ATC and its components and expected conditions for the upcoming summer and the following year's summer.<sup>190</sup>

The CAISO expects that stakeholders will be most interested in understanding the underlying resulting ATC values for the summer months, because those are likely the months external entities will be most interested in reserving ATC. The annual meeting(s) will, for example, allow stakeholders to review the data and assumptions underlying the ATC calculations, comment on the calculations, consider possible changes or enhancements to the TRM values, discuss the determination of the TRM values for the upcoming 13-month period, ask questions of the CAISO, and raise and discuss any other ATC-related issues that may be of interest. In addition, because the CAISO will monitor the effectiveness and accuracy of the ATC calculations, the annual meeting(s) will provide an opportunity for stakeholders to vet the effectiveness of the calculation methodology and consider whether any updates or modifications are appropriate based on operational experience.

## **D. Revisions to the Post-HASP Process**

The CAISO proposes to retain the concept of the post-HASP process that the Commission approved in the June 2021 Order. The CAISO also proposes certain revisions to the post-HASP process to (1) align it with other tariff revisions proposed in this filing, (2) clarify certain provisions, and (3) ensure the high quality and firmness of Priority Wheeling Throughs and imports using ATC (and TRM) set aside for CAISO native load.

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New tariff section 23.3.6.

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## 1. The Existing Post-HASP Process

The existing post-HASP process allocates constrained import and internal transmission between Priority Wheeling Through transactions and supply needed to serve native load.<sup>191</sup> As the CAISO explained in the April 2021 Tariff Amendment, the market can produce inequitable results because RA imports are not required to self-schedule and can submit economic bids. The market may schedule Wheeling Through transactions, including non-Priority Wheeling Through transactions, instead of scheduling imports needed to meet CAISO native load. In the April 2021 filing, the CAISO noted there could 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.<sup>192</sup> The Commission approved the post-HASP process in the June 2021 Order, finding it would “help ensure that CAISO can meet needs in real-time by creating incentives for priority wheeling through transactions to self-schedule in the day-ahead market.”<sup>193</sup>

The post-HASP process ensures a proportionate allocation of constrained import and internal transmission between Priority Wheeling Through transactions and supply needed to serve native load because the market solution using penalty prices alone may not produce such an allocation. When the market must reduce submitted self-schedules or fails to procure sufficient supply to serve 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 appropriately allocates 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

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<sup>191</sup> Existing tariff section 34.12.3.

<sup>192</sup> Transmittal letter for April 2021 Tariff Amendment at 67.

<sup>193</sup> June 2021 Order at P 155.

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native load obligations. 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.<sup>194</sup> 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. The post-HASP process also 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.

Under the existing post-HASP process, 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 the post-HASP process to allocate ATC between supply needed to meet CAISO load and Priority Wheeling Through transactions *pro rata*.<sup>195</sup> The CAISO load share under the existing post-HASP process 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 is based on the lowest of: (1) 110 percent of the submitted day-ahead market self-schedule of the Priority Wheeling Through transaction,<sup>196</sup> (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.<sup>197</sup> 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 the CAISO's Residual Unit Commitment (RUC) process 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.<sup>198</sup>

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<sup>194</sup> See existing tariff section 40.44.6.2, *et seq.* (regarding the Maximum Import Capability (MIC)).

<sup>195</sup> Existing tariff section 34.12.3. Appendices in Attachment G to the April 2021 Tariff Amendment include examples of how the post-HASP process functions.

<sup>196</sup> 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 import supply RUC determines is required to meet CAISO reliability needs at the last minute.

<sup>197</sup> Existing tariff section 34.12.3.

<sup>198</sup> Existing 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. The

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## 2. The Revised Post-HASP Process

The tariff provisions implementing the existing post-HASP process will expire on June 1, 2024 (along with the other interim Wheeling Through tariff provisions) unless provisions implementing the post-HASP process are approved as revised in this filing. The Commission should allow the CAISO to retain the post-HASP process with the revisions described below.<sup>199</sup>

The CAISO proposes several revisions to the post-HASP process that are required to conform it to other changes in this proposal. First, the CAISO proposes to change the components of the native load quantity used in the post-HASP process, primarily due to the ATC-related changes proposed herein. To that end, the post-HASP process will consider the following transactions serving CAISO load when applying any necessary *pro rata* schedule adjustments between high-priority transactions:

- CAISO LSE-contracted imports (RA and non-RA) as represented in the ATC calculation;
- ATC secured by CAISO LSEs in the daily request window process;
- TRM as used to support imports within the ATC calculation; and
- CPM import supply supported by ATC or TRM.<sup>200</sup>

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CAISO settles 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 negative \$150/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 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.

<sup>199</sup> As is true for the existing post-HASP process, the revised post-HASP process will be contained in tariff section 34.12.3.

<sup>200</sup> The CAISO proposes to include CPM import supply in the CAISO load quantity because designated CPM capacity either cures RA showing deficiencies or is needed to meet an identified CAISO reliability need. Thus, CPM is an important mechanism for the CAISO to procure supply to serve its load reliably. The CAISO notes that the post-HASP process will consider CPM capacity only if it is supported by ATC or TRM. If there is no ATC or TRM available to accommodate the CPM import, the scheduled import CPM supply would not be considered in post-HASP process. This helps ensure that the total amount of capacity considered in the post-HASP process will never exceed the Total Transfer Capability (TTC) of the intertie. Further, new CPM import designations cannot displace previously awarded Wheeling Through Priorities.

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The CAISO proposes to retain the existing framework whereby the CAISO load quantity used in the post-HASP process will be the lower of the sum of real-time scheduled quantities from resources using the aforementioned capacity or the sum of all capacity set aside to serve CAISO load from these components of the calculation.

Second, for purposes of determining the Priority Wheeling Through quantity used in the post-HASP process, the CAISO will eliminate the first criterion under the existing process, *i.e.*, 110 percent of the submitted day-ahead market self-schedules of Priority Wheeling Through transactions. Including that first criterion in the existing post-HASP process was appropriate because, for the CAISO load quantity, the CAISO was only considering capacity under RA contract during the month, and all RA Capacity has a day-ahead must-offer obligation. The CAISO was essentially imposing a corresponding obligation on Priority Wheeling Through transactions. However, under the proposed tariff revisions contained in this filing, the CAISO load quantity will include not only monthly RA showing quantities contracts but also monthly non-RA contract showings and any capacity CAISO LSEs have procured in the daily ATC request window process. The latter two types of resources do not have a day-ahead must-offer obligation. Accordingly, it is inappropriate to include the existing day-ahead Priority Wheeling Through self-schedules criterion for determining the Priority Wheeling Through quantity used in the post-HASP process. Instead, under the CAISO's proposal, the quantity used for Priority Wheeling Throughs in the post-HASP process will be the lower of (1) the submitted real-time market self-schedules of Priority Wheeling Through transactions, or (2) the Priority Wheeling Through quantity awarded ATC under the request window processes.

In addition, the CAISO proposes revisions to state more clearly that the post-HASP process will only be triggered if two preconditions occur: (1) there is a transmission limitation on an intertie in the import direction, **and** (2) the HASP cannot meet the CAISO forecast of demand or fully accommodate a Priority Wheeling Through transaction. The revisions also include an express statement of a concept already embedded in the existing post-HASP process – the CAISO will not reduce Priority Wheeling Through transactions solely because of a supply shortfall that triggers a power balance infeasibility.<sup>201</sup> Whereas firm point-to-point transmission under the *pro forma* OATT can be curtailed solely due to a transmission derate or outage, the CAISO tariff requires both a transmission

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<sup>201</sup> Further, the CAISO proposes to remove consideration of possible constraints on Path 26 in the north-south direction from the post-HASP process. The CAISO has determined it is unnecessary to include this reference in the post-HASP process at this time. The CAISO notes it will annually evaluate the sufficiency of internal paths to support Wheeling Through transactions and imports serving CAISO Demand.

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derate or outage **and** an overall system supply shortfall. The CAISO provides a higher-quality firm transmission service that is comparable or superior to firm OATT transmission service because it optimizes its entire system and redispatches resources to serve all scheduled transactions, including point-to-point Priority Wheeling Throughs. Thus, if there is a derate or transmission outage on the internal CAISO system, the CAISO will seek to redispatch other available supply to satisfy the Wheeling Through self-schedule. This will better enable external LSEs to meet any obligations they have under the Western Resource Adequacy Program.

Finally, the CAISO proposes to add a provision to section 34.12.3 governing the post-HASP process stating the amount of capacity considered for *pro rata* allocation in the process (*i.e.*, the amount of capacity set aside for native load and awarded Priority Wheeling Throughs) cannot exceed the TTC of the intertie. That is not the case today under the existing post-HASP process, where in extreme cases the schedules considered in the process can exceed the TTC of a particular intertie, potentially increasing the circumstances in which *pro rata* schedule adjustments might be triggered under the process. The proposed limitation will ensure a mere overload on an intertie that is not derated or on outage cannot cause an inappropriate curtailment of high-priority self-schedules (*i.e.*, CAISO native load and Priority Wheeling Through self-schedules); rather, there must be a derate or outage on transmission line (plus a supply infeasibility).

## **E. Wheeling Through Priority Charges**

### **1. Pricing for Wheeling Through Priorities**

Under the interim Wheeling Through scheduling priority framework, a Priority Wheeling Through transaction has a scheduling priority equal to CAISO load for the entire month and a priority higher than the priority accorded to non-Priority Wheeling Through transactions.<sup>202</sup> The CAISO does not require a customer receiving a monthly Priority Wheeling Through to pay anything for retaining that priority for the whole month; rather, the Priority Wheeling Through customer pays the volumetric Wheeling Access Charge (WAC) only when it actually schedules a Wheeling Through transaction on any day.<sup>203</sup> Non-Priority Wheeling Through customers pay Wheeling Through charges on the same volumetric basis. Thus, the same pricing framework applies both to Priority Wheeling Through transactions and non-priority Wheeling Through transactions. In the stakeholder initiative for this filing, the CAISO and stakeholders discussed how a Wheeling Through Priority should be priced given the value that scheduling priority affords, especially compared to non-Priority Wheeling

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<sup>202</sup> Existing tariff sections 31.4 and 34.12.

<sup>203</sup> See existing tariff section 26.1.4, *et seq.*

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Throughs. Based on discussions with stakeholders, the CAISO determined that charging the WAC only during the hours when a Scheduling Coordinator actually schedules the Priority Wheeling Through transaction does not effectively reflect the value of a Wheeling Through Priority where there is a limited, finite amount of ATC on the interties available for Priority Wheeling Through transactions, and the customer obtains the Wheeling Through Priority in advance for specified hours.

Accordingly, the CAISO proposes that Scheduling Coordinators with a Wheeling Through Priority will pay for the priority based upon the MW quantity and hours of the priority during the entire period of the priority (which priority must be supported by quantity and hours under a firm power supply contract).<sup>204</sup> For example, a Scheduling Coordinator with a monthly Wheeling Through Priority based on a monthly six (6)-days-by-sixteen (16)-weeks (6 x 16) power supply contract will pay a fixed charge for the month based applying the WAC charge to the MW quantity of the Wheeling Through Priority for all of the hours during the month in which the Wheeling Through Priority applies regardless of the Scheduling Coordinator's actual scheduled Priority Wheeling Throughs during that period. Thus, for the first 28 days of the month, the Wheeling Through Priority holder would pay the WAC for its Wheeling Through Priority MW quantity for 384 hours (24 days x 16 hours). If day 29, 30, or 31 is among the days of the weeks covered by the 6 x 16 contract, the Scheduling Coordinator would pay the applicable WAC for 16 hours each day; for any day not covered by the 6 x 16 contract, the Scheduling Coordinator would not pay the WAC for that day. A Scheduling Coordinator with a one-day Wheeling Through Priority based on an eight (8)-hour power supply contract would pay the WAC for its Wheeling Through Priority MW quantity based on those eight hours even if it does not schedule a Priority Wheeling Through transaction during all of those hours of the day.

The Scheduling Coordinator with a Wheeling Through Priority would have a scheduling priority only during the specific hours for which its Wheeling Through Priority applies during the month or day. The Scheduling Coordinator would pay the volumetric WAC for any scheduled volumes above the Wheeling Through Priority MW quantity and/or outside of the hours of the Wheeling Through Priority (which transactions would be treated as non-Priority Wheeling Throughs).<sup>205</sup> The CAISO will settle all charges and payments in accordance with the CAISO's standard settlement and invoice procedures and timelines, and it would distribute the revenues as Wheeling revenues under existing tariff section 26.1.4.3.<sup>206</sup>

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<sup>204</sup> New tariff section 26.4.1.5.

<sup>205</sup> *Id.*

<sup>206</sup> Although the CAISO would not require Scheduling Coordinators with a monthly or daily



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Although some stakeholders agreed with the CAISO's proposal, other stakeholders preferred increasing the WAC for short-term and peak-period Wheeling Through transactions, including Wheeling Through Priorities. However, those stakeholders did not oppose the CAISO's proposed design as an initial framework and viewed it as an improvement over the existing design. Changing the actual WAC rates to incorporate peak, off-peak, and/or seasonal pricing would require a comprehensive and time-consuming assessment of rates and rate design – an activity that was beyond the scope and timeframe of the stakeholder initiative, particularly given that the interim Wheeling Through tariff provisions expire June 1, 2024. As stakeholders and the CAISO gain operational and implementation experience with the design, stakeholders and the CAISO can evaluate and consider evolving the design as necessary, including considering different approaches to reflect the value of a Wheeling Through Priority. The CAISO is committed to monitoring operations under the proposed design and possibly proposing changes in the future if circumstances warrant.

The CAISO's proposed WAC payment approach appropriately recognizes the value of having a Wheeling Through Priority on the CAISO system without changing the specific WAC itself. The proposal properly distinguishes monthly and daily Wheeling Through Priority transactions from non-Priority Wheeling Through transactions that will continue to be charged volumetrically based on their actual usage (but in return will have a lower scheduling priority). The proposal also directionally tracks the payment obligations for external load serving entities that are allocated CRRs – they prepay the WAC charges for all of the applicable hours of the term of their CRR.<sup>207</sup> The proposal also tracks what a CAISO load serving entity would pay in transmission access charges if it utilized an RA import supply contract for all of the service hours under the contract over the entire month. In that regard, CAISO load serving entities pay for transmission based on their gross load across the month. RA imports under contract on a 6 x 4, 6 x 8, or 6 x 16 basis, contribute to the load served, and the CAISO charges transmission across that gross load. The proposal is thus compatible with the current gross load transmission payment framework applicable to internal load.<sup>208</sup> Further, the proposal allows Scheduling

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Wheeling Through Priority to prepay the applicable WAC amounts, the proposed approach of charging WAC for all of the hours to which the Wheeling Through Priority applies aligns with the OBAALSE CRR prepayment provision contained in existing tariff section 36.9.2.1. In that regard, external load serving entities desiring an allocation of CRRs must prepay the WAC for all of the hours that the CRRs would apply. Business Practice Manual for Congestion Revenue Rights, section 12.3.

<sup>207</sup> See existing tariff section 36.9.2.

<sup>208</sup> The CPUC's Maximum Cumulative Capacity (MCC) bucket rules dictate the duration and availability of imports that can qualify as RA supply. See CPUC Decision D.23-06-029, p. 14,

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Coordinators with a Wheeling Through Priority to resell their priority (and to release it back to the CAISO in the limited circumstances described above). Finally, the proposal does not require overhauling the current CAISO transmission rate design, which would create additional complexities and require significant time to consider. For all of these reasons, the Commission should find the CAISO's proposal is just and reasonable.

## 2. Crediting Wheeling Through Priority Charges Toward Satisfaction of OBAALSE CRR Prepayment Obligations

The existing tariff sets forth a process whereby an OBAALSE<sup>209</sup> can seek an allocation of CRRs.<sup>210</sup> These CRRs may be long-term, annual, or monthly, and they may be for the on-peak or off-peak hours.<sup>211</sup> OBAALSEs must satisfy several requirements to be eligible for an allocation of CRRs. First, as relevant to Wheeling Through Priorities, the OBAALSE must make a showing of legitimate need by demonstrating an executed contract from a System Resource or Trading Hub that covers the time period of the CRRs being nominated.<sup>212</sup> Second, for CRRs sourced at Scheduling Points, the OBAALSE must demonstrate that the supply from the generating resource located outside of the CAISO BAA it is importing is not in the OBAALSE's own BAA.<sup>213</sup> Third, the OBAALSE must demonstrate it has obtained firm transmission rights pursuant to the tariffs of intervening transmission providers between the supply source and the CAISO BAA.<sup>214</sup> Fourth, the external load for which the OBAALSE has nominated CRRs

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available at

<https://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M513/K132/513132432.PDF>. Under the MCC buckets, Resource Adequacy imports must have a minimum duration of 100 hours per month, 96 hours in February. This essentially corresponds to a six (6)-days-by-four (4)-hours contract for every full week of the month and applicable remaining days. Similarly, under the CAISO's proposal, Scheduling Coordinators establishing a monthly Wheeling Through Priority must have a power supply contract with a duration each month no less than 6 x 4, similar to the minimum required duration of RA imports. Scheduling Coordinators with a Wheeling Through Priority would then pay for transmission across the CAISO system based upon the duration of their Wheeling Through Priority (as supported by their underlying power supply contract). In the daily time horizon, Scheduling Coordinators with a daily Wheeling Through Priority would pay for their priority on the underlying duration of the supply arrangement supporting that priority. To the extent the underlying contract is a 1 x 4, a 1 x 8, 1 x 16, or 1 x 24 supply contract, the Scheduling Coordinator with a Wheeling Through Priority would pay the WAC for the corresponding number of hours regardless of actual use.

<sup>209</sup> An external load serving entity under new tariff section 23 is an OBAALSE.

<sup>210</sup> Existing tariff section 36.9, *et seq.*

<sup>211</sup> The CAISO allocates annual and long-term CRRs on a seasonal basis.

<sup>212</sup> Existing tariff section 36.9.1.

<sup>213</sup> *Id.*

<sup>214</sup> *Id.*

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cannot be served through a Transmission Ownership Right or Existing Transmission Contract that has been designated as eligible to receive the reversal of Congestion charges.<sup>215</sup> Finally, the OBAALSE must prepay or commit to pay the appropriate WAC.<sup>216</sup> For each MW of CRR nominated, the nominating entity must prepay one MW of the WAC, which equals the per-MWh WAC that is expected (at the time the CRR allocation process is conducted) to be applicable for the period of the CRR times the number of hours constituting the period of the CRR. An OBAALSE that is creditworthy in accordance with the tariff may elect to prepay the WAC on a monthly basis for the seasonal CRRs for which they seek an allocation.<sup>217</sup> The OBAALSE must demonstrate a commitment to pay for the entire term by submitting a written sworn statement to this effect.

Consistent with the OBAALSE CRR tariff provisions described above, the CAISO proposes to credit any monthly payment of Wheeling Through Priority charges made by an OBAALSE toward satisfaction of the OBAALSE's WAC prepayment obligation amount to the extent the OBAALSE seeks to obtain monthly CRRs through the OBAALSE CRR process.<sup>218</sup> For example, assume an OBAALSE obtains a Wheeling Through Priority for the month of June based on a standard 6 x 16 power supply contract, which means the OBAALSE would pay WAC charges every Monday through Saturday for hours ending 07:00 through 22:00 for the entire month. If the OBAALSE desires on-peak CRRs for June, it would not be required to make any further prepayment amount after the Wheeling Through Priority credit because the hours for on-peak CRRs are identical to the hours of the monthly Wheeling Through Priority, *i.e.*, Monday through Saturday, hours ending 07:00 through 22:00 for the entire month.<sup>219</sup> On the other hand, if the power supply contract supporting the OBAALSE's monthly Wheeling Through Priority was only a six-days-by-eight-hours contract for the entire month and the OBAALSE desired on-peak CRRs, it would have to make an additional prepayment for the remaining eight hours during each applicable day of the month and satisfy the other tariff requirements for OBAALSE CRRs.

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<sup>215</sup> Business Practice Manual for Congestion Revenue Rights, section 12.1.

<sup>216</sup> Specifically, the OBAALSE must pay the WAC as described in existing tariff section 36.9.2 and in section 12.3 of the Business Practice Manual for Congestion Revenue Rights.

<sup>217</sup> Existing tariff section 36.9.2.

<sup>218</sup> Revised tariff section 36.9.2.1. The OBAALSE must prepay any difference in accordance with the applicable prepayment timeline.

<sup>219</sup> See Business Practice Manual for Congestion Revenue Rights, attachment A (which includes a link to the North American Energy Standards Board (NAESB) business practice). If the OBAALSE also desires off-peak CRRs in addition to on-peak CRRs, it would have to make a prepayment for all of the off-peak hours during the month and satisfy all applicable tariff requirements because the Wheeling Through Priority payment amounts do not cover these hours of the month.

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The proposed tariff revisions allow either the seller of energy or the OBAALSE procuring the energy under the firm power supply contract to hold the monthly Wheeling Through Priority. If the parties to the contract desire the seller to hold the Wheeling Through Priority, they can also agree that the OBAALSE will seek an allocation of CRRs under the tariff. The credit toward any OBAALSE prepayment obligation will apply regardless of whether the seller or the OBAALSE is holding (and paying for) the Wheeling Through Priority. If the OBAALSE obtains an allocation of CRRs, it can then transfer them to the seller using the CAISO's existing Secondary Registration System for CRRs.<sup>220</sup> This will enable either the seller or the OBAALSE to hold CRRs that might arise in connection with holding any Wheeling Through Priority.

#### **F. Continued Effectiveness of Scheduling Priorities for Wheeling Throughs**

The CAISO proposes to retain, without modification, the tariff provisions that give Priority Wheeling Throughs a scheduling priority equal to the priority for CAISO Demand and higher than for non-Priority Wheeling Throughs. The Commission approved these tariff provisions on an interim basis in the June 2021 Order and March 2022 Rehearing Order, and again in the March 2022 Extension Order.<sup>221</sup> Absent a Commission order in the instant proceeding that allows the CAISO to retain the tariff provisions, they will expire on June 1, 2024.

The Commission has already found the tariff provisions to be just and reasonable, consistent with the paradigm established in Order Nos. 888 and 890, and consistent with or superior to the native load protections in the Commission's *pro forma* OATT.<sup>222</sup> The CAISO must retain the same scheduling priorities to implement the proposed solution discussed above, which is founded on Priority Wheeling Throughs having a scheduling priority equal to CAISO demand and a higher scheduling priority than non-Priority Wheeling Throughs.

#### **G. The Tariff Revisions Appropriately Address Stakeholder Feedback**

During the stakeholder process, the CAISO refined its proposal to address feedback it solicited and received. Overall, stakeholders expressed general support for the CAISO's proposed approach that replaces the interim design

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<sup>220</sup> See existing tariff section 36.7 and the Business Practice Manual for Congestion Revenue Rights, section 13.1.

<sup>221</sup> The scheduling priorities are contained in existing tariff sections 31.4, 34.12.1, and 34.12.2.

<sup>222</sup> March 2022 Rehearing Order at PP 21-36.

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requirements for establishing Wheeling Through scheduling priority with transparently calculating ATC to determine transmission availability, protect native load needs, and enable customers to establish scheduling priority in the monthly and daily timeframes. However, some stakeholders raised issues with the proposal. The CAISO addresses some of the more significant stakeholder issues in the following discussion.

### **1. Responses to Comments on Suggested Alternatives to the CAISO's Proposal**

A few stakeholders stated they preferred alternative frameworks and requirements to the frameworks and requirements the CAISO proposes in this filing. To the extent these stakeholders ask the Commission to adopt such alternatives in this proceeding, the Commission should reject them. In its orders on the interim Wheeling Through tariff revisions, the Commission repeatedly applied its general approach under Section 205 of the FPA, that if the CAISO's proposal was just and reasonable, the Commission need not address alternative rate designs.<sup>223</sup> The CAISO explains above why its proposal in this proceeding is just and reasonable, so the Commission need not and should not address the suggested alternatives.

Equally importantly, those suggested alternatives are wholly inconsistent with the CAISO's market, transmission service, and/or RA paradigm and/or contrary to prior Commission orders. Many of these stakeholders' suggestions are unworkable or would require drastic changes to the CAISO's market framework. The CAISO rejected these approaches and urges the Commission to do the same.

One suggestion was that the CAISO must follow the transmission service model under the Commission's *pro forma* OATT. This request ignores that the CAISO's market service model is unique and significantly different from the *pro forma* OATT model. There is no basis to impose a *pro forma* OATT framework on the CAISO given the CAISO has effectively operated and provided numerous benefits to consumers for more than 25 years without one. Notably, the Commission has previously rejected similar arguments, recognizing that the CAISO operates under a significantly different service framework than that reflected in Order No. 888 and the *pro forma* OATT.<sup>224</sup> For example, the Commission recognized that "the traditional Order No. 888 capacity reservation

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<sup>223</sup> June 2021 Order at PP 44, 177; March 2022 Rehearing Order at P 77 (both citing *City of Bethany*, 727 F.2d at 1136).

<sup>224</sup> See, e.g., June 2021 Order at PP 143-45, March 15 Rehearing Order at PP 27-28 (citing other orders where the Commission has recognized that the CAISO's market and service framework differs significantly from the *pro forma* OATT).

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tools to ensure open access and native load priority are sufficiently different from the CAISO's transmission service paradigm that they do not need to be grafted onto that paradigm."<sup>225</sup> The Commission has also allowed ISOs and RTOs to demonstrate that any variations are consistent with or superior to the open access requirements adopted in Order No. 890.<sup>226</sup> In the March 2022 Rehearing Order, the Commission confirmed that "Commission precedent does not preclude adoption of different methods to ensure native load protection, provided they are consistent with or superior to the *pro forma* OATT."<sup>227</sup>

Second, a couple of stakeholders suggested the CAISO should not set aside transmission capacity for native load in the rolling 13-month horizon unless LSEs have first procured energy from a specific identified external resource. In other words, they would require LSEs to contract for their supply at least 13 months in advance in order for the CAISO to set the capacity aside under the native load priority.<sup>228</sup> Neither Order No. 888, nor Order No. 890, nor the NERC Reliability Standards applicable to ATC, require LSEs to procure their supply 13 months in advance before capacity can be set aside for them in the native load priority set-aside component of the ATC calculation. Indeed, most transmission providers set aside transmission capacity for native load based on **forecasted** native load needs (including native load growth) and resource expectations in the planning horizon. In other words, numerous other transmission

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<sup>225</sup> March 2022 Rehearing Order at P 28.

<sup>226</sup> 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." Order No. 890 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.").

<sup>227</sup> March 2022 Rehearing Order at P 27. The Commission has recognized its application of this standard can take into account the unique tariff structures and market designs of an ISO or RTO. *Id.* at P 32 n.93 citing *N.Y. Indep. Sys. Operator Corp., Inc.*, 123 FERC ¶ 61,134 at P 13 (2008).

<sup>228</sup> One stakeholder also argued that the only capacity that should be set aside for native load is capacity associated with an identified physical resource that an LSE has already procured. None of Order No. 888, Order No. 890, or the NERC Reliability Standards regarding ATC impose such a requirement. Further, any such requirement would be inconsistent with the CAISO's RA tariff provisions that allow System Resources (*i.e.*, imports) to count for RA whether they are Resource-Specific or Non-Resource-Specific. Nor does this stakeholder's recommendation comport with the Order No. 890 requirements for Network Resources, which allow firm energy purchases not backed by capacity or a specific generating facility and Western Systems Power Pool (WSPP) Service Schedule C agreements (and similar arrangements) to be Network Resources provided all applicable requirements are met. See Order No. 890 at PP 1433-34, 1480; Order No. 890-A at PP 822, 835-37; Order 890-B at P 163.

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providers do not require their native load customers to procure 100 percent of their capacity to meet native load needs 13 months or more in advance. As the OATI Opinion recognizes:

The methods of determining Native Load set-aside utilized by several Western Balancing Areas... all rely on a native load forecast method, and involve commensurate generation assumptions informed by designated and forecasted resources. As such, the use of historical data for Resource Adequacy to serve CAISO LSE load along with Non-Resource Adequacy Contracted Capacity allocated to the Transmission Paths from External Balancing Entities is not dissimilar, and in our opinion is adequate as a start as a simple forecasting method for native load needs.<sup>229</sup>

These stakeholders' suggestion is also wholly inconsistent with the CAISO's Commission-approved RA framework. As discussed above, under the CAISO's RA framework LSEs are not required to procure 100 percent of their RA for a month until 45 days before the month. The CPUC does not even issue its order establishing RA rules and requirements for the upcoming calendar year until June of the prior year. Moreover, LSEs typically do not receive their specific, initial year-ahead RA obligations until July, and they do not receive their final year-ahead obligations until September.<sup>230</sup> Further, LSEs' annual RA Plans are not due until the end of October, and there is no tariff requirement that LSEs show system RA in their annual RA Plans – each local regulatory authority determines whether its jurisdictional LSE(s) should have an annual system RA showing requirement. Requiring LSEs to procure 100 percent of their import RA Capacity more than 13 months in advance would require a drastic change to the RA program and CAISO LSEs' procurement practices, which is beyond the scope of this tariff amendment and the underlying stakeholder process.<sup>231</sup>

On the other hand, the CAISO's proposal to use the higher of monthly total RA and non-RA contract values during the past two years as a forecast of future native load needs for each month of the upcoming 13 month horizon is a reasonable starting point for estimating native load needs. It relies on recent contract values and does not look too many years back. It incorporates and better aligns with the CAISO's RA showings framework and timelines and does

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<sup>229</sup> OATI Opinion at 8.

<sup>230</sup> See, e.g., CPUC 2021 Resource Adequacy Report, available at [https://www.cpuc.ca.gov/-/media/cpuc-website/divisions/energy-division/documents/resource-adequacy-homepage/2021\\_ra\\_report.pdf](https://www.cpuc.ca.gov/-/media/cpuc-website/divisions/energy-division/documents/resource-adequacy-homepage/2021_ra_report.pdf).

<sup>231</sup> Load serving entities make any annual system RA required by local regulatory authorities at the end of October for the upcoming calendar year. Requiring showings 13 months in advance of a month would be inconsistent with this longstanding timeline as well.

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not unduly disrupt that framework. In the month-ahead time frame, the CAISO will “true-up” the historically based monthly values to reflect actual monthly RA and non-RA contract showings, thus ensuring all transmission capacity ultimately set aside for imports to serve native load is supported by actual power supply contracts. Further, under the CAISO’s proposal, Scheduling Coordinators that have been awarded a Wheeling Through Priority in a previous request window cannot lose their priority if actual monthly RA and non-RA contract showings exceed the transmission capacity set aside for native load based on historical quantities (as adjusted for native load growth and new contracts). Further, LSEs are required to notify and attest to the CAISO in advance of the 13-month horizon for each month whether (1) there any new contracts that replace or are incremental to contracts accounted for in the prior two-year period and (2) there are any contracts during the previous two years that the LSE knows will be discontinued and not replaced with other supply to be imported at the same intertie. Overall, this produces a balanced approach that is consistent with, and would not require major changes to, longstanding procurement practices in the CAISO and Commission-approved tariff provisions.<sup>232</sup> The CAISO’s proposal effectively maintains “the balance described in Order No. 890 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,’”<sup>233</sup> while recognizing the CAISO’s unique service framework and resource adequacy paradigm.

Relatedly, one stakeholder objected that the CAISO’s proposed set-aside of a capacity on the CAISO grid under the native load priority will occur before entities can compete for a Wheeling Through Priority. This argument flies in the face of the basic native load priority concept. The Commission’s open access rules permit transmission providers first to set aside capacity on their systems for native load before determining the transmission capacity that is available for point-to-point transmission services and other uses.<sup>234</sup> Stated differently, capacity set aside for the native load priority does not “compete” with other

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<sup>232</sup> See OATI Opinion at 8.

<sup>233</sup> June 2021 Order at P 141 (quoting Order No. 890 at P 107).

<sup>234</sup> See, e.g., *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 at P 61, 694, 61,745, FERC Stats. & Regs., ¶ 31,004(1996), *order on reh’g*, Order No. 888-A, FERC Stats. & Regs. ¶ 31,048, at 30,279 (1997) (finding that “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.”); Order No. 890, 118 FERC ¶ 61,119 at P 107; June 2021 Order at P 143 (finding that Order Nos. 888 and 890 “require transmission providers to sell the existing transmission capacity that the transmission provider determines is not needed to serve existing transmission commitments, such as the transmission provider’s native load and existing network transmission customers.”).



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transmission services for ATC. Native load is part of the ETComm and is deducted from the TTC to determine what ATC is available for new transmission uses. Adopting this stakeholder's recommendations would essentially eviscerate the entire concept of a native load priority and could result in insufficient capacity being set aside for the CAISO reliably to meet native load needs.

In addition to arguing the CAISO should only be able to set aside capacity for native load based on executed contracts with identified physical resources, the same stakeholder contended that there must be a demonstration that CAISO LSEs must have firm transmission in place to deliver such resources to the CAISO border before the CAISO can set aside transmission capacity for them using the native load priority. In other words, LSEs must procure firm transmission to the CAISO border at least 13 months in advance, or the CAISO cannot set aside capacity on the CAISO grid using the native load priority. The stakeholder stated that absent such a requirement, California LSEs will have an unfair advantage securing upstream capacity on jointly owned facilities. Again, none of Order No. 888, Order No. 890, or the NERC Reliability Standards impose such an express transmission requirement for a transmission provider to set aside capacity under the native load priority 13 months in advance. Further, the CAISO is not imposing any such requirement on Scheduling Coordinators seeking a Wheeling Through Priority. The Commission rejected similar arguments in its June 2021 Order and in its March 2022 Rehearing Order.<sup>235</sup> For example, the Commission found this line of argument ignores that the Commission has accepted as just and reasonable the CAISO's RA paradigm that does not require firm transmission to the CAISO border.<sup>236</sup> The Commission also disagreed with claims that (1) CAISO LSEs were being afforded an unfair advantage, (2) firm transmission used by non-CAISO LSEs was rendered meaningless, (3) California native load was obtaining a right of first refusal on the Pacific Northwest resources by receiving higher priority transmission access, and (4) the CAISO was implementing transmission priorities on its system with the objective of modifying flows on third-party systems. The Commission correctly recognized the "CAISO's proposal only establishes scheduling priorities across the CAISO controlled transmission system" and that "[f]irm transmission rights to the boundary of CAISO's system do not grant firm transmission rights across CAISO's system."<sup>237</sup>

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<sup>235</sup> June 2021 Order at P 152; March 2022 Rehearing Order at PP 64-66.

<sup>236</sup> June 2021 Order at P 152; March 2022 Rehearing Order at P 49. The Commission recognized that unlike external LSEs, CAISO LSE must use the CAISO system to deliver energy, which obviates the need for such a firm transmission requirement. March 2022 Rehearing Order at P 49.

<sup>237</sup> June 2021 Order at P 146.

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The one stakeholder advocating for a firm transmission requirement on external systems essentially seeks to change the requirements for RA Capacity, which goes beyond the scope of this tariff amendment filing and the underlying stakeholder initiative. As an initial matter, the CAISO notes the default provisions of its tariff provide that RA imports be supported by transmission “that cannot be curtailed for economic reasons or bumped by higher priority transmission.”<sup>238</sup> The default provisions apply only if local regulatory authorities do not approve different requirements. The CPUC has required imports either be delivered on firm transmission or be delivered to a firm delivery point (*i.e.*, no seller’s choice contract).<sup>239</sup> The Commission has found the CAISO’s existing RA tariff provisions and paradigm to be just and reasonable. This finding follows the Commission’s recognition that other ISOs and RTOs have capacity constructs that are very different from the CAISO’s, and the Commission has expressly declined to require the CAISO to emulate theirs.<sup>240</sup> Nowhere in those orders or anywhere else has the Commission required the CAISO to restrict RA eligibility to imports accompanied by firm transmission to the CAISO border. Further, there is no order requiring LSEs to procure firm transmission for their RA Capacity 13 months in advance of the month of need. Moreover, the CAISO is unaware of any Commission or NERC rule imposing an external firm transmission requirement before a transmission service provider can invoke the native load priority and set aside capacity for native load 13 months in advance of a month. Consistent with the Commission’s rejection of a one-size-fits-all approach to resource adequacy, the CAISO should not be obligated to require firm transmission service in order for the CAISO to set aside native load capacity.

The requirements for Network Resources under the *pro forma* OATT likewise do not support the stakeholder’s position. As an initial matter, the CAISO tariff does not provide for separate Network Integration Transmission service. There are no Network Loads on the CAISO’s system, and, thus, there is

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<sup>238</sup> Existing tariff sections 40.8.1.12.1 and 40.8.1.12.2.

<sup>239</sup> See CPUC Decision D.04-10-035 Workshop Report at 21, available at [http://docs.cpuc.ca.gov/PublishedDocs/WORD\\_PDF/REPORT/37456.PDF](http://docs.cpuc.ca.gov/PublishedDocs/WORD_PDF/REPORT/37456.PDF).

<sup>240</sup> See, e.g., *CXA La Paloma*, 165 FERC ¶ 61,148, at P 76 (“We also find that CXA La Paloma has not substantiated its general claims that CAISO’s and CPUC’s decision not to implement centralized capacity procurement renders the existing resource adequacy paradigm unjust and unreasonable”); *id.* at P 79 (“Moreover, we find that Powerex has not demonstrated that circumstances have changed in any way to render CAISO’s previously-accepted tariff provisions unjust and unreasonable or unduly discriminatory or preferential.”); *CXA La Paloma*, 169 FERC ¶ 61,045, at P 44 (“Moreover, the Commission has previously found unpersuasive similar arguments asserting that, under the current resource adequacy framework in California, existing generation is treated in an unduly discriminatory manner.”) (citing *Cal. Indep. Sys. Operator Corp.*, 123 FERC ¶ 61,229, at P 99 (2008); *Cal. Indep. Sys. Operator Corp.*, 125 FERC ¶ 61,053, at P 104 (2008)).

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no need to designate Network Resources to serve those loads.<sup>241</sup> Second, in Order No. 890-B, the Commission explained that network resource designation rules were not a proxy for resource adequacy requirements, stating “[t]he Commission has made clear that the requirements for the designation of network resources are not intended to replace or replicate resource adequacy requirements, which impose distinct obligations on the transmission provider and its customers.”<sup>242</sup> The stakeholder inappropriately conflates the requirements for Network Resources with resource adequacy requirements. Third, the stakeholder also ignores a crucial clarification the Commission provided in Order No. 890-A regarding the designation of off-system network resources. The Commission clarified it only requires Network Integration Transmission Service customers to demonstrate firm transmission service from the point at which title changes; it is unnecessary to demonstrate the firmness of upstream transmission.<sup>243</sup> Thus, to the extent an entity makes a firm power purchase at the border of a transmission provider offering network Integration Service, the entity is only required to show it has obtained transmission service from the border to support designating that contract as a network resource.

Finally, two stakeholders objected to the requirement that Scheduling Coordinators seeking a Wheeling Through Priority must demonstrate a firm power supply contract. In approving the CAISO’s interim Wheeling Through tariff revisions the Commission rejected arguments opposing the firm supply contract requirement and found the requirement to be just and reasonable.<sup>244</sup> The Commission also found that although this requirement differs from the *pro forma* OATT, the requirement is consistent with or superior to it. Moreover, the requirement is consistent with the supply contract requirement for external load serving entities seeking to obtain an allocation of CRRs.<sup>245</sup> External load serving entities must demonstrate a “legitimate need” to be eligible for an allocation of CRRs by showing, among other things, they have an executed energy contract

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<sup>241</sup> In the June 2021 Order, the Commission rejected arguments that the CAISO should be required to follow the provisions of the *pro forma* OATT regarding designated network resources. The Commission stated “While we find that it is reasonable for CAISO to establish requirements as a proxy to demonstrate reliance on the CAISO grid comparable to that of CAISO load serving entities, we reject protestors’ attempts to draw more precise comparisons between CAISO resource adequacy requirements and requirements for designated network resources under the *pro forma* OATT.” June 2021 Order at P 152.

<sup>242</sup> Order No. 890-B at P 175 (citing Order No. 890 at P 1584 and Order No. 890-A at PP 835, 837).

<sup>243</sup> Order No. 890-A at P 867 (emphasis added). The Commission affirmed this finding at paragraph 169 of Order No. 890-B.

<sup>244</sup> June 2021 Order at PP 149-150; March 2022 Rehearing Order at P 48.

<sup>245</sup> See existing tariff sections 36.9 and 36.9.1.

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that covers the CRR period.<sup>246</sup> Similarly, the firm power supply contract requirement ensures that scarce capacity available for Wheeling Through Priorities is awarded to those entities that demonstrate a legitimate need for the capacity. As discussed in section III.C.2, *supra*, a firm power supply contract requirement reasonably rations the limited import capacity available on the CAISO interties. It enables external load serving entities that depend on contracted-for external supply to serve their native load to obtain a Wheeling Through Priority. Absent such a requirement, these LSEs might be unable to obtain a needed Wheeling Through Priority, jeopardizing their ability to serve their load reliably and with greater certainty. The CAISO is essentially providing external load serving entities an opportunity to obtain priority service for their own native load. To that end, the proposal promotes greater regional coordination and cooperation and reduces seams.

## **2. Responses to Comments Regarding the Firmness of Scheduling Priorities in the CAISO Markets**

Some stakeholders sought clarity on whether Wheeling Through under a Wheeling Through Priority is consistent with the quality of firm transmission service under the *pro forma* OATT and can support showings and delivery of supply under the Western Resource Adequacy Program (WRAP). The proposed Wheeling Through framework supports showings and delivery of supply under the WRAP by enabling Priority Wheeling Through service that is comparable or superior to firm transmission service under the *pro forma* OATT.<sup>247</sup>

Under the *pro forma* OATT framework, firm transmission service denotes the highest priority of transmission service. The OATT curtailment priorities apply in a transmission derate/outage scenario, and stakeholders noted that transmission providers would not curtail transmission schedules based on these transmission priorities under supply shortfall conditions. If a transmission derate/outage occurs, the transmission provider will curtail transmission schedules based on the quality and priority of transmission service with non-firm transmission schedules being curtailed before firm transmission service. These curtailments can result from derates/outages on interties to the BAA or derates/outages or congestion on internal network flowgates or paths. The likelihood or risk of curtailment of firm service depends in significant part on the

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<sup>246</sup> Existing tariff section 36.9.1. The Commission has found that it is not unduly discriminatory to require external load to make a showing of “legitimate need.” *Cal. Indep. Sys. Operator Corp.*, 119 FERC ¶ 61,076, at P 371.

<sup>247</sup> Further, the CAISO recognizes that as the Western landscape evolves, with the development of a wider Western resource adequacy program and new emerging organized markets, it will be important to continue to coordinate and manage interoperability between programs. The CAISO looks forward to collaborative engagement and coordination as the different Western programs evolve.

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volume of non-firm transmission on the path because the less non-firm transmission that is scheduled, the more likely the needed relief will be obtained through curtailing firm transmission. To the extent curtailing non-firm transmission does not provide the necessary level of relief, transmission providers may curtail firm transmission service. OATT transmission providers do not curtail point-to-point transmission schedules based on supply shortfall conditions; rather, curtailments are driven by transmission derates or outages. Moreover, except in certain circumstances, transmission providers are not required to re-dispatch resources on their system to provide firm point-to-point transmission service in the event of a transmission derate or outage, even if there is no supply shortage.<sup>248</sup>

A Wheeling Through Priority is comparable or superior to firm transmission service under the *pro forma* OATT with regard to the risk of curtailment; indeed, it likely provides a lower risk of curtailment than firm transmission service under the OATT. The CAISO's organized market has at its disposal several tools to manage and mitigate the impacts of both transmission derates and supply challenges and to avoid or ameliorate potential schedule adjustments or curtailments. For example, if there are internal transmission path derates, the market would automatically seek to re-dispatch supply across the system to avoid adjusting scheduled transactions, including Wheeling Through transactions across the CAISO system.

An important feature of the CAISO's proposed tariff revisions is that the post-HASP process occurs only if two conditions occur simultaneously: (1) there is a supply insufficiency in the CAISO BAA such that there is a power balance infeasibility in the market, **and** (2) there is a transmission limitation on the intertie.<sup>249</sup> This distinguishes the CAISO from OATT regimes where only a transmission derate or outage typically is needed to trigger curtailments. A power balance infeasibility triggers when the CAISO market indicates there is insufficient internal, intertie, or other supply to serve load. If there is an infeasibility combined with a transmission derate or outage on an intertie, and there is economic and self-scheduled supply exceeding the intertie capacity available,<sup>250</sup> the market first seeks to adjust economic offers and then lower-priority transactions to respect the intertie transmission limit. This allows self-scheduled supply access to the limited import capability before the CAISO would seek to adjust Priority Wheeling Throughs and self-scheduled imports serving CAISO load.<sup>251</sup> Only if these adjustments are inadequate to address the

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<sup>248</sup> See Order No. 890 at P 1138.

<sup>249</sup> See Section III.D.2 of this transmittal letter above.

<sup>250</sup> Self-scheduled supply is willing to provide supply regardless of price.

<sup>251</sup> Existing tariff sections 31.4 and 34.12.

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transmission constraint, the market may need to make further adjustments to Priority Wheeling Through schedules and self-scheduled imports serving CAISO load at the intertie on a *pro rata* basis through the post-HASP process.<sup>252</sup> In any event, the CAISO will not reduce Priority Wheeling Through schedules due only to a supply shortfall that triggers a power balance infeasibility.<sup>253</sup>

The CAISO's proposed tariff revisions also include a new methodology for calculating the amount of transmission capacity that can be made available, at individual interties to establish Wheeling Through Priorities.<sup>254</sup> The ATC calculation sets an inherent limit on the amount of transmission capacity the CAISO can allocate such that the capacity allocated to native load, TRM, and Priority Wheeling Throughs (and Existing Contracts under the tariff) cannot exceed the Total Transfer Capability (TTC) of the intertie. This is an important factor in avoiding transmission over-scheduling or over-allocation of priority transactions at an intertie. This will decrease the risk of *pro rata* curtailments of Priority Wheeling Through transactions and CAISO load transactions under the post-HASP process, compared to today where there is no inherent ATC/TTC limit on establishing priority and, practically speaking, priority transactions scheduled across an intertie potentially can exceed the TTC, thus increasing the risk of *pro rata* curtailments. Thus, this specific revision will reduce the need to trigger the post-HASP process because there can be no over-scheduling of priority transactions that would trigger the process (unlike today).

In summary, the CAISO's Wheeling Through Priority framework is consistent with or superior to firm transmission service under the *pro forma* OATT regarding the risk of curtailment. Further, the revised post-HASP process will trigger only by the simultaneous occurrence of the two conditions described above, and this would be a corner-case, very rare event due to the confluence of conditions that would need to occur. If there is sufficient supply available behind any other interties that are not limited, the power balance infeasibility will not trigger. If there is a derate/outage on CAISO internal transmission facilities, the market will seek to redispatch supply to avoid curtailing internal or intertie schedules, including wheels through the system. This adds a level of confidence

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<sup>252</sup> Tariff section 34.12.3 as revised by this filing.

<sup>253</sup> In these instances, if there is a power balance infeasibility only, and absent transmission limitations, the market may adjust economic schedules or lower priority transactions, but it will not seek to adjust the schedules of Priority Wheeling Through transactions at the interties. In that regard, curtailment of the balanced import and export side of the wheel through does not provide relief for a supply shortfall because they are net zero (import and export) energy contribution transactions to the power balance of the system.

<sup>254</sup> See Section III.A of this transmittal letter above.

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and reliability because internal transmission derates/outages can still allow Wheeling Through transactions to flow.<sup>255</sup>

#### **IV. EFFECTIVE DATE OF TARIFF REVISIONS, REQUEST FOR A COMMISSION ORDER BY OCTOBER 30, 2023, AND REQUEST FOR WAIVER**

The CAISO respectfully requests that the Commission issue an order by October 30, 2023, approving the tariff revisions proposed herein. The CAISO is submitting two sets of tariff revisions with different effective dates in this filing.<sup>256</sup> The first set, contained in Attachments A and B to this filing, consists of all the tariff revisions the CAISO proposes to implement effective November 1, 2023. These tariff provisions largely pertain to the processes and rules for calculating ATC and allowing Scheduling Coordinators to obtain in advance a monthly or daily Wheeling Through Priority to support Priority Wheeling Through transactions during the month(s) or day(s).<sup>257</sup> These include all of the revisions in tariff section 23 and new tariff appendix L-1,<sup>258</sup> the Wheeling Through Priority

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<sup>255</sup> The different confluence of conditions that must occur at the same time, and the measures the market provides to avoid curtailing Priority Wheeling Through transactions, are in large part why there have been no curtailments of Priority Wheeling Throughs in the post-HASP process since the inception of the interim Wheeling Through framework in August 2021, even during the extreme heat events of September 2022.

<sup>256</sup> As discussed above in Section II.F of this transmittal letter, the tariff revisions in this filing do not depend on any enhancements that will be contained in the tariff amendment filing to allow requests for long-term Priority Wheel Throughs that commence after the 13-month window in which the CAISO calculates ATC and have terms a year or longer, which the CAISO plans to submit by January 9, 2024. Accordingly, the Commission can and should issue an order on this filing without having to wait to review that future filing.

<sup>257</sup> These tariff provisions can be effective concurrently with the interim Wheeling Through tariff provisions because they expressly do not apply to Wheeling Through transactions prior to June 1, 2024, and, as such, do not create a risk of “dueling” tariff provisions. The tariff revisions must go into effect much earlier than June 1, 2024, however, because they pertain to processes and actions that must occur in the months prior to June 1, 2024, to allow the CAISO to determine the quantity of Wheeling Through priorities it can award for June 2024 (and thereafter) and to award Wheeling Through priorities in advance of June 1, 2024. For example, if the Commission approves the proposed tariff revisions by October 30, 2023, as requested, the CAISO will immediately start undertaking the extensive steps necessary to calculate the ATC that will be available to enable a Wheeling Through Priority for June 2024 (and other months within the rolling 13-month horizon in which the CAISO will calculate ATC). After completing that effort, the CAISO will open a request window(s) for Scheduling Coordinators to request, and the CAISO to award, Wheeling Through Priorities for June 2024 (and other months within the rolling 13-month horizon).

<sup>258</sup> As discussed above in Section III.B of this transmittal letter, the CAISO proposes to revise existing tariff appendix L to calculate ATC for the applicable monthly or daily horizon, and to designate this revised version of appendix L as new tariff appendix L-1. Existing appendix L will apply through May 31, 2024, and will apply the existing ATC process, *i.e.*, it will not be used

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pricing provisions (new tariff section 26.1.4.5) and CRR crediting provisions (new tariff section 36.9.2.1), and the newly defined terms Wheeling Through Priority and Wheeling Through Priority Reseller. These provisions must be implemented prior to June 1, 2024, to provide time for the CAISO and market participants to take the steps needed to implement the new Wheeling Through Priority and request window framework prior to next summer.

The second set, contained in Attachments C and D to this filing, consists of tariff revisions the CAISO proposes to implement effective June 1, 2024. These include revisions to existing tariff sections 30.5.1(z) (regarding Wheeling Through self-schedule requirements), 34.12.3 (regarding the post-HASP process), and the existing definition in tariff appendix A of a Priority Wheeling Through. These tariff revisions also remove Appendix L (which is being replaced by Appendix L-1 as described above)

In addition, as discussed above,<sup>259</sup> the CAISO proposes to retain the scheduling run priorities for Priority Wheeling Throughs and non-Priority Wheeling Throughs that would otherwise expire on June 1, 2024 (*i.e.*, provisions in existing tariff sections 31.4, 34.12.1, and 34.12.2). Because these are currently effective tariff provisions, the CAISO has not included them in red-line in this filing, but following Commission authorization to retain them, the effectiveness of their eTariff records will continue beyond June 1, 2024.

The CAISO respectfully requests waiver of the Commission's 120-day notice requirement to permit a June 1, 2024, effective date for the second set of tariff revisions.<sup>260</sup> Good cause exists to grant the requested waiver. These tariff revisions are an integral part of the package of tariff amendments the CAISO is proposing, and their approval will provide advance certainty to stakeholders regarding Wheeling Through Priority pricing and ATC calculations that will be in effect upon expiration of the interim Wheeling Through rules.

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to determine ATC that will be available in the request window process to award Wheeling Through Priorities that will go into effect on June 1, 2024. Appendix L-1 will go into effect on November 1, 2023, and will be used to determine ATC that will be available in the request window process to award Wheeling Through Priorities that will go into effect on June 1, 2024. Because it will be a new appendix to the tariff, appendix L-1 is shown entirely in red-line in Attachment B to this filing, but apart from the red-lined revisions shown in yellow highlighting in Attachment B to indicate provisions newly proposed in this filing, appendix L-1 will be identical to existing appendix L.

<sup>259</sup> See Section III.F of this transmittal letter.

<sup>260</sup> Specifically, pursuant to 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 the second set of tariff revisions to go into effect more than 120 days after submittal of this filing.



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The CAISO also respectfully requests that the Commission issue an order on all tariff revisions submitted in this filing by October 30, 2023. An order by that date will eliminate uncertainty and prevent any material adverse impacts caused by the imminent expiration of the existing, interim rules. Issuing an order by October 30, 2023, will provide important regulatory certainty for the CAISO and market participants regarding the scheduling priorities and rules that will apply to Wheeling Through transactions that will be effective starting June 1, 2024. It will also allow market participants to (1) make the necessary contractual arrangements or contract adjustments given the new rules and (2) seek to obtain a monthly Wheeling Through Priority over the course of the subsequent 13-month period (including Summer 2024) in the monthly request window process.

Even though the existing tariff provisions do not expire until June 1, 2024, upon receipt of a Commission order approving the proposed tariff revisions, the CAISO will begin undertaking the steps necessary to calculate ATC on a rolling 13-month basis and conduct the monthly Wheeling Through Priority request windows. This will allow external LSEs to obtain monthly Wheeling Through Priorities for Summer 2024 in advance – giving them certainty and facilitating their Summer 2024 planning. Any delay in receiving the necessary approvals will increase uncertainty and hinder Summer 2024 planning and resource procurement efforts. LSEs need to know well in advance of June 2024 what the “rules of the road” will be and whether they will have a Wheeling Through Priority so they can plan accordingly. For these reasons, the CAISO requests that the Commission issue an order approving the proposed tariff amendments by October 30, 2023.

The CAISO is committed to working diligently to implement this proposal. However, the CAISO acknowledges there are implementation challenges for this project. The CAISO is working with an outside vendor to the extent it can to address some of these challenges, but the project affects many internal CAISO processes and systems. In addition to this high priority project, the CAISO is pursuing other high priority projects, including Day-Ahead Market Enhancements (DAME) and the Extended Day-Ahead Market (EDAM). Thus, there are potential resource constraints and systems sequencing issues. It is possible unexpected issues and challenges may arise under these circumstances. To the extent the Commission believes it would be useful, the CAISO is willing to file quarterly updates regarding the status of implementation and any challenges it is facing.

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## **V. COMMUNICATIONS**

Correspondence and other communications regarding this filing should be directed 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**

Besides this transmittal letter, this filing includes these attachments:

Attachment A	Clean tariff sheets incorporating the first set of revisions described in this filing
Attachment B	Tariff sheets showing in red-line format the first set of revisions described in this filing
Attachment C	Clean tariff sheets incorporating the second set of revisions described in this filing
Attachment D	Tariff sheets showing in red-line format the second set of revisions described in this filing
Attachment E	Final Proposal
Attachment F	Board Memorandum and Board Presentation
Attachment G	OATI Opinion

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## **VIII. CONCLUSION**

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

Respectfully submitted,

/s/ Anthony Ivancovich

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**Attachment A – Clean Tariff (effective November 1, 2023)**

**Tariff Amendment Filing**

**Short-Term Wheeling Through Self-Schedule Priorities**

**California Independent System Operator Corporation**

**July 28, 2023**

## **Section 23**

### **23. Transmission Capacity**

#### **23.1 Categories of Transmission Capacity**

References to new firm uses shall mean any use of CAISO transmission service, except for uses associated with Existing Rights or TORs. Prior to the start of the Day-Ahead Market, for each Balancing Authority Area Transmission Interface, the CAISO will allocate the forecasted Total Transfer Capability of the Transmission Interface to four categories. This allocation will represent the CAISO's best estimates at the time, and is not intended to affect any rights provided under Existing Contracts or TORs. The CAISO's forecast of Total Transfer Capability for each Balancing Authority Area Transmission Interface will depend on prevailing conditions for the relevant Trading Day, including limiting operational conditions. This information will be posted on OASIS in accordance with this CAISO Tariff. The four categories are as follows:

- (a) transmission capacity that must be reserved for firm Existing Rights;
- (b) transmission capacity that must be allocated for use as CAISO transmission service, including transmission capacity for CAISO Demand and Priority Wheeling Through and non-Priority Wheeling Through transactions (*i.e.*, "new firm uses");
- (c) transmission capacity that may be allocated by the CAISO for conditional firm Existing Rights; and
- (d) transmission capacity that may remain for any other uses, such as non-firm Existing Rights for which the Responsible PTO has no discretion over whether or not to provide such non-firm service.

#### **23.2 Accessing Available Transfer Capability**

The provisions of Sections 23.2 through 23.9 apply to Wheeling Through Priorities and Priority Wheeling Through transactions that will be effective beginning June 1, 2024 and thereafter.

##### **23.2.1 General Requirements For Monthly or Daily Requests for a Wheeling Through Priority**

Scheduling Coordinators may obtain a monthly or daily Wheeling Through Priority to support Priority Wheeling Throughs under the process in this Section 23. A Scheduling Coordinator can submit a request

for a Wheeling Through Priority for a given month(s) up to twelve (12) months before the month for which it seeks the priority and for a day(s) up to seven (7) days before the day for which it seeks a priority. To be eligible for a Wheeling Through Priority for a month(s) or day(s), the Scheduling Coordinator for an external load serving entity, or the Scheduling Coordinator for a seller of Energy to the external load serving entity, must submit a Wheeling Through Priority request and attest to the following: (1) the Wheeling Through Priority request is supported by an executed firm power supply contract to serve an external load serving entity's load, a firm power supply contract to serve an external load serving entity's load where execution is contingent upon the availability of a Wheeling Through Priority on the CAISO system, or the external load serving entity's ownership of an external resource to serve external load; (2) the MW quantity of the firm power supply contract with an external load serving entity supporting the request and the Scheduling Points which the Energy will be imported to and exported from the CAISO Controlled Grid; (3) the start and end dates of the contract and the specific hours during the month or day covered by the power supply contract and for which the Scheduling Coordinator seeks a Wheeling Through Priority; (4) any information specified in the Business Practice Manual has been provided; and (5) whether the Scheduling Coordinator is willing to accept a pro rata allocation of capacity, or an award of only part of its request, if the result of the monthly or daily request window process in Sections 23.4 and 23.5, respectively, is that there is insufficient ATC to accommodate the entire request, because of a tie among competing requesters or for some other reason. The same MW in a firm power supply contract cannot support a Wheeling Through Priority for both the seller and the buyer for the same period of time. Scheduling Coordinators cannot seek, and the CAISO will not award in the request window processes specified in Section 23.4 and 23.5, a monthly or daily Wheeling Through Priority for a MW quantity greater than the MW quantity in the underlying power supply contract or for a period greater than or non-coincident with the hours of the underlying firm power supply contract, or for a MW quantity or duration greater than the physical and operational capabilities of the external load serving entity's resource, whichever is applicable. Thus, for any month or day, an awarded Wheeling Through Priority will only apply during the hours of the underlying power supply contract and no other hours. For example, if the supporting power supply contract is a six (6)-days-by-sixteen (16)-hours contract, the priority will only apply to Priority Wheeling Throughs that the Scheduling Coordinator self-schedules during those

specified hours. The minimum duration of any power supply contract that can support a monthly or daily Wheeling Through Priority is specified in Sections 23.4 and 23.5, respectively. All other Wheeling Throughs without a priority will be considered non-Priority Wheeling Throughs. Priority Wheeling Throughs will have a priority equal to CAISO Demand as set forth in Sections 31.4 and 34.12.1.

#### **23.2.2 Nature of a Wheeling Through Priority**

A Wheeling Through Priority does not convey a physical transmission right and is not a physical reservation of transmission service. A Wheeling Through Priority only accords a priority when a Scheduling Coordinator actually schedules a Priority Wheeling Through transaction on a given day (as new firm use in the CAISO markets). A Priority Wheeling Through accords the Scheduling Coordinator the highest scheduling priority of new firm use, equal to the priority of CAISO Demand. If a Scheduling Coordinator does not actually schedule a Priority Wheeling Through on a given day that it has the right, the Wheeling Through Priority is inapplicable.

#### **23.2.3 Termination or Modification of a Firm Power Supply Agreement Underlying a Monthly or Daily Wheeling Through Priority**

- (a) If the firm power supply contract supporting the Wheeling Through Priority is terminated for any reason or is modified such that the MW quantity, hours of service, import point, or export point changes, the Scheduling Coordinator with a monthly or daily Wheeling Through Priority must notify the CAISO by the earlier of (i) five (5) Business Days after the effective date of the termination or (ii) eleven (11) Business Days before the date any Priority Wheeling Through transaction would actually occur under the awarded priority. The Scheduling Coordinator will also attest to the circumstances surrounding and reason for termination or modification of the underlying firm power supply contract.
- (b) If the supporting firm power supply contract is terminated eleven (11) or more Business Days before the date on which the Scheduling Coordinator with the Wheeling Through Priority can first schedule a Priority Wheeling Through transaction using its Wheeling Through Priority, the Wheeling Through Priority will terminate unless the Scheduling Coordinator can demonstrate an equivalent replacement power supply contract (including MW quantity, import and export points, and service hours) by the earlier of (i) sixty (60)

days from the date of termination, or (ii) eleven (11) Business Days before the date any Priority Wheeling Through transaction would actually occur under the awarded priority, provided the Wheeling Through Priority will be prorated if the replacement contract is for a lower MW quantity or for fewer hours than the original contract. If the Scheduling Coordinator decides it will not seek to replace the terminated power supply contract, it must notify the CAISO within five (5) Business Days of that decision, but no later than eleven (11) Business Days before the date any Priority Wheeling Through transaction would actually occur under the awarded priority. The CAISO will account for any capacity associated with a terminated Wheeling Through Priority in a revised ATC calculation.

- (c) If the MW quantity or hours of service of the original supporting firm power supply contract are reduced eleven (11) or more Business Days before the date on which the Scheduling Coordinator with the Wheeling Through Priority can first schedule a Priority Wheeling Through transaction using its Wheeling Through Priority, the MW quantity or hours of the Wheeling Through Priority will be reduced correspondingly unless the Scheduling Coordinator demonstrates, by the earlier of (i) sixty (60) days from the date of the modification, or (ii) eleven (11) Business Days before the date any Priority Wheeling Through transaction would actually occur under the awarded priority, the following: (1) a replacement contract for a MW quantity or hours of service, that when added to the reduced MW quantity or hours of service of the revised supporting contract, equals the MW quantity or hours of service reflected in the original contract supporting the Wheeling Through Priority, provided that the Scheduling Coordinator can receive a priority for a total MW quantity or number of hours less than the MW quantity or number of hours in the original contract, but greater than the MW quantity or number of hours in the revised contract, and (2) the replacement contract has a Scheduling Point where the energy is to be imported to the CAISO and a Scheduling Point where the energy is to be exported from the CAISO identical to the Scheduling Points in the original contract supporting the priority. If the Scheduling Coordinator decides it will not seek any replacement contract if the original power supply contract has been modified, it must notify the CAISO within five



- (5) Business Days of that decision, but no later than eleven (11) Business Days before the date any Priority Wheeling Through transaction would actually occur under the awarded priority. The CAISO will account for any capacity associated with a modified Wheeling Through Priority in a revised ATC calculation.
- (d) If the Scheduling Coordinator seeks a priority in a replacement contract for a MW quantity greater than the MW quantity in the original contract, hours that are different than the hours in the original contract, or either the import or export Scheduling Point in the replacement contract is different than the import or export point in the original contract supporting the Wheeling Through Priority, the Scheduling Coordinator must re-apply for a Wheeling Through Priority for such deviations in a subsequent request window.
- (e) If the supply contract supporting the Wheeling Through Priority is terminated or modified after eleven (11) Business Days before the Day-Ahead Market run for the date on which the Scheduling Coordinator can first schedule a Priority Wheeling Through transaction using the Wheeling Through Priority, the Scheduling Coordinator will retain the Wheeling Through Priority and will be charged for such Wheeling Through Priority for the term of the priority.

### **23.3 ATC Requirements Related to CAISO LSEs**

#### **23.3.1 ATC Request Window Applicability to CAISO LSEs**

The CAISO will consider Native Load needs of its Load Serving Entities in determining ATC pursuant to Section 23.3 and Appendix L-1. In addition, Scheduling Coordinators for CAISO LSEs can compete to obtain ATC to support an import into the CAISO Balancing Authority Area in the daily request window process set forth in Section 23.5. The Scheduling Coordinator must attest to the following: (1) its ATC request is supported by an executed firm power supply contract, a firm power supply contract where execution is contingent upon the receipt of ATC, or ownership of a resource to serve the Load Serving Entity's load; (2) the MW quantity of the firm power supply contract with the Load Serving Entity supporting the request and the CAISO Scheduling Points to which the energy will be imported to the CAISO Controlled Grid; (3) the start and end dates of the power supply contract and the specific hours

during the day(s) covered by the power supply contract for which the Scheduling Coordinator seeks ATC; (4) all information specified in the Business Practice Manual to support a daily ATC request has been provided; and (5) whether the Scheduling Coordinator is willing to accept a pro rata allocation of capacity, or an award of only part of its request, if the result of the monthly or daily request window process in Sections 23.4 and 23.5, respectively, is that there is insufficient ATC to accommodate the entire request, because of a tie among competing requesters or for some other reason.

### **23.3.2 Historical Contract Information Regarding Non-Resource Adequacy Resource Import Supply**

Under the process and by the deadline established in the Business Practice Manual, to enable the CAISO to calculate ATC on the Interties under Appendix L-1, each Scheduling Coordinator for a Load Serving Entity may attest to the CAISO and submit information regarding firm non-Resource Adequacy Resource import supply contracts the Load Serving Entity had in place to serve its load during the two (2) years prior to the month for which the CAISO is determining ATC. The firm import supply contracts that can be reported under this Section 23.3.1 must be contracts for a period greater than one month that includes the applicable month, monthly contracts for the month, or a portfolio of shorter-term contracts for the month. They cannot be contracts to replace other external capacity that becomes unavailable. LSEs must attest to and provide: (1) the start and end dates of the contract; (2) the MW quantity; and (3) the CAISO Scheduling Point where the energy is imported.

### **23.3.3 New Contract Information**

Before the CAISO initially establishes ATC for a month that is thirteen (13) months away, under the process and deadlines established in the Business Practice Manual, Load Serving Entities must (1) notify the CAISO of any new firm contracts for imports to serve their load that are for a period greater than one month and include the applicable month, monthly contracts for the month, or a portfolio of shorter-term contracts for the month, and that are not reflected in the historical two (2) year period and (2) notify the CAISO of any import contracts reflected in the historical data that will be discontinued any time in the thirteen (13)-month horizon and will not be replaced with another import at the same Scheduling Point. The CAISO will consider these representations in establishing the initial ATC for the month. The Load Serving Entity must attest to whether the new import contract replaces capacity that the Load Serving

Entity had under contract during the historical two (2)-year period or is incremental to that capacity. The Load Serving Entity must attest to and provide: (1) the start and end dates of the import contract; (2) the specific hours to which the contract applies; (3) the MW quantity of the contract by month; and (4) the CAISO Scheduling Point where the energy will be imported. If the new contract is intended as replacement capacity, the LSE must attest to and indicate the contract that is being replaced, the term of that contract, the MW quantity of the contract each month, and the CAISO Scheduling Point where the energy was imported under the contract.

If the LSE intends the new contract to be incremental capacity, the LSE must attest that the capacity will be additive to the import capacity under contract during the historic period and will be shown as such in the monthly Resource Adequacy or non-Resource Adequacy contract showings. Upon request of the CAISO, Load Serving Entities should be ready to provide information to demonstrate the incremental nature of the capacity including, but not limited to: Load Serving Entity resource plans that include the contract; the LSE's expected load growth, incremental procurement ordered or approved by Local Regulatory Authorities, replacement of generation internal to the CAISO, or other relevant information demonstrating the additive nature of the new contract. The CAISO will use contracts that meet the requirements in this section to determine the existing transmission commitments (ETComm) component of the ATC calculation under Appendix L-1.

#### **23.3.4 Monthly Non-Resource Adequacy Contract Showings**

According to the process set forth in the Business Practice Manual, before the end of the Resource Adequacy cure period under Section 40 for the applicable month, a Load Serving Entity may show to the CAISO any firm non-Resource Adequacy contracts it has for the month that should be considered for inclusion in the existing transmission commitments (ETComm) component of the ATC calculation for the month under Appendix L-1. The contracts cannot be contracts to replace other external capacity that becomes unavailable. The Load Serving Entity seeking to make such a showing must attest to and indicate the following: (1) it has an executed firm power supply contract to serve its load, a firm power supply contract to serve its load where execution is contingent upon the receipt of ATC, or ownership of a resource to serve the Load Serving Entity's load; (2) the MW quantity of the firm power supply contract with the Load Serving Entity and the Scheduling Point(s) at which the energy will be imported to the

CAISO Controlled Grid; and (3) the start and end dates of the power supply contract and the specific hours and days during the month covered by the power supply contract. Shown non-Resource Adequacy contracts must be monthly contracts or a portfolio of shorter-term contracts for the month.

#### **23.3.5 CPM Access to ATC**

If the CAISO designates import capacity under the CPM for any reason other than to address an annual or monthly Resource Adequacy deficiency, the CAISO will first utilize the CPM import capacity under the TRM to the extent any TRM capacity is available. If insufficient TRM capacity is available, then the CAISO will utilize ATC for the term of the CPM designation, or for part of the term, only to the extent ATC is available at the time of the designation. If the CAISO designates import capacity under the CPM to address an annual or monthly RA deficiency, the CAISO will first utilize ATC to the extent any ATC is available for all or part of the term and, if no ATC is available, then it will utilize TRM.

#### **23.3.6 Annual Summer ATC and TRM Assessment Meeting with Stakeholders**

Before the summer season (May-October) each year, the CAISO will meet with stakeholders to discuss ATC and its components and expected conditions for the upcoming summer and the following year's summer. The CAISO will issue a Market Notice announcing the meeting(s) in accordance with the timeline specified in the Business Practice Manual.

#### **23.4 Obtaining a Monthly Wheeling Through Priority**

On the date specified in the annual Wheeling Through priority request calendar, the CAISO will open a request window whereby Scheduling Coordinators can submit a request for a priority for Wheeling Throughs for a month(s). Scheduling Coordinators can request a monthly Wheeling Through Priority for any month or months ATC is calculated and available, no sooner than twelve (12) months in advance and no later than one (1) month prior to the effective date of the priority. The CAISO will hold the request window open for fourteen (14) days. Closure of the request window each month will coincide with the closure of the monthly Resource Adequacy cure period under Section 40 for that month. At a minimum, Wheeling Through Priority requests for a month(s) must be supported by a six (6)-days-by-four (4)-hours firm power supply contract for each full week during the month plus the relevant days in any partial week during the month. The CAISO will make its determination regarding monthly Wheeling Through Priority awards no later than three (3) Business Days after the request window closes. The CAISO will treat all

requests for a monthly Wheeling Through Priority submitted during the request window as having been submitted simultaneously. The CAISO will treat all requests for a monthly priority during the request window as confidential during the request window period and treat them in accordance with Section 20 thereafter. The CAISO will award ATC to support Wheeling Through Priority requests based on the total number of hours of the requested priority (which must be supported by a firm power supply contract supporting the priority request for those hours) over the entire thirteen (13)-month horizon. Thus, supported priority requests for more hours during the thirteen (13)-month period will be awarded ATC before requests for fewer hours. For example, a priority request supported by a six (6)-days-by-sixteen (16)-hours power supply contract for one (1) month will have priority over a request supported by a six (6)-days-by-eight (8)-hours power supply contract for the same month; a priority request supported by a six (6)-days-by-four (4)-hours power supply contract for five (5) months will have priority over a request supported by a six (6)-days-by-eight (8)-hours power supply contract for just one (1) of those months. If there is a tie among requests and insufficient remaining ATC to accommodate all such priority requests for the month, the CAISO will allocate Wheeling Through priorities on a pro rata MW basis, or grant part of the ATC request, to those Scheduling Coordinators that indicated they would accept a pro rata allocation or partial awards. Wheeling Through Priority awards coming out of a monthly request window are unconditional and cannot be unwound by Wheeling Through Priority awards in subsequent request windows. A Scheduling Coordinator for a Priority Wheeling Through does not lose an awarded scheduling priority if it does not self-schedule the transaction in the Day-Ahead Market.

### **23.5 Obtaining a Daily Wheeling Through Priority**

The CAISO will open a request window each day whereby Scheduling Coordinators can request a daily Wheeling Through Priority or daily ATC to support an import into the CAISO Balancing Authority Area by a CAISO LSE (LSE ATC), for any day or days in that request window to the extent ATC is calculated and available, no sooner than seven (7) days in advance and no later than one (1) day prior to the effective date of the priority. The CAISO will hold the request window open for five (5) hours during the hours specified in the Business Practice Manual. At a minimum, Wheeling Through Priority requests in the Day-Ahead horizon must be supported by a firm power supply contract of at least four (4) hours for each day during the seven (7)-day horizon for which the Scheduling Coordinator seeks a Wheeling Through Priority

or LSE ATC. The CAISO will make its determination regarding daily Wheeling Through Priority awards no later than two (2) hours after the daily request window closes and one (1) hour before the Day-Ahead Market runs. The CAISO will treat all requests for a Wheeling Through Priority or LSE ATC for a day submitted during the request window as having been submitted simultaneously. The CAISO will treat all requests for a daily priority during the request window as confidential during the request window and in accordance with Section 20 thereafter. The CAISO will award ATC to support Wheeling Through Priority or LSE ATC requests based on the total number of hours of the requested priority (which must be supported by a firm power supply contract for the priority request for those hours) over the entire seven (7)-day horizon. Thus, supported priority requests for more hours during the seven (7)-day period will be awarded ATC before requests for fewer hours. For example, a priority request supported by a six (6)-days-by-sixteen (16)-hours power supply contract for one (1) day will have priority over a request supported by a six (6)-days-by-eight (8)-hours power supply contract for the same day; a priority request supported by a six (6)-days-by-four (4)-hours power supply contract for five (5) days will have priority over a request supported by a six (6)-days-by-eight (8)-hours power supply contract for one (1) of those days. If there is a tie among requests and insufficient remaining ATC to accommodate all such priority requests for the day, the CAISO will allocate Wheeling Through Priorities on a pro rata MW basis, or grant a part of the request, to those Scheduling Coordinators that indicated they would accept a pro rata allocation or a partial award. Awards of Wheeling Through Priorities or LSE ATC coming out of a daily request window are unconditional and cannot be unwound by Wheeling Through Priority or LSE ATC awards in subsequent daily request windows. A Scheduling Coordinator for a Priority Wheeling Through does not lose an awarded scheduling priority if it does not schedule in the Day-Ahead Market.

## **23.6 [Not Used]**

## **23.7 Use of ETC or TOR Capacity to Support a Wheeling Through Priority**

A Scheduling Coordinator may use ETC or TOR capacity to support a Wheeling Through Priority. The Scheduling Coordinator may use ETC or TOR capacity for that portion of the Wheeling Through Priority from the import Scheduling Point to the export Scheduling Point that is covered by the ETC or TOR capacity the Scheduling Coordinator chooses to use. The Scheduling Coordinator must use transmission capacity on the CAISO Controlled Grid to support the balance of the Wheeling Through Priority. The

Scheduling Coordinator will pay the applicable Wheeling Through Priority charges pursuant to Section 26.1.4.5 for the MW quantity of the Wheeling Through Priority.

### **23.8 Sale or Assignment of a Wheeling Through Priority**

#### **23.8.1 Procedures for Reselling a Monthly Wheeling Through Priority**

A Wheeling Through Priority Reseller Market Participant with a monthly Wheeling Through Priority may sell all or a portion of the MW quantity of its Wheeling Through Priority for the month, or remainder of the month or term, to another Market Participant (the assignee). The Wheeling Through Priority Reseller must notify the CAISO by the deadline specified in the Business Practice Manual, which will be before the effective date of any resale, and it cannot sell a priority MW amount for more MW or a longer term than it has. The Wheeling Through Priority Reseller must also attest to the CAISO its reason for reselling or assigning the priority. Any resale or assignment must be at the same import Scheduling Point as the original Wheeling Through Priority, but it may be at a different export Scheduling Point if the CAISO can accommodate such change and maintain the status of the Wheeling Through Priority. The compensation to Wheeling Through Priority Resellers for any sale of a Wheeling Through Priority will be at rates established by agreement between the Wheeling Through Priority Reseller and the assignee. The Scheduling Coordinator for the assignee will be subject to all applicable charges, terms, and conditions of the CAISO Tariff. The Scheduling Coordinator for the Assignee will receive the same priority as the Wheeling Through Priority Reseller at the same Scheduling Points of import into and export out of the CAISO Balancing Authority Area unless the CAISO has authorized a different export Scheduling Point to receive the Wheeling Through Priority. The CAISO will continue to charge the Wheeling Through Priority Reseller at the applicable Priority Wheeling Through rate for the term of its original Wheeling Through Priority. A Wheeling Through Priority Reseller will remain responsible for complying with all requirements of this Section 23. Resales of a Wheeling Through Priority only allow the transfer of a Wheeling Through Priority and do not convey to the assignee any other rights, and the assignee is not responsible to the CAISO for the Wheeling Through Priority Reseller's financial obligation to the CAISO for ultimate payment of the original Wheeling Through Priority, which obligation remains with the Wheeling Through Priority Reseller. A Wheeling Through Priority Reseller cannot resell or assign a Wheeling Through Priority for the purpose of enabling avoidance of the firm power supply contract requirement of Section 23.2.1.

**23.8.2 Information on Assignment or Transfer of a Wheeling Through Priority**

All sales or transfers of Wheeling Through priorities must be conducted or otherwise posted on the CAISO's OASIS on or before the date the reassigned priority commences. Wheeling Through Priority Resellers may also use the CAISO's OASIS to post priorities available for resale.

**23.8.3 Resales or Transfers of Capacity Directly from a TOR and ETC Rights Holder to an Assignee**

An ETC or TOR rights holder can resell or transfer ETC or TOR capacity if it is permitted to do so in the underlying contract and such sale or transfer is supported by any applicable TRTC instructions. If a holder of a TOR or ETC sells or transfers capacity that can support a Wheeling Through transaction, the assignee of such capacity will have the same rights and obligations as the holder of the TOR or ETC with respect to such capacity, including the associated scheduling priority and perfect hedge. The assignee will be subject to all applicable terms and conditions of the CAISO Tariff, including having a Scheduling Coordinator with a Scheduling Coordinator Agreement. The holder of the TOR or ETC must notify the CAISO of the sale, assignment, or transfer by the deadline specified in the Business Practice Manual. The holder of the TOR or ETC cannot sell, assign, or transfer more MW of capacity than it owns. The holder of the TOR or ETC must indicate the MW quantity sold, assigned, or transferred, the party to whom it sold, assigned, or transferred the capacity, and the start and end hours and dates of the transaction. The compensation from an assignee to the holder of a TOR or ETC for the sale or transfer of TOR or ETC rights to the assignee will be at rates established by the agreement between the holder of the TOR or ETC and the assignee and will occur outside of the CAISO's settlements systems and processes. The assignee will be responsible for all applicable CAISO charges associated with its use of the assigned capacity.

**23.9 TOR Capacity Made Available to the CAISO**

To the extent the holder of a TOR makes some or all of its TOR capacity available to the CAISO pursuant to a contract, the CAISO will implement the release of TOR capacity under the contract and reflect any released capacity in its ATC calculations as being available for new firm use and priority requests under Sections 23.4 and 23.5.



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**Section 26****26. Transmission Rates and Charges****26.1 Access Charge**

\* \* \* \* \*

**26.1.4 Wheeling**

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**26.1.4.5 Charges for Wheeling Through Priorities**

Scheduling Coordinators for customers with a monthly or daily Wheeling Through Priority awarded under Section 23 will pay the applicable Wheeling Access Charge, as illustrated in the Business Practice Manual, based on the MW amount and total hours of the priority for the applicable period of the Wheeling Through Priority. For example, a Scheduling Coordinator with a monthly Wheeling Through Priority based on a (six) 6-day-by-sixteen (16)-hours power supply contract would pay Wheeling Access Charges on a six (6)-day-by-sixteen (16)-hour basis for all applicable days during the entire month of the Wheeling Through Priority regardless of the Scheduling Coordinator's actual scheduled Priority Wheeling Throughs during that period. A Scheduling Coordinator with a one (1)-day Wheeling Through Priority based on an eight (8)-hour power supply contract would pay Wheeling Access Charges for eight (8) hours regardless of the Scheduling Coordinator's actual scheduled Wheeling Throughs during that day. To the extent a Scheduling Coordinator with a Wheeling Through Priority schedules a Wheeling Through transaction in excess of its Wheeling Through Priority quantity or outside of the hours associated with its Wheeling Through Priority, such volumes are not covered by the Wheeling Through Priority and will be separately charged at the applicable Wheeling Access Charge based on the amount of scheduled energy delivered.

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## **Section 36**

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### **36.9.2 Prepayment of Wheeling Access Charge**

#### **36.9.2.1 Prepayment of Wheeling Access Charge for Allocated CRRs**

An OBAALSE will be required to prepay relevant Wheeling Access Charges, to be calculated as described in this section and further specified in the Business Practice Manual, for the full term of the Monthly CRRs, Seasonal CRRs and Long Term CRRs it intends to nominate in order to participate in the CRR Allocation processes and be allocated CRRs. To be eligible for the allocation of Seasonal CRRs or Monthly CRRs the OBAALSE must submit the full required prepayment and have it accepted by the CAISO prior to the OBAALSE's submission of nominations for the relevant annual or monthly CRR Allocation, except as provided below in Section 36.9.2.2. To be eligible for nominations of Long Term CRRs, the OBAALSE must submit the full prepayment and have it accepted by the CAISO prior to the OBAALSE's submission of nominations of Long Term CRRs in Tier LT, except as provided below in Section 36.9.2.2. For each MW of Monthly CRR, Seasonal CRR or Long Term CRR to be nominated the nominating OBAALSE must prepay one MW of the relevant Wheeling Access Charge, which equals the per-MWh WAC that is associated with the Scheduling Point the OBAALSE intends to nominate as a CRR Sink and that is expected at the time the CRR Allocation process is conducted to be applicable for the period of the CRR nominated, times the number of hours comprising the period of the CRR nominated as further specified in the applicable Business Practice Manual. The CAISO will credit any monthly payment obligation for Wheeling Access Charges by an OBAALSE for a monthly Wheeling Through Priority obtained under Section 23.4, toward the OBAALSE's prepayment obligation in this section 36.9.2.1. Such OBAALSE must prepay the difference in accordance with the applicable prepayment timeline herein. The OBAALSE with a Wheeling Through Priority must prepay the difference in accordance with the applicable prepayment timeline. Any applicable credit check would be done based on the full value owed, including both the prepayment amount and the amount to be credited.

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## **Appendix A**

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### **- Wheeling Through Priority**

A Wheeling Through Priority allows a Scheduling Coordinator to self-schedule Priority Wheeling Throughs during the term and hours of the priority up to the MW quantity of the priority and at the import and export Scheduling Points authorized under the priority.

### **- Wheeling Through Priority Reseller**

An entity that resells, assigns, or otherwise transfers a monthly or long-term Wheeling Through Priority. A Wheeling Through Priority Reseller can be the original priority rights holder or an assignee of a monthly Wheeling Through Priority.

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## **Appendix L-1**

The provisions of this Appendix L-1 apply to the calculation of ATC to establish Wheeling Through Priorities that will be effective beginning June 1, 2024 and thereafter.

### **Appendix L-1 Method to Assess Available Transfer Capability**

#### **L.1 Description of Terms**

The following descriptions augment existing definitions found in Appendix A "Master Definitions Supplement."

##### **L.1.1 Available Transfer Capability (ATC)** is a measure of the transfer capability in the physical transmission network resulting from system conditions and that remains available for further commercial activity over and above already committed uses.

For purposes of determining ATC in the market optimization, ATC is defined as the Total Transfer Capability (TTC) less the Transmission Reliability Margin (TRM), less the sum of any unused existing transmission commitments (ETComm), less the Capacity Benefit Margin (CBM) (which value is set at zero), less the Scheduled Net Energy from Imports/Exports, less Ancillary Service capacity from Imports.

**L.1.2 Total Transfer Capability (TTC)** is defined as the amount of electric power that can be moved or transferred reliably from one area to another area of the interconnected transmission system by way of all transmission lines (or paths) between those areas, under specified system conditions. In collaboration with owners of rated paths, the CAISO utilizes rated system path methodology to establish the TTC of CAISO Transmission Interfaces.

**L.1.3 Existing Transmission Commitments (ETComm)** include (1) transmission capacity for Existing Contracts (ETC) and Transmission Ownership Rights (TOR), (2) transmission capacity for Wheeling Through Priorities, and (3) Native Load needs determined in accordance with this Appendix L-1, including Native Load growth in the applicable horizon and ATC Load Serving Entities acquire in the daily request window.

**L.1.3.1 Transmission Capacity for ETC and TOR** – The CAISO uses the ETC Reservations Calculator (see Section L.1.3.1.1) to reserve transmission capacity for each ETC and TOR based on TRTC Instructions the responsible Participating Transmission Owner or Non-Participating Transmission Owner submits to the CAISO as to the amount of firm transmission capacity that should be reserved on each Transmission Interface for each hour of the Trading Day in accordance with Sections 16 and 17 of the CAISO Tariff. The types of TRTC Instructions the CAISO receives generally fall into three basic categories:

- The ETC or TOR reservation is a fixed percentage of the TTC on a line, which decreases as the TTC is derated (ex.  $TTC = 300 \text{ MW}$ ,  $ETC \text{ fixed percentage} = 2\%$ ,  $ETC = 6 \text{ MWs}$ ,  $TTC \text{ derated to } 200 \text{ MWs}$ ,  $ETC = 4 \text{ MWs}$ );
- The ETC or TOR reservation is a fixed amount of capacity, which decreases if the line's TTC is derated below the reservation level (ex.  $ETC = 80 \text{ MWs}$ ,  $TTC \text{ declines to } 60 \text{ MW}$ ,  $ETC = TTC \text{ or } 60 \text{ MWs}$ ; or
- The ETC or TOR reservation is determined by an algorithm that changes at various levels of TTC for the line (ex. Intertie  $TTC = 3,000 \text{ MWs}$ , when line is operating greater than  $2,000 \text{ MWs}$  to full capacity  $ETC = 400 \text{ MWs}$ , when capacity is below  $2000 \text{ MWs}$   $ETC = TTC/2000 * ETC$ ).

Existing Contract capacity reservations remain reserved during the Day-Ahead Market and through the FMM. To the extent that the reservations are unused after the FMM has been run for a given fifteen-minute interval, then the capacity reservations are released for the three RTD intervals within that fifteen-minute interval.

Transmissions Ownership Rights capacity reservations remain reserved during the Day-Ahead Market and Real-Time Market. This capacity is under the control of the Non-Participating Transmission Owner and is not released to the CAISO for use in the markets

**L.1.3.1.1 ETC Reservations Calculator (ETCC).** The ETCC calculates the amount of firm transmission capacity reserved (in MW) for each ETC or TOR on each Transmission Interface for each hour of the Trading Day.

- **CAISO Updates to ETCC Reservations Table.** The CAISO updates the ETC and TOR reservations table (if required) prior to Market Close of the DAM and prior to Market Close of the RTM. The amount of transmission capacity reservation for ETC and TOR rights is determined based on the TTC of each Transmission Interface and in accordance with the curtailment procedures stipulated in the existing agreements and provided to the CAISO by the responsible Participating Transmission Owner or Non-Participating Transmission Owner.
- **Market Notification.** ETC and TOR allocation (MW) information is published for all

Scheduling Coordinators which have ETC or TOR scheduling responsibility in advance of the Day-Ahead Market and the Real-Time Market. This information is posted on the Open Access Same-Time Information System (OASIS).

- For further information, see CAISO Operating Procedure M-423, Scheduling of Existing Transmission Contract and Transmission Ownership Rights, which is publicly available on the CAISO Website.

**L.1.3.2 Wheeling Through Priorities** – ETComm include transmission capacity for Wheeling Through Priorities pursuant to Sections 23.4, 23.5, and 23.6 of the CAISO Tariff.

The ATC for Wheeling Through Priorities is calculated based on the following formula which distinguishes it from ATC in the market optimization:

$$\text{ATC} = \text{TTC} - \text{ETComm} - \text{TRM}$$

**L.1.3.3 Native Load Needs** – ETComm include transmission capacity at the Interties that is set aside to meet Native Load needs. The amount of such transmission capacity (apart from the amount of transmission capacity to serve expected Native Load growth as described below) at each Intertie for each calendar month equals the highest MW quantity of total Resource Adequacy and non-Resource Adequacy import supply under contract to Load Serving Entities (LSEs) dedicated to serving their load as demonstrated by Resource Adequacy showings, and non-Resource Adequacy contract showings under Section 23.3 at the Intertie for that same calendar month during the previous two (2) years, as may be adjusted under Sections L.1.3.3.2 and L.1.3.3.3.

**L.1.3.3.1 Native Load Growth** – Transmission capacity at the Interties that is set aside in ETComm to meet Native Load needs also includes transmission capacity to serve expected Native Load growth in the rolling thirteen (13)-month horizon. The amount of such transmission capacity at each Intertie set aside in ETComm to meet Native Load growth will be calculated by comparing the CEC load forecast for the applicable future period to the forecasts used to set CAISO Resource Adequacy requirements applicable to that period for the previous two (2) years to determine an overall Native Load growth amount and then assigning a portion of this expected Native Load growth amount to each Intertie using the highest ratio of Resource Adequacy imports shown for that calendar month to total Resource Adequacy capacity shown for that calendar month during the previous two (2) years.

**L.1.3.3.2 Adjustments to Native Load Needs Based on New Contract Information** – The CAISO will use applicable contract information provided in accordance with, and meeting the requirements of, Section 23.3 of the CAISO Tariff to update the historical RA import supply or non-RA import supply data described in this Section L.1.3.3 to improve the accuracy of the calculation of Native Load needs calculated thirteen (13) months before the applicable calendar month.

**L.1.3.3.3 Monthly Update of Native Load Needs** – Following the RA and non-RA import contract showings at the end of the Resource Adequacy cure period under Section 40 of the CAISO Tariff, the CAISO will update or “true up” the amount of transmission capacity set aside in ETComm to meet Native Load needs at each Intertie to include the sum of the most recent actual showings of (i) Resource Adequacy import supply contained in monthly Resource Adequacy Plans and (ii) non-RA import supply to be delivered at the Intertie reported to the CAISO for that same calendar month. The CAISO will also use the updated ATC values for native load following the month-ahead Resource Adequacy and non-Resource Adequacy contract showings to calculate daily ATC for Native Load during the applicable month, while also accounting for any applicable CPM designations that utilize ATC. Any contract that is not shown to the CAISO by the end of the

Resource Adequacy cure period under Section 40 cannot count for purposes of setting aside Native Load capacity for the applicable month.

If the amount of transmission capacity set aside at an Intertie to meet Native Load needs for a calendar month based on RA and non-RA import showings for that month under Sections L.1.1.1 and L.1.3.3.2 (and including transmission capacity to serve expected Native Load growth under Section L.1.3.3.1) is greater than the most recent actual showings of Resource Adequacy import supply contained in monthly Resource Adequacy Plans and non-Resource Adequacy import supply to be delivered at the Intertie for that same month, the resulting excess transmission capacity will be released as ATC and will be available for awarding as monthly Priority Wheeling Throughs pursuant to the monthly request window process in Section 23.4 of the CAISO Tariff. If the amount of transmission capacity set aside at an Intertie to meet Native Load needs for a calendar month based on Resource Adequacy and non-Resource Adequacy import showings for that month under Sections L.1.1.1 and L.1.3.3.2 (and including transmission capacity to serve expected Native Load growth under Section L.1.3.3.1) plus the amount of TRM set aside to account for uncertainty associated with actual monthly Resource Adequacy and non-Resource Adequacy showings, is less than the most recent actual showings of Resource Adequacy import supply contained in monthly Resource Adequacy Plans and non-Resource Adequacy import supply to be delivered at the Intertie for that same month, the ATC at the Intertie that has not been awarded in a prior monthly request window, will be reduced to account for the additional Resource Adequacy and non-Resource Adequacy import showings at the Intertie that are unrelated to any change in the planning reserve margin. If no ATC remains at an Intertie because it has been awarded in prior months' request windows pursuant to Section 23.4 of the CAISO Tariff, and the TRM cannot accommodate all native load needs, then the amount of transmission capacity set aside at the Intertie to meet Native Load needs for a calendar month, including transmission capacity to serve expected Native Load growth, will remain as originally calculated by the CAISO even if the actual Resource Adequacy and non-Resource Adequacy import contract showings for the month exceed the amount of ATC the CAISO has set aside for Native Load in accordance with Sections L.1.3.3, L.1.3.3.1, and L.1.3.3.2. Under these circumstances, the CAISO will continue to honor the scheduling priority of the Wheeling Through transactions for which ATC has been awarded. The examples below in this Section L.1.3.3.3 illustrate the aforementioned processes.

For example, if the Native Load set-aside value under Sections L.1.3.3, L.1.3.3.1, and L.1.3.3.2 for a particular Intertie for the month of May is 1,000 MW, and only 900 MW of Resource Adequacy and non-Resource Adequacy import capacity is actually shown on that Intertie in the monthly showing process for the month of May, the CAISO will release an additional 100 MW of ATC on that Intertie that can be awarded a monthly Wheeling Through Priority for May through the request window that closed at the same time as the monthly Resource Adequacy and non-Resource Adequacy import showing deadline for May.

Also, for example, assume the following: the Native Load set-aside value under Sections L.1.3.3, L.1.3.3.1, and L.1.3.3.2 for the month of May is 1,000 MW; the amount set aside for Native Load based on historical showings is 10 MW at the Intertie; at the start of the monthly request window for May, there is 100 MW of ATC for the month of May that has not been awarded to Wheeling Throughs in prior months' request windows; and 1,100 MW of Resource Adequacy and non-Resource Adequacy import capacity is actually shown on the Intertie in the monthly showing process for the month of May. Under these circumstances, the CAISO will reduce the ATC on the Intertie by 100 MW assuming the 100 MW are not associated with an increase in the planning reserve margin for which an amount has been set aside in the load forecast uncertainty component of the TRM. If the 100 MW were associated with an increase in the planning reserve margin and not simply a difference between historic values and the monthly Resource Adequacy and non-Resource Adequacy contract values and assuming the CAISO had set aside 90 MW in the TRM load forecast uncertainty component to account for changes in the planning reserve margin, then ten (10) MW of the excess monthly showings will be supported by the TRM

component, and 10 MW of ATC will be available for awarding as monthly Priority Wheeling Throughs for May.

Finally, assume the circumstances in the prior example except there is zero MW of ATC available prior to the Resource Adequacy and non-Resource Adequacy showing deadline and the start of the request window for ATC for the month of May. The CAISO will continue to honor all of the ATC that has been previously awarded to Priority Wheeling Throughs in prior monthly request windows, and no additional ATC will be available for the actual Resource Adequacy and non-Resource Adequacy showings above the historic values used to set ATC. If the excess Resource Adequacy and non-Resource Adequacy showings were associated with an increase in the planning reserve margin, 90 MW of the excess monthly showings will be supported by the TRM component that accounts for such load forecast uncertainty.

#### **L.1.4 [Not Used]**

**L.1.5 Transmission Reliability Margin (TRM)** is an amount of transmission transfer capability reserved at a CAISO Intertie point that is necessary to provide reasonable assurance that the interconnected transmission network will be secure. TRM accounts for the inherent uncertainty in system conditions and the need for operating flexibility to ensure reliable system operation as system conditions change.

The CAISO uses TRM at Intertie points to account for NERC-approved components of uncertainty as described in the Transmission Reliability Margin Implementation Document (TRM Document), including:

- Forecast uncertainty in transmission system topology, including forced or unplanned outages or maintenance outages.
- Allowances for parallel path (loop flow) impacts, including unscheduled loop flow.
- Allowances for simultaneous path interactions.
- Aggregate load forecast uncertainty.
- Variations in generation dispatch (including, but not limited to, forced or unplanned Outages, maintenance Outages, and future resource conditions).

The CAISO will establish TRM in all applicable horizons, including monthly and daily, and may change (increase or decrease) TRM values across all such horizons, including prior to Market Close of the DAM and RTM. To the extent TRM values are decreased in a given horizon, additional ATC would become available in that horizon.

The methodology the CAISO uses to establish each component of uncertainty is as follows:

The CAISO uses the transmission system topology component of uncertainty to address a potential ATC path limit reduction at an Intertie resulting from an emerging event, such as an approaching wildfire, that is expected to cause a derate of one or more transmission facilities comprising the ATC path. When the CAISO, based on existing circumstances, forecasts that such a derate is expected to occur, the CAISO may establish a TRM value for the affected ATC path in an amount up to, but no greater than, the amount of the expected derate. The CAISO will set the transmission system topology component of uncertainty as a percentage of TTC pursuant to the CAISO TRM Implementation Document, throughout the rolling thirteen (13)-month horizon set forth in Section L.3, on Interties where the CAISO has historically relied upon import supply to serve load. The CAISO can change the TRM for any applicable horizon as circumstances

change.

The CAISO uses the parallel path component of uncertainty to address the impact of unscheduled flow (USF) over an ATC path that is expected, in the absence of the TRM, to result in curtailment of Intertie Schedules in Real Time as a result of the requirements established in WECC's applicable USF mitigation policies and procedures (WECC USF Policy). When the CAISO forecasts, based on currently observed USF conditions and projected scheduled flow for an upcoming Operating Hour(s), that in the absence of a TRM, scheduled flow will need to be curtailed in Real Time under the applicable WECC USF Policy, the CAISO may establish a TRM for the ATC path for the applicable hour(s) in an amount up to, but no greater than, the forecasted amount that is expected to be curtailed in Real Time pursuant to the WECC USF Policy.

The CAISO uses the simultaneous path interactions component of uncertainty to address the impact that transmission flows on an ATC path located outside the CAISO's Balancing Authority Area may have on the transmission transfer capability of an ATC path located at an Intertie. In the event of such path interactions, the CAISO uses a TRM value to prevent the risk of a system operating limit violation in Real Time for the CAISO ATC path. The amount of the TRM value may be set at a level up to, but not greater than, the forecasted impact on the CAISO ATC path's capacity imposed by expected flow on the non-CAISO ATC path.

The CAISO uses the aggregate load forecast component of uncertainty to address load forecast uncertainty at selected Interties. The CAISO will set this component of uncertainty as a percentage of TTC pursuant to the CAISO TRM Implementation Document, across the rolling thirteen (13)-month horizon and the rolling seven (7)-day horizon, on Interties where the CAISO has historically relied upon import supply to serve load. The load forecast component of the TRM may include sub-components to account for (1) changes ordered by Local Regulatory Authorities in planning reserve margins or resource procurement requirements for Load Serving Entities, and (2) load forecast changes.

The CAISO uses the variations in generation dispatch component of uncertainty to address variations in generation dispatch driven by resource outages or other conditions to recognize that, in some circumstances, supply may have to be replaced or additional supply may have to be brought into the system to meet the changing needs. For example, the TRM may account for the unavailability of solar energy during the net-peak load period, the unavailability of hydroelectric capacity during drought conditions, or wind capacity not performing at its Net Qualifying Capacity. The CAISO will set this component of uncertainty as a percentage of TTC pursuant to the CAISO TRM Implementation Document, across the rolling thirteen (13)-month horizon and the rolling seven (7)-day horizon, on Interties where the CAISO has historically relied upon import supply to serve load.

The CAISO uses the following databases or information systems, or their successors, in connection with establishing TRM values: the CAISO's outage management system pursuant to Section 9, Existing Transmission Contract Calculator (ETCC), PI, EMS, and CAS.

**L.1.6 Capacity Benefit Margin (CBM)** is that amount of transmission transfer capability reserved for LSEs to ensure access to Generation from interconnected systems to meet generation reliability requirements. In the Day-Ahead Market, CBM may be used to provide reliable delivery of Energy to CAISO Balancing Authority Area Loads and to meet CAISO responsibility for resource reliability requirements in Real-Time. The purpose of this DAM implementation is to avoid Real-Time Schedule curtailments and firm Load interruptions that would otherwise be necessary. CBM may be used to reestablish Operating Reserves. CBM is not available for non-firm transmission in the CAISO Balancing Authority Area. CBM may be used only after:

- all non-firm sales have been terminated,



- direct-control Load management has been implemented,
- customer interruptible Demands have been interrupted,
- if the LSE calling for its use is experiencing a Generation deficiency and its transmission service provider is also experiencing Transmission Constraints relative to imports of Energy on its transmission system.

The level of CBM for each Transmission Interface is determined by the amount of estimated capacity needed to serve firm Load and provide Operating Reserves based on historical, scheduled, and/or forecast data using the following equation to set the maximum CBM:

$$\text{CBM} = (\text{Demand} + \text{Reserves}) - \text{Resources}$$

Where:

- Demand = forecasted area Demand
- Reserves = reserve requirements
- Resources = internal area resources plus resources available on other Transmission Interfaces

The CAISO does not use CBMs. The CBM value is set at zero.

## **L.2 ATC Algorithm for Market Optimization**

The ATC algorithm in the market is a calculation used to determine the transfer capability remaining in the physical transmission network and available for further commercial activity and optimization over and above already committed uses. The CAISO posts the ATC values in megawatts (MW) to OASIS in conjunction with the Market Close for the Day-Ahead Market and Real-Time Market process.

The following OASIS ATC algorithms are used to implement the CAISO ATC calculation for the ATC rated path (Transmission Interface):

ATC Calculation For Imports:

$$\text{ATC} = \text{TTC} - \text{CBM} - \text{TRM} - \text{AS from Imports} - \text{Net Energy Flow} - \text{Hourly Unused TR Capacity}.$$

ATC Calculation For Exports:

$$\text{ATC} = \text{TTC} - \text{CBM} - \text{TRM} - \text{Net Energy Flow} - \text{Hourly Unused TR Capacity}.$$

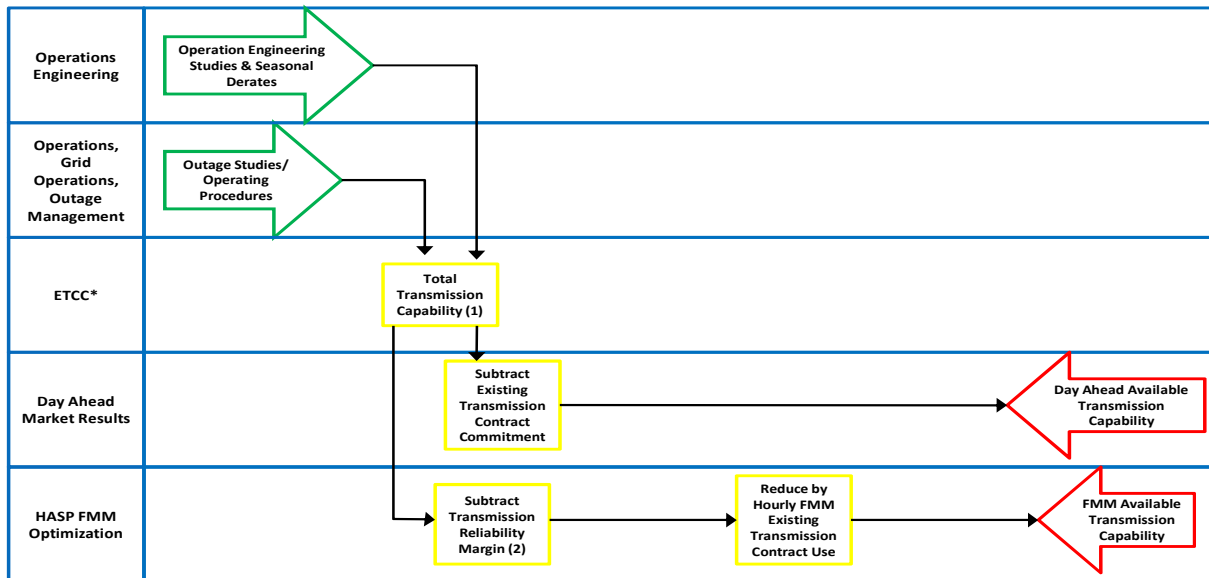
The specific data points used in the ATC calculation are each described in the following table.

ATC	ATC MW	Available Transfer Capability, in MW, per Transmission Interface and path direction.
Hourly Unused TR Capacity	USAGE_MW	The sum of any unscheduled existing transmission commitments (scheduled transmission rights capacity for ETC or TOR), in MW, per path direction.
Scheduled Net Energy from Imports/Exports (Net Energy Flow)	ENE IMPORT MW	Total hourly net Energy flow for a specified Transmission Interface.
AS from Imports	AS IMPORT MW	Ancillary Services scheduled, in MW, as imports over a specified Transmission Interface.
TTC	TTC MW	Hourly Total Transfer Capability of a specified Transmission Interface, per path direction, with consideration given to known Transmission Constraints and operating limitations.
CBM	CBM MW	Hourly Capacity Benefit Margin, in MW, for a specified Transmission Interface, per Path Direction.
TRM	TRM MW	Hourly Transmission Reliability Margin, in MW, for a specified Transmission Interface, per path direction.

Actual ATC mathematical algorithms and other ATC calculation information are located in the CAISO's ATC Implementation Document (ATCID) posted to the CAISO Website.

### L.3 ATC Process Flowchart and Calculation Periods

#### Available Transmission Capability



\*ETCC – Existing Transmission Contract Calculator

(1) – WECC rated path methodology

(2) - See TRMID posted on OASIS

The CAISO will calculate ATC on the Interties each calendar month across a rolling thirteen (13)-month horizon. The CAISO will also calculate ATC on the Interties each day prior to the close of the Day-Ahead Market across a rolling seven (7)-day horizon, and will publish the resulting ATC values daily on OASIS.

#### **L.4 TTC Determination**

All transfer capabilities are developed to ensure that power flows are within their respective operating limits, both pre-Contingency and post-Contingency. Operating limits are developed based on thermal, voltage and stability concerns according to industry reliability criteria (WECC/NERC) for transmission paths. The process for developing TTC also requires the inclusion or exclusion of operating Transmission Constraints based on system conditions being studied.

**L.4.1** Transfer capabilities for studied configurations may be used as a maximum transfer capability for similar conditions without conducting additional studies. Increased transfer capability for similar conditions must be supported by conducting appropriate studies.

**L.4.1.2** At the CAISO, studies for all major inter-area paths' (mostly 500 kV) TTC are governed by the California Operating Studies Subcommittee (OSS), which provides detailed criteria and methodology. For transmission system elements below 500 kV the methodology for calculating these flow limits is detailed in Section L.4.3 and is applicable to the operating horizon.

**L.4.2** Transfer capability may be limited by the physical and electrical characteristics of the systems including any one or more of the following:

- **Thermal Limits** - Thermal limits establish the maximum amount of electric current that a transmission line or electrical facility can conduct over a specified time-period as established by the Transmission Owner.
- **Voltage Limits** - System voltages and changes in voltages must be maintained within the range of acceptable minimum and maximum limits to avoid a widespread collapse of system voltage.
- **Stability Limits** - The transmission network must be capable of surviving disturbances through the transient and dynamic time-periods (from milliseconds to several minutes, respectively) following the disturbance so as to avoid generator instability or uncontrolled, widespread interruption of electric supply to customers.

**L.4.3 Determination of transfer capability** is based on computer simulations of the operation of the interconnected transmission network under a specific set of assumed operating conditions. Each simulation represents a single "snapshot" of the operation of the interconnected network based on the projections of many factors. As such, they are viewed as reasonable indicators of network performance and may ultimately be used to determine Available Transfer Capability. The study is meant to capture the worst operating scenario based on experience and good engineering judgment.

**L.4.3.1 System Limits** – The transfer capability of the transmission network may be limited by the physical and electrical characteristics of the systems including thermal, voltage, and stability consideration. Once the critical Contingencies are identified, their impact on the network must be evaluated to determine the most restrictive of those limitations. Therefore, the TTC becomes:

TTC = lesser of {Thermal Limit, Voltage Limit, Stability Limit} following contingencies consistent with requirements of the NERC Reliability Standards

**L.4.4** The CAISO may update the determination of TTC to be used in the calculation of daily ATC across a rolling seven (7)-day horizon to reflect current information on the anticipated transfer

capability of the transmission network, including information on Outages affecting the transfer capability on Interties.

## **L.5 Developing a Power Flow Base-Case**

**L.5.1 Base-cases** will be selected to model reality to the greatest extent possible including attributes like area Generation, area Load, Intertie flows, etc. At other times (e.g., studying longer range horizons), it is prudent to stress a base-case by making one or more attributes (Load, Generation, line flows, path flows, etc.) of that base-case more extreme than would otherwise be expected.

### **L.5.2 Update a Power Flow Base-Case**

The selected base-case will be updated to represent the current grid conditions during the applicable season. The following will be considered to update the base-cases:

- Recent transmission network changes and updates
- Overlapping scheduled and Forced Outages
- Area Load level
- Major path flows
- Generation level
- Voltage levels
- Operating requirements

#### **L.5.2.1 Outage Consideration**

Unless detailed otherwise, the CAISO considers modeling Outages of:

- Transmission lines, 500 kV
- Transformers, 500/230 kV
- Large Generating Units
- Generating Units within the studied area
- Transmission elements within the studied area

At the judgment of the CAISO, only the necessary Outages will be modeled to avoid an unnecessarily burdensome and large number of base-cases.

#### **L.5.2.2 Area Load Level**

Base-case Demand levels should be appropriate to the current studied system conditions and customer Demand levels under study and may be representative of peak, off-peak or shoulder, or light Demand conditions. The CAISO estimates the area Load levels to be utilized in the peak, partial-peak and/or off-peak base-cases. The CAISO will utilize the current CAISO Load forecasting program (e.g., ALFS), ProcessBook (PI) or other competent method to estimate Load level for the studied area. Once the appropriate Load levels are determined, the CAISO may scale the base-case Loads to the area studied, as appropriate.

**L.5.2.3 Modify Path Flows**

The scheduled electric power transfers considered representative of the base system conditions under analysis and agreed upon by the parties involved will be used for modeling. As needed, the CAISO may estimate select path flows depending on the studied area. In the event that it is not possible to estimate path flows, the CAISO will make safe assumptions about the path flows. A safe assumption is more extreme or less extreme (as conservative to the situation) than would otherwise be expected. If path flow forecasting is necessary, if possible the CAISO will trend path flows on previous similar days.

**L.5.2.4 Generation Level**

Utility and non-utility Generating Units will be updated to keep the swing Generating Unit at a reasonable level. The actual unit-by-unit Dispatch in the studied area is more vital than in the un-studied areas. The CAISO will examine past performance of select Generating Units to estimate the Generation levels, focusing on the Generating Units within the studied area. In the judgment of the CAISO, large Generating Units outside the studied area will also be considered.

**L.5.2.5 Voltage Levels**

Studies will maintain appropriate voltage levels, based on operation procedures for critical buses for the studied base-cases. The CAISO will verify that bus voltage for critical buses in within tolerance. If a bus voltage is outside the tolerance band, the CAISO will model the use of voltage control devices (e.g., synchronous condensers, shunt capacitors, shunt reactors, series capacitors, generators).

**L.6 Contingency Analysis**

Contingency analysis studies are performed in an effort to determine the limiting conditions, especially for scheduled Outages, including pre- and post-Contingency power flow analysis modeling pre- and post-Contingency conditions and measuring the respective line flows, and bus voltages.

Other studies like reactive margin and stability may be performed as deemed appropriate.

**L.6.1 Operating Criteria and Study Standards**

Using standards derived from NERC and WECC Reliability Standards and historical operating experience, the CAISO will perform Contingency analysis with the following operating criteria:

**Pre-Contingency**

- All pre-Contingency line flows shall be at or below their normal ratings.
- All pre-Contingency bus voltages shall be within a pre-determined operating range.

**Post-Contingency**

- All post-Contingency line flows shall be at or below their emergency ratings.
- All post-Contingency bus voltages shall be within a pre-determined operating range.

The CAISO simulates the appropriate Contingencies as required by applicable NERC and WECC Reliability Standards and criteria.

**L.6.2 Manual Contingency Analysis**

If manual Contingency analysis is used, the CAISO will perform pre-Contingency steady-state power flow analysis and determines if pre-Contingency operating criteria is violated. If pre-

Contingency operating criteria cannot be preserved, the CAISO records the lines and buses that are not adhering to the criteria. If manual post-Contingency analysis is used the CAISO obtains one or more Contingencies in each of the base cases. For each Contingency resulting in a violation or potential violation in the operating criteria above, the CAISO records the critical post-Contingency facility loadings and bus voltages.

**L.6.3 Contingency Analysis Utilizing a Contingency Processor**

For a large area, the CAISO may utilize a Contingency processor.

**L.6.4 Determination of Crucial Limitations**

After performing Contingency analysis studies, the CAISO analyzes the recorded information to determine limitations. The limitations are conditions where the pre-Contingency and/or post-Contingency operating criteria cannot be conserved and may include a manageable overload on the facilities, low post-Contingency bus voltage, etc. If no crucial limitations are determined, the CAISO determines if additional studies are necessary.

**L.7 Traditional Planning Methodology to Protect Against Violating Operating Limits**

After performing Contingency analysis studies, the CAISO next develops the transfer capability and develops procedures, Nomograms, RMR Generation requirements, or other Transmission Constraints to ensure that transfer capabilities respect operating limits.

**L.8 Limits for Contingency Limitations**

Transfer limits are developed when the post-Contingency loading on a transmission element may breach the element's emergency rating. The type of limit utilized is dependent on the application and includes one of the following limits:

- Simple Flow Limit - best utilized when the derived limit is repeatable or where parallel transmission elements feed radial Load.
- RAS - existing Remedial Action Schemes (RAS) may impact the derivation of simple flow limits. When developing the limit, the CAISO determines if the RAS will be in-service during the Outage and factors the interrelationship between the RAS and the derived flow limit. The CAISO will update the transfer limits in recognition of the changing status and/or availability of the RAS.

\* \* \* \* \*

**Attachment B – Marked Tariff (effective November 1, 2023)**

**Tariff Amendment Filing**

**Short-Term Wheeling Through Self-Schedule Priorities**

**California Independent System Operator Corporation**

**July 28, 2023**

## **Section 23**

### **23. ~~Categories of~~ Transmission Capacity**

#### **23.1 Categories of Transmission Capacity**

References to new firm uses shall mean any use of CAISO transmission service, except for uses associated with Existing Rights or TORs. Prior to the start of the Day-Ahead Market, for each Balancing Authority Area Transmission Interface, the CAISO will allocate the forecasted Total Transfer Capability of the Transmission Interface to four categories. This allocation will represent the CAISO's best estimates at the time, and is not intended to affect any rights provided under Existing Contracts or TORs. The CAISO's forecast of Total Transfer Capability for each Balancing Authority Area Transmission Interface will depend on prevailing conditions for the relevant Trading Day, including limiting operational conditions. This information will be posted on OASIS in accordance with this CAISO Tariff. The four categories are as follows:

- (a) transmission capacity that must be reserved for firm Existing Rights;
- (b) transmission capacity that must be allocated for use as CAISO transmission service, including transmission capacity for CAISO Demand and Priority Wheeling Through and non-Priority Wheeling Through transactions (*i.e.*, "new firm uses");
- (c) transmission capacity that may be allocated by the CAISO for conditional firm Existing Rights; and
- (d) transmission capacity that may remain for any other uses, such as non-firm Existing Rights for which the Responsible PTO has no discretion over whether or not to provide such non-firm service.

#### **23.2 Accessing Available Transfer Capability**

The provisions of Sections 23.2 through 23.9 apply to Wheeling Through Priorities and Priority Wheeling Through transactions that will be effective beginning June 1, 2024 and thereafter.

##### **23.2.1 General Requirements For Monthly or Daily Requests for a Wheeling Through Priority**

Scheduling Coordinators may obtain a monthly or daily Wheeling Through Priority to support Priority Wheeling Throughs under the process in this Section 23. A Scheduling Coordinator can submit a request



for a Wheeling Through Priority for a given month(s) up to twelve (12) months before the month for which it seeks the priority and for a day(s) up to seven (7) days before the day for which it seeks a priority. To be eligible for a Wheeling Through Priority for a month(s) or day(s), the Scheduling Coordinator for an external load serving entity, or the Scheduling Coordinator for a seller of Energy to the external load serving entity, must submit a Wheeling Through Priority request and attest to the following: (1) the Wheeling Through Priority request is supported by an executed firm power supply contract to serve an external load serving entity's load, a firm power supply contract to serve an external load serving entity's load where execution is contingent upon the availability of a Wheeling Through Priority on the CAISO system, or the external load serving entity's ownership of an external resource to serve external load; (2) the MW quantity of the firm power supply contract with an external load serving entity supporting the request and the Scheduling Points which the Energy will be imported to and exported from the CAISO Controlled Grid; (3) the start and end dates of the contract and the specific hours during the month or day covered by the power supply contract and for which the Scheduling Coordinator seeks a Wheeling Through Priority; (4) any information specified in the Business Practice Manual has been provided; and (5) whether the Scheduling Coordinator is willing to accept a pro rata allocation of capacity, or an award of only part of its request, if the result of the monthly or daily request window process in Sections 23.4 and 23.5, respectively, is that there is insufficient ATC to accommodate the entire request, because of a tie among competing requesters or for some other reason. The same MW in a firm power supply contract cannot support a Wheeling Through Priority for both the seller and the buyer for the same period of time. Scheduling Coordinators cannot seek, and the CAISO will not award in the request window processes specified in Section 23.4 and 23.5, a monthly or daily Wheeling Through Priority for a MW quantity greater than the MW quantity in the underlying power supply contract or for a period greater than or non-coincident with the hours of the underlying firm power supply contract, or for a MW quantity or duration greater than the physical and operational capabilities of the external load serving entity's resource, whichever is applicable. Thus, for any month or day, an awarded Wheeling Through Priority will only apply during the hours of the underlying power supply contract and no other hours. For example, if the supporting power supply contract is a six (6)-days-by-sixteen (16)-hours contract, the priority will only apply to Priority Wheeling Throughs that the Scheduling Coordinator self-schedules during those

specified hours. The minimum duration of any power supply contract that can support a monthly or daily Wheeling Through Priority is specified in Sections 23.4 and 23.5, respectively. All other Wheeling Throughs without a priority will be considered non-Priority Wheeling Throughs. Priority Wheeling Throughs will have a priority equal to CAISO Demand as set forth in Sections 31.4 and 34.12.1.

### **23.2.2 Nature of a Wheeling Through Priority**

A Wheeling Through Priority does not convey a physical transmission right and is not a physical reservation of transmission service. A Wheeling Through Priority only accords a priority when a Scheduling Coordinator actually schedules a Priority Wheeling Through transaction on a given day (as new firm use in the CAISO markets). A Priority Wheeling Through accords the Scheduling Coordinator the highest scheduling priority of new firm use, equal to the priority of CAISO Demand. If a Scheduling Coordinator does not actually schedule a Priority Wheeling Through on a given day that it has the right, the Wheeling Through Priority is inapplicable.

### **23.2.3 Termination or Modification of a Firm Power Supply Agreement Underlying a Monthly or Daily Wheeling Through Priority**

- (a) If the firm power supply contract supporting the Wheeling Through Priority is terminated for any reason or is modified such that the MW quantity, hours of service, import point, or export point changes, the Scheduling Coordinator with a monthly or daily Wheeling Through Priority must notify the CAISO by the earlier of (i) five (5) Business Days after the effective date of the termination or (ii) eleven (11) Business Days before the date any Priority Wheeling Through transaction would actually occur under the awarded priority. The Scheduling Coordinator will also attest to the circumstances surrounding and reason for termination or modification of the underlying firm power supply contract.
- (b) If the supporting firm power supply contract is terminated eleven (11) or more Business Days before the date on which the Scheduling Coordinator with the Wheeling Through Priority can first schedule a Priority Wheeling Through transaction using its Wheeling Through Priority, the Wheeling Through Priority will terminate unless the Scheduling Coordinator can demonstrate an equivalent replacement power supply contract (including MW quantity, import and export points, and service hours) by the earlier of (i) sixty (60)

days from the date of termination, or (ii) eleven (11) Business Days before the date any Priority Wheeling Through transaction would actually occur under the awarded priority, provided the Wheeling Through Priority will be prorated if the replacement contract is for a lower MW quantity or for fewer hours than the original contract. If the Scheduling Coordinator decides it will not seek to replace the terminated power supply contract, it must notify the CAISO within five (5) Business Days of that decision, but no later than eleven (11) Business Days before the date any Priority Wheeling Through transaction would actually occur under the awarded priority. The CAISO will account for any capacity associated with a terminated Wheeling Through Priority in a revised ATC calculation.

- (c) If the MW quantity or hours of service of the original supporting firm power supply contract are reduced eleven (11) or more Business Days before the date on which the Scheduling Coordinator with the Wheeling Through Priority can first schedule a Priority Wheeling Through transaction using its Wheeling Through Priority, the MW quantity or hours of the Wheeling Through Priority will be reduced correspondingly unless the Scheduling Coordinator demonstrates, by the earlier of (i) sixty (60) days from the date of the modification, or (ii) eleven (11) Business Days before the date any Priority Wheeling Through transaction would actually occur under the awarded priority, the following: (1) a replacement contract for a MW quantity or hours of service, that when added to the reduced MW quantity or hours of service of the revised supporting contract, equals the MW quantity or hours of service reflected in the original contract supporting the Wheeling Through Priority, provided that the Scheduling Coordinator can receive a priority for a total MW quantity or number of hours less than the MW quantity or number of hours in the original contract, but greater than the MW quantity or number of hours in the revised contract, and (2) the replacement contract has a Scheduling Point where the energy is to be imported to the CAISO and a Scheduling Point where the energy is to be exported from the CAISO identical to the Scheduling Points in the original contract supporting the priority. If the Scheduling Coordinator decides it will not seek any replacement contract if the original power supply contract has been modified, it must notify the CAISO within five

(5) Business Days of that decision, but no later than eleven (11) Business Days before the date any Priority Wheeling Through transaction would actually occur under the awarded priority. The CAISO will account for any capacity associated with a modified Wheeling Through Priority in a revised ATC calculation.

(d) If the Scheduling Coordinator seeks a priority in a replacement contract for a MW quantity greater than the MW quantity in the original contract, hours that are different than the hours in the hours in the original contract, or either the import or export Scheduling Point in the replacement contract is different than the import or export point in the original contract supporting the Wheeling Through Priority, the Scheduling Coordinator must re-apply for a Wheeling Through Priority for such deviations in a subsequent request window.

(e) If the supply contract supporting the Wheeling Through Priority is terminated or modified after eleven (11) Business Days before the Day-Ahead Market run for the date on which the Scheduling Coordinator can first schedule a Priority Wheeling Through transaction using the Wheeling Through Priority, the Scheduling Coordinator will retain the Wheeling Through Priority and will be charged for such Wheeling Through Priority for the term of the priority.

### **23.3 ATC Requirements Related to CAISO LSEs**

#### **23.3.1 ATC Request Window Applicability to CAISO LSEs**

The CAISO will consider Native Load needs of its Load Serving Entities in determining ATC pursuant to Section 23.3 and Appendix L-1. In addition, Scheduling Coordinators for CAISO LSEs can compete to obtain ATC to support an import into the CAISO Balancing Authority Area in the daily request window process set forth in Section 23.5. The Scheduling Coordinator must attest to the following: (1) its ATC request is supported by an executed firm power supply contract, a firm power supply contract where execution is contingent upon the receipt of ATC, or ownership of a resource to serve the Load Serving Entity's load; (2) the MW quantity of the firm power supply contract with the Load Serving Entity supporting the request and the CAISO Scheduling Points to which the energy will be imported to the CAISO Controlled Grid; (3) the start and end dates of the power supply contract and the specific hours

during the day(s) covered by the power supply contract for which the Scheduling Coordinator seeks ATC;  
(4) all information specified in the Business Practice Manual to support a daily ATC request has been  
provided; and (5) whether the Scheduling Coordinator is willing to accept a pro rata allocation of capacity,  
or an award of only part of its request, if the result of the monthly or daily request window process in  
Sections 23.4 and 23.5, respectively, is that there is insufficient ATC to accommodate the entire request,  
because of a tie among competing requesters or for some other reason.

### **23.3.2 Historical Contract Information Regarding Non-Resource Adequacy Resource Import**

#### **Supply**

Under the process and by the deadline established in the Business Practice Manual, to enable the CAISO  
to calculate ATC on the Interties under Appendix L-1, each Scheduling Coordinator for a Load Serving  
Entity may attest to the CAISO and submit information regarding firm non-Resource Adequacy Resource  
import supply contracts the Load Serving Entity had in place to serve its load during the two (2) years  
prior to the month for which the CAISO is determining ATC. The firm import supply contracts that can be  
reported under this Section 23.3.1 must be contracts for a period greater than one month that includes  
the applicable month, monthly contracts for the month, or a portfolio of shorter-term contracts for the  
month. They cannot be contracts to replace other external capacity that becomes unavailable. LSEs  
must attest to and provide: (1) the start and end dates of the contract; (2) the MW quantity; and (3) the  
CAISO Scheduling Point where the energy is imported.

### **23.3.3 New Contract Information**

Before the CAISO initially establishes ATC for a month that is thirteen (13) months away, under the  
process and deadlines established in the Business Practice Manual, Load Serving Entities must (1) notify  
the CAISO of any new firm contracts for imports to serve their load that are for a period greater than one  
month and include the applicable month, monthly contracts for the month, or a portfolio of shorter-term  
contracts for the month, and that are not reflected in the historical two (2) year period and (2) notify the  
CAISO of any import contracts reflected in the historical data that will be discontinued any time in the  
thirteen (13)-month horizon and will not be replaced with another import at the same Scheduling Point.  
The CAISO will consider these representations in establishing the initial ATC for the month. The Load  
Serving Entity must attest to whether the new import contract replaces capacity that the Load Serving

Entity had under contract during the historical two (2)-year period or is incremental to that capacity. The Load Serving Entity must attest to and provide: (1) the start and end dates of the import contract; (2) the specific hours to which the contract applies; (3) the MW quantity of the contract by month; and (4) the CAISO Scheduling Point where the energy will be imported. If the new contract is intended as replacement capacity, the LSE must attest to and indicate the contract that is being replaced, the term of that contract, the MW quantity of the contract each month, and the CAISO Scheduling Point where the energy was imported under the contract.

If the LSE intends the new contract to be incremental capacity, the LSE must attest that the capacity will be additive to the import capacity under contract during the historic period and will be shown as such in the monthly Resource Adequacy or non-Resource Adequacy contract showings. Upon request of the CAISO, Load Serving Entities should be ready to provide information to demonstrate the incremental nature of the capacity including, but not limited to: Load Serving Entity resource plans that include the contract; the LSE's expected load growth, incremental procurement ordered or approved by Local Regulatory Authorities, replacement of generation internal to the CAISO, or other relevant information demonstrating the additive nature of the new contract. The CAISO will use contracts that meet the requirements in this section to determine the existing transmission commitments (ETComm) component of the ATC calculation under Appendix L-1.

#### **23.3.4 Monthly Non-Resource Adequacy Contract Showings**

According to the process set forth in the Business Practice Manual, before the end of the Resource Adequacy cure period under Section 40 for the applicable month, a Load Serving Entity may show to the CAISO any firm non-Resource Adequacy contracts it has for the month that should be considered for inclusion in the existing transmission commitments (ETComm) component of the ATC calculation for the month under Appendix L-1. The contracts cannot be contracts to replace other external capacity that becomes unavailable. The Load Serving Entity seeking to make such a showing must attest to and indicate the following: (1) it has an executed firm power supply contract to serve its load, a firm power supply contract to serve its load where execution is contingent upon the receipt of ATC, or ownership of a resource to serve the Load Serving Entity's load; (2) the MW quantity of the firm power supply contract with the Load Serving Entity and the Scheduling Point(s) at which the energy will be imported to the

CAISO Controlled Grid; and (3) the start and end dates of the power supply contract and the specific hours and days during the month covered by the power supply contract. Shown non-Resource Adequacy contracts must be monthly contracts or a portfolio of shorter-term contracts for the month.

#### **23.3.5 CPM Access to ATC**

If the CAISO designates import capacity under the CPM for any reason other than to address an annual or monthly Resource Adequacy deficiency, the CAISO will first utilize the CPM import capacity under the TRM to the extent any TRM capacity is available. If insufficient TRM capacity is available, then the CAISO will utilize ATC for the term of the CPM designation, or for part of the term, only to the extent ATC is available at the time of the designation. If the CAISO designates import capacity under the CPM to address an annual or monthly RA deficiency, the CAISO will first utilize ATC to the extent any ATC is available for all or part of the term and, if no ATC is available, then it will utilize TRM.

#### **23.3.6 Annual Summer ATC and TRM Assessment Meeting with Stakeholders**

Before the summer season (May-October) each year, the CAISO will meet with stakeholders to discuss ATC and its components and expected conditions for the upcoming summer and the following year's summer. The CAISO will issue a Market Notice announcing the meeting(s) in accordance with the timeline specified in the Business Practice Manual.

#### **23.4 Obtaining a Monthly Wheeling Through Priority**

On the date specified in the annual Wheeling Through priority request calendar, the CAISO will open a request window whereby Scheduling Coordinators can submit a request for a priority for Wheeling Throughs for a month(s). Scheduling Coordinators can request a monthly Wheeling Through Priority for any month or months ATC is calculated and available, no sooner than twelve (12) months in advance and no later than one (1) month prior to the effective date of the priority. The CAISO will hold the request window open for fourteen (14) days. Closure of the request window each month will coincide with the closure of the monthly Resource Adequacy cure period under Section 40 for that month. At a minimum, Wheeling Through Priority requests for a month(s) must be supported by a six (6)-days-by-four (4)-hours firm power supply contract for each full week during the month plus the relevant days in any partial week during the month. The CAISO will make its determination regarding monthly Wheeling Through Priority awards no later than three (3) Business Days after the request window closes. The CAISO will treat all

requests for a monthly Wheeling Through Priority submitted during the request window as having been submitted simultaneously. The CAISO will treat all requests for a monthly priority during the request window as confidential during the request window period and treat them in accordance with Section 20 thereafter. The CAISO will award ATC to support Wheeling Through Priority requests based on the total number of hours of the requested priority (which must be supported by a firm power supply contract supporting the priority request for those hours) over the entire thirteen (13)-month horizon. Thus, supported priority requests for more hours during the thirteen (13)-month period will be awarded ATC before requests for fewer hours. For example, a priority request supported by a six (6)-days-by-sixteen (16)-hours power supply contract for one (1) month will have priority over a request supported by a six (6)-days-by-eight (8)-hours power supply contract for the same month; a priority request supported by a six (6)-days-by-four (4)-hours power supply contract for five (5) months will have priority over a request supported by a six (6)-days-by-eight (8)-hours power supply contract for just one (1) of those months. If there is a tie among requests and insufficient remaining ATC to accommodate all such priority requests for the month, the CAISO will allocate Wheeling Through priorities on a pro rata MW basis, or grant part of the ATC request, to those Scheduling Coordinators that indicated they would accept a pro rata allocation or partial awards. Wheeling Through Priority awards coming out of a monthly request window are unconditional and cannot be unwound by Wheeling Through Priority awards in subsequent request windows. A Scheduling Coordinator for a Priority Wheeling Through does not lose an awarded scheduling priority if it does not self-schedule the transaction in the Day-Ahead Market.

### **23.5 Obtaining a Daily Wheeling Through Priority**

The CAISO will open a request window each day whereby Scheduling Coordinators can request a daily Wheeling Through Priority or daily ATC to support an import into the CAISO Balancing Authority Area by a CAISO LSE (LSE ATC), for any day or days in that request window to the extent ATC is calculated and available, no sooner than seven (7) days in advance and no later than one (1) day prior to the effective date of the priority. The CAISO will hold the request window open for five (5) hours during the hours specified in the Business Practice Manual. At a minimum, Wheeling Through Priority requests in the Day-Ahead horizon must be supported by a firm power supply contract of at least four (4) hours for each day during the seven (7)-day horizon for which the Scheduling Coordinator seeks a Wheeling Through Priority



or LSE ATC. The CAISO will make its determination regarding daily Wheeling Through Priority awards no later than two (2) hours after the daily request window closes and one (1) hour before the Day-Ahead Market runs. The CAISO will treat all requests for a Wheeling Through Priority or LSE ATC for a day submitted during the request window as having been submitted simultaneously. The CAISO will treat all requests for a daily priority during the request window as confidential during the request window and in accordance with Section 20 thereafter. The CAISO will award ATC to support Wheeling Through Priority or LSE ATC requests based on the total number of hours of the requested priority (which must be supported by a firm power supply contract for the priority request for those hours) over the entire seven (7)-day horizon. Thus, supported priority requests for more hours during the seven (7)-day period will be awarded ATC before requests for fewer hours. For example, a priority request supported by a six (6)-days-by-sixteen (16)-hours power supply contract for one (1) day will have priority over a request supported by a six (6)-days-by-eight (8)-hours power supply contract for the same day; a priority request supported by a six (6)-days-by-four (4)-hours power supply contract for five (5) days will have priority over a request supported by a six (6)-days-by-eight (8)-hours power supply contract for one (1) of those days. If there is a tie among requests and insufficient remaining ATC to accommodate all such priority requests for the day, the CAISO will allocate Wheeling Through Priorities on a pro rata MW basis, or grant a part of the request, to those Scheduling Coordinators that indicated they would accept a pro rata allocation or a partial award. Awards of Wheeling Through Priorities or LSE ATC coming out of a daily request window are unconditional and cannot be unwound by Wheeling Through Priority or LSE ATC awards in subsequent daily request windows. A Scheduling Coordinator for a Priority Wheeling Through does not lose an awarded scheduling priority if it does not schedule in the Day-Ahead Market.

### **23.6 [Not Used]**

### **23.7 Use of ETC or TOR Capacity to Support a Wheeling Through Priority**

A Scheduling Coordinator may use ETC or TOR capacity to support a Wheeling Through Priority. The Scheduling Coordinator may use ETC or TOR capacity for that portion of the Wheeling Through Priority from the import Scheduling Point to the export Scheduling Point that is covered by the ETC or TOR capacity the Scheduling Coordinator chooses to use. The Scheduling Coordinator must use transmission capacity on the CAISO Controlled Grid to support the balance of the Wheeling Through Priority. The

Scheduling Coordinator will pay the applicable Wheeling Through Priority charges pursuant to Section 26.1.4.5 for the MW quantity of the Wheeling Through Priority.

### **23.8 Sale or Assignment of a Wheeling Through Priority**

#### **23.8.1 Procedures for Reselling a Monthly Wheeling Through Priority**

A Wheeling Through Priority Reseller Market Participant with a monthly Wheeling Through Priority may sell all or a portion of the MW quantity of its Wheeling Through Priority for the month, or remainder of the month or term, to another Market Participant (the assignee). The Wheeling Through Priority Reseller must notify the CAISO by the deadline specified in the Business Practice Manual, which will be before the effective date of any resale, and it cannot sell a priority MW amount for more MW or a longer term than it has. The Wheeling Through Priority Reseller must also attest to the CAISO its reason for reselling or assigning the priority. Any resale or assignment must be at the same import Scheduling Point as the original Wheeling Through Priority, but it may be at a different export Scheduling Point if the CAISO can accommodate such change and maintain the status of the Wheeling Through Priority. The compensation to Wheeling Through Priority Resellers for any sale of a Wheeling Through Priority will be at rates established by agreement between the Wheeling Through Priority Reseller and the assignee. The Scheduling Coordinator for the assignee will be subject to all applicable charges, terms, and conditions of the CAISO Tariff. The Scheduling Coordinator for the Assignee will receive the same priority as the Wheeling Through Priority Reseller at the same Scheduling Points of import into and export out of the CAISO Balancing Authority Area unless the CAISO has authorized a different export Scheduling Point to receive the Wheeling Through Priority. The CAISO will continue to charge the Wheeling Through Priority Reseller at the applicable Priority Wheeling Through rate for the term of its original Wheeling Through Priority. A Wheeling Through Priority Reseller will remain responsible for complying with all requirements of this Section 23. Resales of a Wheeling Through Priority only allow the transfer of a Wheeling Through Priority and do not convey to the assignee any other rights, and the assignee is not responsible to the CAISO for the Wheeling Through Priority Reseller's financial obligation to the CAISO for ultimate payment of the original Wheeling Through Priority, which obligation remains with the Wheeling Through Priority Reseller. A Wheeling Through Priority Reseller cannot resell or assign a Wheeling Through Priority for the purpose of enabling avoidance of the firm power supply contract requirement of Section 23.2.1.

### **23.8.2 Information on Assignment or Transfer of a Wheeling Through Priority**

All sales or transfers of Wheeling Through priorities must be conducted or otherwise posted on the CAISO's OASIS on or before the date the reassigned priority commences. Wheeling Through Priority Resellers may also use the CAISO's OASIS to post priorities available for resale.

### **23.8.3 Resales or Transfers of Capacity Directly from a TOR and ETC Rights Holder to an Assignee**

An ETC or TOR rights holder can resell or transfer ETC or TOR capacity if it is permitted to do so in the underlying contract and such sale or transfer is supported by any applicable TRTC instructions. If a holder of a TOR or ETC sells or transfers capacity that can support a Wheeling Through transaction, the assignee of such capacity will have the same rights and obligations as the holder of the TOR or ETC with respect to such capacity, including the associated scheduling priority and perfect hedge. The assignee will be subject to all applicable terms and conditions of the CAISO Tariff, including having a Scheduling Coordinator with a Scheduling Coordinator Agreement. The holder of the TOR or ETC must notify the CAISO of the sale, assignment, or transfer by the deadline specified in the Business Practice Manual. The holder of the TOR or ETC cannot sell, assign, or transfer more MW of capacity than it owns. The holder of the TOR or ETC must indicate the MW quantity sold, assigned, or transferred, the party to whom it sold, assigned, or transferred the capacity, and the start and end hours and dates of the transaction. The compensation from an assignee to the holder of a TOR or ETC for the sale or transfer of TOR or ETC rights to the assignee will be at rates established by the agreement between the holder of the TOR or ETC and the assignee and will occur outside of the CAISO's settlements systems and processes. The assignee will be responsible for all applicable CAISO charges associated with its use of the assigned capacity.

### **23.9 TOR Capacity Made Available to the CAISO**

To the extent the holder of a TOR makes some or all of its TOR capacity available to the CAISO pursuant to a contract, the CAISO will implement the release of TOR capacity under the contract and reflect any released capacity in its ATC calculations as being available for new firm use and priority requests under Sections 23.4 and 23.5.

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## **Section 26**

### **26. Transmission Rates and Charges**

#### **26.1 Access Charge**

\* \* \* \* \*

##### **26.1.4 Wheeling**

\* \* \* \* \*

##### **26.1.4.5 Charges for Wheeling Through Priorities**

Scheduling Coordinators for customers with a monthly or daily Wheeling Through Priority awarded under Section 23 will pay the applicable Wheeling Access Charge, as illustrated in the Business Practice Manual, based on the MW amount and total hours of the priority for the applicable period of the Wheeling Through Priority. For example, a Scheduling Coordinator with a monthly Wheeling Through Priority based on a (six) 6-day-by-sixteen (16)-hours power supply contract would pay Wheeling Access Charges on a six (6)-day-by-sixteen (16)-hour basis for all applicable days during the entire month of the Wheeling Through Priority regardless of the Scheduling Coordinator's actual scheduled Priority Wheeling Throughs during that period. A Scheduling Coordinator with a one (1)-day Wheeling Through Priority based on an eight (8)-hour power supply contract would pay Wheeling Access Charges for eight (8) hours regardless of the Scheduling Coordinator's actual scheduled Wheeling Throughs during that day. To the extent a Scheduling Coordinator with a Wheeling Through Priority schedules a Wheeling Through transaction in excess of its Wheeling Through Priority quantity or outside of the hours associated with its Wheeling Through Priority, such volumes are not covered by the Wheeling Through Priority and will be separately charged at the applicable Wheeling Access Charge based on the amount of scheduled energy delivered.

## **Section 36**

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### **36.9.2 Prepayment of Wheeling Access Charge**

#### **36.9.2.1 Prepayment of Wheeling Access Charge for Allocated CRRs**

An OBAALSE will be required to prepay relevant Wheeling Access Charges, to be calculated as described in this section and further specified in the Business Practice Manual, for the full term of the Monthly CRRs, Seasonal CRRs and Long Term CRRs it intends to nominate in order to participate in the CRR Allocation processes and be allocated CRRs. To be eligible for the allocation of Seasonal CRRs or Monthly CRRs the OBAALSE must submit the full required prepayment and have it accepted by the CAISO prior to the OBAALSE's submission of nominations for the relevant annual or monthly CRR Allocation, except as provided below in Section 36.9.2.2. To be eligible for nominations of Long Term CRRs, the OBAALSE must submit the full prepayment and have it accepted by the CAISO prior to the OBAALSE's submission of nominations of Long Term CRRs in Tier LT, except as provided below in Section 36.9.2.2. For each MW of Monthly CRR, Seasonal CRR or Long Term CRR to be nominated the nominating OBAALSE must prepay one MW of the relevant Wheeling Access Charge, which equals the per-MWh WAC that is associated with the Scheduling Point the OBAALSE intends to nominate as a CRR Sink and that is expected at the time the CRR Allocation process is conducted to be applicable for the period of the CRR nominated, times the number of hours comprising the period of the CRR nominated as further specified in the applicable Business Practice Manual. The CAISO will credit any monthly payment obligation for Wheeling Access Charges by an OBAALSE for a monthly Wheeling Through Priority obtained under Section 23.4, toward the OBAALSE's prepayment obligation in this section 36.9.2.1. Such OBAALSE must prepay the difference in accordance with the applicable prepayment timeline herein. The OBAALSE with a Wheeling Through Priority must prepay the difference in accordance with the applicable prepayment timeline. Any applicable credit check would be done based on the full value owed, including both the prepayment amount and the amount to be credited.

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## **Appendix A**

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### **- Wheeling Through Priority**

A Wheeling Through Priority allows a Scheduling Coordinator to self-schedule Priority Wheeling Throughs during the term and hours of the priority up to the MW quantity of the priority and at the import and export Scheduling Points authorized under the priority.

### **- Wheeling Through Priority Reseller**

An entity that resells, assigns, or otherwise transfers a monthly or long-term Wheeling Through Priority. A Wheeling Through Priority Reseller can be the original priority rights holder or an assignee of a monthly Wheeling Through Priority.

\* \* \* \* \*

**NOTE: Changes from language in current Appendix L are shown in yellow highlighting.**

### **Appendix L-1**

The provisions of this Appendix L-1 apply to the calculation of ATC to establish Wheeling Through Priorities that will be effective beginning June 1, 2024 and thereafter.

## **Appendix L-1 Method to Assess Available Transfer Capability**

### **L.1 Description of Terms**

The following descriptions augment existing definitions found in Appendix A "Master Definitions Supplement."

**L.1.1 Available Transfer Capability (ATC)** is a measure of the transfer capability in the physical transmission network resulting from system conditions and that remains available for further commercial activity over and above already committed uses.

For purposes of determining ATC in the market optimization, ATC is defined as the Total Transfer Capability (TTC) less the Transmission Reliability Margin (TRM), less the sum of any unused existing transmission commitments (ETComm), less the Capacity Benefit Margin (CBM) (which value is set at zero), less the Scheduled Net Energy from Imports/Exports, less Ancillary Service capacity from Imports.

**L.1.2 Total Transfer Capability (TTC)** is defined as the amount of electric power that can be moved or transferred reliably from one area to another area of the interconnected transmission system by way of all transmission lines (or paths) between those areas, under specified system conditions. In collaboration with owners of rated paths, the CAISO utilizes rated system path methodology to establish the TTC of CAISO Transmission Interfaces.

**L.1.3 Existing Transmission Commitments (ETComm)** include (1) transmission capacity for Existing Contracts (ETC) and Transmission Ownership Rights (TOR), (2) transmission capacity for Wheeling Through Priorities, and (3) Native Load needs determined in accordance with this Appendix L-1, including Native Load growth in the applicable horizon and ATC Load Serving Entities acquire in the daily request window.

**L.1.3.1 Transmission Capacity for ETC and TOR** – The CAISO uses the ETC Reservations Calculator (see Section L.1.3.1.1) to reserve transmission capacity for each ETC and TOR based on TRTC Instructions the responsible Participating Transmission Owner or Non-Participating Transmission Owner submits to the CAISO as to the amount of firm transmission capacity that should be reserved on each Transmission Interface for each hour of the Trading Day in accordance with Sections 16 and 17 of the CAISO Tariff. The types of TRTC Instructions the CAISO receives generally fall into three basic categories:

- The ETC or TOR reservation is a fixed percentage of the TTC on a line, which decreases as the TTC is derated (ex. TTC = 300 MW, ETC fixed percentage = 2%, ETC = 6 MWs, TTC derated to 200 MWs, ETC = 4 MWs);
- The ETC or TOR reservation is a fixed amount of capacity, which decreases if the line's TTC is derated below the reservation level (ex. ETC = 80 MWs, TTC declines to 60 MW, ETC = TTC or 60 MWs; or

- The ETC or TOR reservation is determined by an algorithm that changes at various levels of TTC for the line (ex. Intertie TTC = 3,000 MWs, when line is operating greater than 2,000 MWs to full capacity ETC = 400 MWs, when capacity is below 2000 MWs ETC =  $TTC/2000 \times ETC$ ).

Existing Contract capacity reservations remain reserved during the Day-Ahead Market and through the FMM. To the extent that the reservations are unused after the FMM has been run for a given fifteen-minute interval, then the capacity reservations are released for the three RTD intervals within that fifteen-minute interval.

Transmissions Ownership Rights capacity reservations remain reserved during the Day-Ahead Market and Real-Time Market. This capacity is under the control of the Non-Participating Transmission Owner and is not released to the CAISO for use in the markets

**L.1.3.1.1 ETC Reservations Calculator (ETCC).** The ETCC calculates the amount of firm transmission capacity reserved (in MW) for each ETC or TOR on each Transmission Interface for each hour of the Trading Day.

- **CAISO Updates to ETCC Reservations Table.** The CAISO updates the ETC and TOR reservations table (if required) prior to Market Close of the DAM and prior to Market Close of the RTM. The amount of transmission capacity reservation for ETC and TOR rights is determined based on the TTC of each Transmission Interface and in accordance with the curtailment procedures stipulated in the existing agreements and provided to the CAISO by the responsible Participating Transmission Owner or Non-Participating Transmission Owner.
- **Market Notification.** ETC and TOR allocation (MW) information is published for all Scheduling Coordinators which have ETC or TOR scheduling responsibility in advance of the Day-Ahead Market and the Real-Time Market. This information is posted on the Open Access Same-Time Information System (OASIS).
- For further information, see CAISO Operating Procedure M-423, Scheduling of Existing Transmission Contract and Transmission Ownership Rights, which is publicly available on the CAISO Website.

**L.1.3.2 Wheeling Through Priorities** – ETComm include transmission capacity for Wheeling Through Priorities pursuant to Sections 23.4, 23.5, and 23.6 of the CAISO Tariff.

The ATC for Wheeling Through Priorities is calculated based on the following formula which distinguishes it from ATC in the market optimization:

$$ATC = TTC - ETComm - TRM$$

**L.1.3.3 Native Load Needs** – ETComm include transmission capacity at the Interties that is set aside to meet Native Load needs. The amount of such transmission capacity (apart from the amount of transmission capacity to serve expected Native Load growth as described below) at each Intertie for each calendar month equals the highest MW quantity of total Resource Adequacy and non-Resource Adequacy import supply under contract to Load Serving Entities (LSEs) dedicated to serving their load as demonstrated by Resource Adequacy showings, and non-Resource Adequacy contract showings under Section 23.3 at the Intertie for that same calendar month during the previous two (2) years, as may be adjusted under Sections L.1.3.3.2 and L.1.3.3.3.

**L.1.3.3.1 Native Load Growth** – Transmission capacity at the Interties that is set aside in ETComm to meet Native Load needs also includes transmission capacity to serve expected



Native Load growth in the rolling thirteen (13)-month horizon. The amount of such transmission capacity at each Intertie set aside in ETComm to meet Native Load growth will be calculated by comparing the CEC load forecast for the applicable future period to the forecasts used to set CAISO Resource Adequacy requirements applicable to that period for the previous two (2) years to determine an overall Native Load growth amount and then assigning a portion of this expected Native Load growth amount to each Intertie using the highest ratio of Resource Adequacy imports shown for that calendar month to total Resource Adequacy capacity shown for that calendar month during the previous two (2) years.

**L.1.3.3.2 Adjustments to Native Load Needs Based on New Contract Information –** The CAISO will use applicable contract information provided in accordance with, and meeting the requirements of, Section 23.3 of the CAISO Tariff to update the historical RA import supply or non-RA import supply data described in this Section L.1.3.3 to improve the accuracy of the calculation of Native Load needs calculated thirteen (13) months before the applicable calendar month.

**L.1.3.3.3 Monthly Update of Native Load Needs –** Following the RA and non-RA import contract showings at the end of the Resource Adequacy cure period under Section 40 of the CAISO Tariff, the CAISO will update or “true up” the amount of transmission capacity set aside in ETComm to meet Native Load needs at each Intertie to include the sum of the most recent actual showings of (i) Resource Adequacy import supply contained in monthly Resource Adequacy Plans and (ii) non-RA import supply to be delivered at the Intertie reported to the CAISO for that same calendar month. The CAISO will also use the updated ATC values for native load following the month-ahead Resource Adequacy and non-Resource Adequacy contract showings to calculate daily ATC for Native Load during the applicable month, while also accounting for any applicable CPM designations that utilize ATC. Any contract that is not shown to the CAISO by the end of the Resource Adequacy cure period under Section 40 cannot count for purposes of setting aside Native Load capacity for the applicable month.

If the amount of transmission capacity set aside at an Intertie to meet Native Load needs for a calendar month based on RA and non-RA import showings for that month under Sections L.1.1.1 and L.1.3.3.2 (and including transmission capacity to serve expected Native Load growth under Section L.1.3.3.1) is greater than the most recent actual showings of Resource Adequacy import supply contained in monthly Resource Adequacy Plans and non-Resource Adequacy import supply to be delivered at the Intertie for that same month, the resulting excess transmission capacity will be released as ATC and will be available for awarding as monthly Priority Wheeling Throughs pursuant to the monthly request window process in Section 23.4 of the CAISO Tariff. If the amount of transmission capacity set aside at an Intertie to meet Native Load needs for a calendar month based on Resource Adequacy and non-Resource Adequacy import showings for that month under Sections L.1.1.1 and L.1.3.3.2 (and including transmission capacity to serve expected Native Load growth under Section L.1.3.3.1) plus the amount of TRM set aside to account for uncertainty associated with actual monthly Resource Adequacy and non-Resource Adequacy showings, is less than the most recent actual showings of Resource Adequacy import supply contained in monthly Resource Adequacy Plans and non-Resource Adequacy import supply to be delivered at the Intertie for that same month, the ATC at the Intertie that has not been awarded in a prior monthly request window, will be reduced to account for the additional Resource Adequacy and non-Resource Adequacy import showings at the Intertie that are unrelated to any change in the planning reserve margin. If no ATC remains at an Intertie because it has been awarded in prior months’ request windows pursuant to Section 23.4 of the CAISO Tariff, and the TRM cannot accommodate all native load needs, then the amount of transmission capacity set aside at the Intertie to meet Native Load needs for a calendar month, including transmission capacity to serve expected Native Load growth, will remain as originally calculated by the CAISO even if the actual Resource Adequacy and non-Resource Adequacy import contract showings for the month exceed the amount of ATC the CAISO has set aside for Native Load in accordance with Sections L.1.3.3, L.1.3.3.1, and L.1.3.3.2. Under these circumstances, the CAISO will continue to honor the scheduling priority of the Wheeling Through

transactions for which ATC has been awarded. The examples below in this Section L.1.3.3.3 illustrate the aforementioned processes.

For example, if the Native Load set-aside value under Sections L.1.3.3, L.1.3.3.1, and L.1.3.3.2 for a particular Intertie for the month of May is 1,000 MW, and only 900 MW of Resource Adequacy and non-Resource Adequacy import capacity is actually shown on that Intertie in the monthly showing process for the month of May, the CAISO will release an additional 100 MW of ATC on that Intertie that can be awarded a monthly Wheeling Through Priority for May through the request window that closed at the same time as the monthly Resource Adequacy and non-Resource Adequacy import showing deadline for May.

Also, for example, assume the following: the Native Load set-aside value under Sections L.1.3.3, L.1.3.3.1, and L.1.3.3.2 for the month of May is 1,000 MW; the amount set aside for Native Load based on historical showings is 10 MW at the Intertie; at the start of the monthly request window for May, there is 100 MW of ATC for the month of May that has not been awarded to Wheeling Throughs in prior months' request windows; and 1,100 MW of Resource Adequacy and non-Resource Adequacy import capacity is actually shown on the Intertie in the monthly showing process for the month of May. Under these circumstances, the CAISO will reduce the ATC on the Intertie by 100 MW assuming the 100 MW are not associated with an increase in the planning reserve margin for which an amount has been set aside in the load forecast uncertainty component of the TRM. If the 100 MW were associated with an increase in the planning reserve margin and not simply a difference between historic values and the monthly Resource Adequacy and non-Resource Adequacy contract values and assuming the CAISO had set aside 90 MW in the TRM load forecast uncertainty component to account for changes in the planning reserve margin, then ten (10) MW of the excess monthly showings will be supported by the TRM component, and 10 MW of ATC will be available for awarding as monthly Priority Wheeling Throughs for May.

Finally, assume the circumstances in the prior example except there is zero MW of ATC available prior to the Resource Adequacy and non-Resource Adequacy showing deadline and the start of the request window for ATC for the month of May. The CAISO will continue to honor all of the ATC that has been previously awarded to Priority Wheeling Throughs in prior monthly request windows, and no additional ATC will be available for the actual Resource Adequacy and non-Resource Adequacy showings above the historic values used to set ATC. If the excess Resource Adequacy and non-Resource Adequacy showings were associated with an increase in the planning reserve margin, 90 MW of the excess monthly showings will be supported by the TRM component that accounts for such load forecast uncertainty.

#### **L.1.4 [Not Used]**

**L.1.5 Transmission Reliability Margin (TRM)** is an amount of transmission transfer capability reserved at a CAISO Intertie point that is necessary to provide reasonable assurance that the interconnected transmission network will be secure. TRM accounts for the inherent uncertainty in system conditions and the need for operating flexibility to ensure reliable system operation as system conditions change.

The CAISO uses TRM at Intertie points to account for NERC-approved components of uncertainty as described in the Transmission Reliability Margin Implementation Document (TRM Document), including:

- Forecast uncertainty in transmission system topology, including forced or unplanned outages or maintenance outages.
- Allowances for parallel path (loop flow) impacts, including unscheduled loop flow.

- Allowances for simultaneous path interactions.
- Aggregate load forecast uncertainty.
- Variations in generation dispatch (including, but not limited to, forced or unplanned Outages, maintenance Outages, and future resource conditions).

The CAISO will establish TRM in all applicable horizons, including monthly and daily, and may change (increase or decrease) TRM values across all such horizons, including prior to Market Close of the DAM and RTM. To the extent TRM values are decreased in a given horizon, additional ATC would become available in that horizon.

The methodology the CAISO uses to establish each component of uncertainty is as follows:

The CAISO uses the transmission system topology component of uncertainty to address a potential ATC path limit reduction at an Intertie resulting from an emerging event, such as an approaching wildfire, that is expected to cause a derate of one or more transmission facilities comprising the ATC path. When the CAISO, based on existing circumstances, forecasts that such a derate is expected to occur, the CAISO may establish a TRM value for the affected ATC path in an amount up to, but no greater than, the amount of the expected derate. The CAISO will set the transmission system topology component of uncertainty as a percentage of TTC pursuant to the CAISO TRM Implementation Document, throughout the rolling thirteen (13)-month horizon set forth in Section L.3, on Interties where the CAISO has historically relied upon import supply to serve load. The CAISO can change the TRM for any applicable horizon as circumstances change.

The CAISO uses the parallel path component of uncertainty to address the impact of unscheduled flow (USF) over an ATC path that is expected, in the absence of the TRM, to result in curtailment of Intertie Schedules in Real Time as a result of the requirements established in WECC's applicable USF mitigation policies and procedures (WECC USF Policy). When the CAISO forecasts, based on currently observed USF conditions and projected scheduled flow for an upcoming Operating Hour(s), that in the absence of a TRM, scheduled flow will need to be curtailed in Real Time under the applicable WECC USF Policy, the CAISO may establish a TRM for the ATC path for the applicable hour(s) in an amount up to, but no greater than, the forecasted amount that is expected to be curtailed in Real Time pursuant to the WECC USF Policy.

The CAISO uses the simultaneous path interactions component of uncertainty to address the impact that transmission flows on an ATC path located outside the CAISO's Balancing Authority Area may have on the transmission transfer capability of an ATC path located at an Intertie. In the event of such path interactions, the CAISO uses a TRM value to prevent the risk of a system operating limit violation in Real Time for the CAISO ATC path. The amount of the TRM value may be set at a level up to, but not greater than, the forecasted impact on the CAISO ATC path's capacity imposed by expected flow on the non-CAISO ATC path.

The CAISO uses the aggregate load forecast component of uncertainty to address load forecast uncertainty at selected Interties. The CAISO will set this component of uncertainty as a percentage of TTC pursuant to the CAISO TRM Implementation Document, across the rolling thirteen (13)-month horizon and the rolling seven (7)-day horizon, on Interties where the CAISO has historically relied upon import supply to serve load. The load forecast component of the TRM may include sub-components to account for (1) changes ordered by Local Regulatory Authorities in planning reserve margins or resource procurement requirements for Load Serving Entities, and (2) load forecast changes.

The CAISO uses the variations in generation dispatch component of uncertainty to address variations in generation dispatch driven by resource outages or other conditions to recognize that,

in some circumstances, supply may have to be replaced or additional supply may have to be brought into the system to meet the changing needs. For example, the TRM may account for the unavailability of solar energy during the net-peak load period, the unavailability of hydroelectric capacity during drought conditions, or wind capacity not performing at its Net Qualifying Capacity. The CAISO will set this component of uncertainty as a percentage of TTC pursuant to the CAISO TRM Implementation Document, across the rolling thirteen (13)-month horizon and the rolling seven (7)-day horizon, on Interties where the CAISO has historically relied upon import supply to serve load.

The CAISO uses the following databases or information systems, or their successors, in connection with establishing TRM values: the CAISO's outage management system pursuant to Section 9, Existing Transmission Contract Calculator (ETCC), PI, EMS, and CAS.

**L.1.6 Capacity Benefit Margin (CBM)** is that amount of transmission transfer capability reserved for LSEs to ensure access to Generation from interconnected systems to meet generation reliability requirements. In the Day-Ahead Market, CBM may be used to provide reliable delivery of Energy to CAISO Balancing Authority Area Loads and to meet CAISO responsibility for resource reliability requirements in Real-Time. The purpose of this DAM implementation is to avoid Real-Time Schedule curtailments and firm Load interruptions that would otherwise be necessary. CBM may be used to reestablish Operating Reserves. CBM is not available for non-firm transmission in the CAISO Balancing Authority Area. CBM may be used only after:

- all non-firm sales have been terminated,
- direct-control Load management has been implemented,
- customer interruptible Demands have been interrupted,
- if the LSE calling for its use is experiencing a Generation deficiency and its transmission service provider is also experiencing Transmission Constraints relative to imports of Energy on its transmission system.

The level of CBM for each Transmission Interface is determined by the amount of estimated capacity needed to serve firm Load and provide Operating Reserves based on historical, scheduled, and/or forecast data using the following equation to set the maximum CBM:

$$\text{CBM} = (\text{Demand} + \text{Reserves}) - \text{Resources}$$

Where:

- Demand = forecasted area Demand
- Reserves = reserve requirements
- Resources = internal area resources plus resources available on other Transmission Interfaces

The CAISO does not use CBMs. The CBM value is set at zero.

## **L.2 ATC Algorithm for Market Optimization**

The ATC algorithm in the market is a calculation used to determine the transfer capability remaining in the physical transmission network and available for further commercial activity and optimization over and above already committed uses. The CAISO posts the ATC values in

megawatts (MW) to OASIS in conjunction with the Market Close for the Day-Ahead Market and Real-Time Market process.

The following OASIS ATC algorithms are used to implement the CAISO ATC calculation for the ATC rated path (Transmission Interface):

ATC Calculation For Imports:

ATC = TTC - CBM - TRM - AS from Imports- Net Energy Flow - Hourly Unused TR Capacity.

ATC Calculation For Exports:

ATC = TTC - CBM - TRM - Net Energy Flow - Hourly Unused TR Capacity.

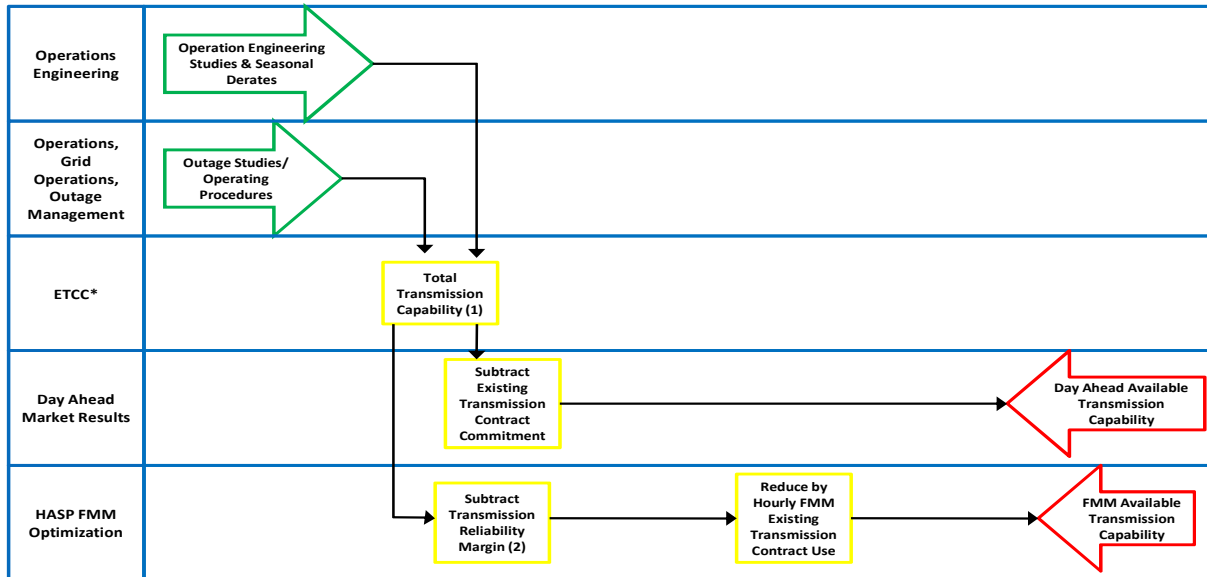
The specific data points used in the ATC calculation are each described in the following table.

<u>ATC</u>	<u>ATC MW</u>	<u>Available Transfer Capability, in MW, per Transmission Interface and path direction.</u>
<u>Hourly Unused TR Capacity</u>	<u>USAGE MW</u>	<u>The sum of any unscheduled existing transmission commitments (scheduled transmission rights capacity for ETC or TOR), in MW, per path direction.</u>
<u>Scheduled Net Energy from Imports/Exports (Net Energy Flow)</u>	<u>ENE IMPORT MW</u>	<u>Total hourly net Energy flow for a specified Transmission Interface.</u>
<u>AS from Imports</u>	<u>AS IMPORT MW</u>	<u>Ancillary Services scheduled, in MW, as imports over a specified Transmission Interface.</u>
<u>TTC</u>	<u>TTC MW</u>	<u>Hourly Total Transfer Capability of a specified Transmission Interface, per path direction, with consideration given to known Transmission Constraints and operating limitations.</u>
<u>CBM</u>	<u>CBM MW</u>	<u>Hourly Capacity Benefit Margin, in MW, for a specified Transmission Interface, per Path Direction.</u>
<u>TRM</u>	<u>TRM MW</u>	<u>Hourly Transmission Reliability Margin, in MW, for a specified Transmission Interface, per path direction.</u>

Actual ATC mathematical algorithms and other ATC calculation information are located in the CAISO's ATC Implementation Document (ATCID) posted to the CAISO Website.

### **L.3 ATC Process Flowchart and Calculation Periods**

### Available Transmission Capability



\*ETCC – Existing Transmission Contract Calculator

(1) – WECC rated path methodology

(2) - See TRMID posted on OASIS

The CAISO will calculate ATC on the Interties each calendar month across a rolling thirteen (13)-month horizon. The CAISO will also calculate ATC on the Interties each day prior to the close of the Day-Ahead Market across a rolling seven (7)-day horizon, and will publish the resulting ATC values daily on OASIS.

#### L.4 TTC Determination

All transfer capabilities are developed to ensure that power flows are within their respective operating limits, both pre-Contingency and post-Contingency. Operating limits are developed based on thermal, voltage and stability concerns according to industry reliability criteria (WECC/NERC) for transmission paths. The process for developing TTC also requires the inclusion or exclusion of operating Transmission Constraints based on system conditions being studied.

**L.4.1** Transfer capabilities for studied configurations may be used as a maximum transfer capability for similar conditions without conducting additional studies. Increased transfer capability for similar conditions must be supported by conducting appropriate studies.

**L.4.1.2** At the CAISO, studies for all major inter-area paths' (mostly 500 kV) TTC are governed by the California Operating Studies Subcommittee (OSS), which provides detailed criteria and methodology. For transmission system elements below 500 kV the methodology for calculating these flow limits is detailed in Section L.4.3 and is applicable to the operating horizon.

**L.4.2** Transfer capability may be limited by the physical and electrical characteristics of the systems including any one or more of the following:

- **Thermal Limits** - Thermal limits establish the maximum amount of electric current that a transmission line or electrical facility can conduct over a specified time-period as established by the Transmission Owner.

- **Voltage Limits** - System voltages and changes in voltages must be maintained within the range of acceptable minimum and maximum limits to avoid a widespread collapse of system voltage.
- **Stability Limits** - The transmission network must be capable of surviving disturbances through the transient and dynamic time-periods (from milliseconds to several minutes, respectively) following the disturbance so as to avoid generator instability or uncontrolled, widespread interruption of electric supply to customers.

**L.4.3 Determination of transfer capability** is based on computer simulations of the operation of the interconnected transmission network under a specific set of assumed operating conditions. Each simulation represents a single "snapshot" of the operation of the interconnected network based on the projections of many factors. As such, they are viewed as reasonable indicators of network performance and may ultimately be used to determine Available Transfer Capability. The study is meant to capture the worst operating scenario based on experience and good engineering judgment.

**L.4.3.1 System Limits** – The transfer capability of the transmission network may be limited by the physical and electrical characteristics of the systems including thermal, voltage, and stability consideration. Once the critical Contingencies are identified, their impact on the network must be evaluated to determine the most restrictive of those limitations. Therefore, the TTC becomes:

TTC = lesser of {Thermal Limit, Voltage Limit, Stability Limit} following contingencies consistent with requirements of the NERC Reliability Standards

**L.4.4** The CAISO may update the determination of TTC to be used in the calculation of daily ATC across a rolling seven (7)-day horizon to reflect current information on the anticipated transfer capability of the transmission network, including information on Outages affecting the transfer capability on Interties.

## **L.5 Developing a Power Flow Base-Case**

**L.5.1 Base-cases** will be selected to model reality to the greatest extent possible including attributes like area Generation, area Load, Intertie flows, etc. At other times (e.g., studying longer range horizons), it is prudent to stress a base-case by making one or more attributes (Load, Generation, line flows, path flows, etc.) of that base-case more extreme than would otherwise be expected.

### **L.5.2 Update a Power Flow Base-Case**

The selected base-case will be updated to represent the current grid conditions during the applicable season. The following will be considered to update the base-cases:

- Recent transmission network changes and updates
- Overlapping scheduled and Forced Outages
- Area Load level
- Major path flows
- Generation level
- Voltage levels
- Operating requirements

**L.5.2.1 Outage Consideration**

Unless detailed otherwise, the CAISO considers modeling Outages of:

- Transmission lines, 500 kV
- Transformers, 500/230 kV
- Large Generating Units
- Generating Units within the studied area
- Transmission elements within the studied area

At the judgment of the CAISO, only the necessary Outages will be modeled to avoid an unnecessarily burdensome and large number of base-cases.

**L.5.2.2 Area Load Level**

Base-case Demand levels should be appropriate to the current studied system conditions and customer Demand levels under study and may be representative of peak, off-peak or shoulder, or light Demand conditions. The CAISO estimates the area Load levels to be utilized in the peak, partial-peak and/or off-peak base-cases. The CAISO will utilize the current CAISO Load forecasting program (e.g., ALFS), ProcessBook (PI) or other competent method to estimate Load level for the studied area. Once the appropriate Load levels are determined, the CAISO may scale the base-case Loads to the area studied, as appropriate.

**L.5.2.3 Modify Path Flows**

The scheduled electric power transfers considered representative of the base system conditions under analysis and agreed upon by the parties involved will be used for modeling. As needed, the CAISO may estimate select path flows depending on the studied area. In the event that it is not possible to estimate path flows, the CAISO will make safe assumptions about the path flows. A safe assumption is more extreme or less extreme (as conservative to the situation) than would otherwise be expected. If path flow forecasting is necessary, if possible the CAISO will trend path flows on previous similar days.

**L.5.2.4 Generation Level**

Utility and non-utility Generating Units will be updated to keep the swing Generating Unit at a reasonable level. The actual unit-by-unit Dispatch in the studied area is more vital than in the un-studied areas. The CAISO will examine past performance of select Generating Units to estimate the Generation levels, focusing on the Generating Units within the studied area. In the judgment of the CAISO, large Generating Units outside the studied area will also be considered.

**L.5.2.5 Voltage Levels**

Studies will maintain appropriate voltage levels, based on operation procedures for critical buses for the studied base-cases. The CAISO will verify that bus voltage for critical buses is within tolerance. If a bus voltage is outside the tolerance band, the CAISO will model the use of voltage control devices (e.g., synchronous condensers, shunt capacitors, shunt reactors, series capacitors, generators).

**L.6 Contingency Analysis**

Contingency analysis studies are performed in an effort to determine the limiting conditions, especially for scheduled Outages, including pre- and post-Contingency power flow analysis



modeling pre- and post-Contingency conditions and measuring the respective line flows, and bus voltages.

Other studies like reactive margin and stability may be performed as deemed appropriate.

#### **L.6.1 Operating Criteria and Study Standards**

Using standards derived from NERC and WECC Reliability Standards and historical operating experience, the CAISO will perform Contingency analysis with the following operating criteria:

##### **Pre-Contingency**

- All pre-Contingency line flows shall be at or below their normal ratings.
- All pre-Contingency bus voltages shall be within a pre-determined operating range.

##### **Post-Contingency**

- All post-Contingency line flows shall be at or below their emergency ratings.
- All post-Contingency bus voltages shall be within a pre-determined operating range.

The CAISO simulates the appropriate Contingencies as required by applicable NERC and WECC Reliability Standards and criteria.

#### **L.6.2 Manual Contingency Analysis**

If manual Contingency analysis is used, the CAISO will perform pre-Contingency steady-state power flow analysis and determines if pre-Contingency operating criteria is violated. If pre-Contingency operating criteria cannot be preserved, the CAISO records the lines and buses that are not adhering to the criteria. If manual post-Contingency analysis is used the CAISO obtains one or more Contingencies in each of the base cases. For each Contingency resulting in a violation or potential violation in the operating criteria above, the CAISO records the critical post-Contingency facility loadings and bus voltages.

#### **L.6.3 Contingency Analysis Utilizing a Contingency Processor**

For a large area, the CAISO may utilize a Contingency processor.

#### **L.6.4 Determination of Crucial Limitations**

After performing Contingency analysis studies, the CAISO analyzes the recorded information to determine limitations. The limitations are conditions where the pre-Contingency and/or post-Contingency operating criteria cannot be conserved and may include a manageable overload on the facilities, low post-Contingency bus voltage, etc. If no crucial limitations are determined, the CAISO determines if additional studies are necessary.

#### **L.7 Traditional Planning Methodology to Protect Against Violating Operating Limits**

After performing Contingency analysis studies, the CAISO next develops the transfer capability and develops procedures, Nomograms, RMR Generation requirements, or other Transmission Constraints to ensure that transfer capabilities respect operating limits.

#### **L.8 Limits for Contingency Limitations**

Transfer limits are developed when the post-Contingency loading on a transmission element may breach the element's emergency rating. The type of limit utilized is dependent on the application and includes one of the following limits:

- Simple Flow Limit - best utilized when the derived limit is repeatable or where parallel transmission elements feed radial Load.

- RAS - existing Remedial Action Schemes (RAS) may impact the derivation of simple flow limits. When developing the limit, the CAISO determines if the RAS will be in-service during the Outage and factors the interrelationship between the RAS and the derived flow limit. The CAISO will update the transfer limits in recognition of the changing status and/or availability of the RAS.

\* \* \* \* \*

**Attachment C – Clean Tariff (effective June 1, 2024)**

**Tariff Amendment Filing**

**Short-Term Wheeling Through Self-Schedule Priorities**

**California Independent System Operator Corporation**

**July 28, 2023**

**Section 30**

\* \* \* \* \*

**30.5 Bidding Rules****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;

\* \* \* \* \*

- (z) [Not Used]

\* \* \* \* \*

**Section 34**

\* \* \* \* \*

**34.12.3 Post-HASP Process**

In the event there is a transmission limitation on an Intertie in the import direction and 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 Demand and Priority Wheeling Through transactions, as described in the Business Practice Manual. The CAISO Demand pro rata share will be based on the lower of (1) the sum of the Real-Time Bid quantities of applicable Resource Adequacy Resources, shown non-Resource Adequacy Resources under contract, CPM imports with ATC or supported by TRM, resources supported by ATC awarded in the daily request window process, and imports supported by TRM or (2) the sum of shown Resource Adequacy Capacity and non-Resource Adequacy Capacity under contract that are supported by ATC, including resources supported by capacity awarded ATC in the daily request window process, CPM import capacity awarded ATC or supported by TRM, plus the remaining TRM quantity. The Priority Wheeling Through pro rata share for each Self-Schedule will be based on the lower of (1) the submitted Real-Time Market Self-Schedules of the Priority Wheeling Through transactions, or (2) the Priority Wheeling Through quantity awarded ATC under Section 23. The ATC for CAISO Demand and Priority Wheeling Throughs cannot exceed the Total Transfer Capability (TTC) of an Intertie. The amount of capacity considered for pro rata allocation in the post-HASP Process cannot exceed the TTC of the Intertie. 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. In no event, will the CAISO reduce Priority Wheeling Through transactions solely in the event of a CAISO supply shortfall that triggers a power balance infeasibility. Energy scheduled via the post-HASP process will be settled as Exceptional Dispatch Energy pursuant to Section 11.5.6.1, as applicable.

\* \* \* \* \*

**Appendix A**

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**- Priority Wheeling Through**

A Wheeling Through Self-Schedule that has obtained a priority under Section 23.

\* \* \* \* \*

**Appendix L**

**[Not Used]**

**Attachment D – Marked Tariff (effective June 1, 2024)**

**Tariff Amendment Filing**

**Short-Term Wheeling Through Self-Schedule Priorities**

**California Independent System Operator Corporation**

**July 28, 2023**

\* \* \* \* \*

**Section 30**

\* \* \* \* \*

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\* \* \* \* \*

- (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 by 45 days prior to the applicable month.~~

\* \* \* \* \*

### **Section 34**

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#### **34.12.3 Post-HASP Process**

In the event ~~there is a transmission limitation on~~ an Intertie ~~is constrained~~ in the import direction ~~by a scheduling limit or Path 26 is constrained in the north-south direction, and 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 ~~Load and~~ CAISO Balancing Authority Demand and Priority Wheeling Through transactions, as described in the Business Practice Manual. The CAISO Demand pro rata share ~~of Load within the CAISO Balancing Authority Area~~ will be based on the lower of (1) ~~the sum of the Real-Time Bid quantities of each applicable Resource Adequacy Resources's, shown non-Resource Adequacy Resources under contract, CPM imports with ATC or supported by TRM, resources supported by ATC awarded in the daily request window process, and imports supported by TRM Real-Time Energy Bid quantity~~ or (2) ~~the sum of its shown Resource Adequacy Capacity and non-Resource Adequacy Capacity under contract that are supported by ATC, including resources supported by capacity awarded ATC in the daily request window process, CPM import capacity awarded ATC or supported by TRM, plus the remaining TRM quantity.~~

The Priority Wheeling Through pro rata share for each Self-Schedule will be based on the lower~~est~~ 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-Schedules of the Priority Wheeling Through transactions, or (23) the Priority Wheeling Through quantity~~ awarded ATC under Section 23. requested 45 days in advance of the month. ~~The ATC for CAISO Demand and Priority Wheeling Throughs cannot exceed the Total Transfer Capability (TTC) of an Intertie. The amount of capacity considered for pro rata~~

allocation in the post-HASP Process cannot exceed the TTC of the Intertie. The ~~available transmission capacity~~ATC the CAISO awards to Priority Wheeling Through transactions in the post-HASP ~~P~~process cannot exceed the Priority Wheeling Through quantity the CAISO calculates in this pro rata allocation. In no event, will the CAISO reduce Priority Wheeling Through transactions solely in the event of a CAISO supply shortfall that triggers a power balance infeasibility. Energy scheduled via the post-HASP process will be settled as Exceptional Dispatch Energy pursuant to Section 11.5.6.1, as applicable.

\* \* \* \* \*

### **Appendix A**

\* \* \* \* \*

#### **- Priority Wheeling Through**

A Wheeling Through Self-Schedule that has obtained a priority under Section 23~~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.~~

## Appendix L

### [Not Used]

#### ~~L.1 — Description of Terms~~

~~The following descriptions augment existing definitions found in Appendix A “Master Definitions Supplement.”~~

#### ~~L.1.1 — Available Transfer Capability (ATC) is a measure of the transfer capability in the physical transmission network resulting from system conditions and that remains available for further commercial activity over and above already committed uses.~~

~~ATC is defined as the Total Transfer Capability (TTC) less the Transmission Reliability Margin (TRM), less the sum of any unused existing transmission commitments (ETComm) (i.e., transmission rights capacity for ETC or TOR), less the Capacity Benefit Margin (CBM) (which value is set at zero), less the Scheduled Net Energy from Imports/Exports, less Ancillary Service capacity from Imports.~~

#### ~~L.1.2 — Total Transfer Capability (TTC) is defined as the amount of electric power that can be moved or transferred reliably from one area to another area of the interconnected transmission system by way of all transmission lines (or paths) between those areas, under specified system conditions. In collaboration with owners of rated paths, the CAISO utilizes rated system path methodology to establish the TTC of CAISO Transmission Interfaces.~~

#### ~~L.1.3 — Existing Transmission Commitments (ETComm) include Existing Contracts and Transmission Ownership Rights (TOR). The CAISO reserves transmission capacity for each ETC and TOR based on TRTC Instructions the responsible Participating Transmission Owner or Non-Participating Transmission Owner submits to the CAISO as to the amount of firm transmission capacity that should be reserved on each Transmission Interface for each hour of the Trading Day in accordance with Sections 16 and 17 of the CAISO Tariff. The types of TRTC Instructions the CAISO receives generally fall into three basic categories:~~

- ~~• The ETC or TOR reservation is a fixed percentage of the TTC on a line, which decreases as the TTC is derated (ex. TTC = 300 MW, ETC fixed percentage = 2%, ETC = 6 MWs, TTC derated to 200 MWs, ETC = 4 MWs);~~
- ~~• The ETC or TOR reservation is a fixed amount of capacity, which decreases if the line's TTC is derated below the reservation level (ex. ETC = 80 MWs, TTC declines to 60 MW, ETC = TTC or 60 MWs; or~~
- ~~• The ETC or TOR reservation is determined by an algorithm that changes at various levels of TTC for the line (ex. Intertie TTC = 3,000 MWs, when line is operating greater than 2,000 MWs to full capacity ETC = 400 MWs, when capacity is below 2000 MWs ETC =  $TTC/2000 * ETC$ ).~~

~~Existing Contract capacity reservations remain reserved during the Day Ahead Market and through the FMM. To the extent that the reservations are unused after the FMM has been run for a given fifteen minute interval, then the capacity reservations are released for the three RTD intervals within that fifteen minute interval.~~

~~Transmissions Ownership Rights capacity reservations remain reserved during the Day Ahead Market and Real Time Market. This capacity is under the control of the Non-Participating Transmission Owner and is not released to the CAISO for use in the markets.~~

~~**L.1.4 ETC Reservations Calculator (ETCC).** The ETCC calculates the amount of firm transmission capacity reserved (in MW) for each ETC or TOR on each Transmission Interface for each hour of the Trading Day.~~

- ~~• CAISO Updates to ETCC Reservations Table. The CAISO updates the ETC and TOR reservations table (if required) prior to Market Close of the DAM and prior to Market Close of the RTM. The amount of transmission capacity reservation for ETC and TOR rights is determined based on the TTC of each Transmission Interface and in accordance with the curtailment procedures stipulated in the existing agreements and provided to the CAISO by the responsible Participating Transmission Owner or Non-Participating Transmission Owner.~~
- ~~• Market Notification. ETC and TOR allocation (MW) information is published for all Scheduling Coordinators which have ETC or TOR scheduling responsibility in advance of the Day-Ahead Market and the Real-Time Market. This information is posted on the Open Access Same-Time Information System (OASIS).~~
- ~~• For further information, see CAISO Operating Procedure M-423, Scheduling of Existing Transmission Contract and Transmission Ownership Rights, which is publicly available on the CAISO Website.~~

~~**L.1.5 Transmission Reliability Margin (TRM)** is an amount of transmission transfer capability reserved at a CAISO Intertie point that is necessary to provide reasonable assurance that the interconnected transmission network will be secure. TRM accounts for the inherent uncertainty in system conditions and the need for operating flexibility to ensure reliable system operation as system conditions change.~~

~~The CAISO uses TRM at Intertie points to account for the following NERC-approved components of uncertainty:~~

- ~~• Forecast uncertainty in transmission system topology, including forced or unplanned outages or maintenance outages.~~
- ~~• Allowances for parallel path (loop flow) impacts, including unscheduled loop flow.~~
- ~~• Allowances for simultaneous path interactions.~~

~~The CAISO establishes hourly TRM values for each of the applicable components of uncertainty prior to the Market Close of the RTM. The CAISO does not use TRM (i.e., TRM values for Intertie points are set at zero) during the beyond day-ahead and pre-schedule (i.e., planning) time frame identified in R.1.3.3 of NERC Reliability Standard MOD-008-1. A positive TRM value for a given hour is set only if one or more of the conditions set forth below exists for a particular Intertie point. Where none of these conditions exist, the TRM value for a given hour is set at zero.~~

~~The methodology the CAISO uses to establish each component of uncertainty is as follows:~~

~~The CAISO uses the transmission system topology component of uncertainty to address a potential ATC path limit reduction at an Intertie resulting from an emerging event, such as an approaching wildfire, that is expected to cause a derate of one or more transmission facilities comprising the ATC path. When the CAISO, based on existing circumstances, forecasts that such a derate is expected to occur, the CAISO may establish a TRM value for the affected ATC path in an amount up to, but no greater than, the amount of the expected derate.~~

The CAISO uses the parallel-path component of uncertainty to address the impact of unscheduled flow (USF) over an ATC path that is expected, in the absence of the TRM, to result in curtailment of Intertie Schedules in Real Time as a result of the requirements established in WECC's applicable USF mitigation policies and procedures (WECC USF Policy). When the CAISO forecasts, based on currently observed USF conditions and projected scheduled flow for an upcoming Operating Hour(s), that in the absence of a TRM, scheduled flow will need to be curtailed in Real Time under the applicable WECC USF Policy, the CAISO may establish a TRM for the ATC path for the applicable hour(s) in an amount up to, but no greater than, the forecasted amount that is expected to be curtailed in Real Time pursuant to the WECC USF Policy.

The CAISO uses the simultaneous-path interactions component of uncertainty to address the impact that transmission flows on an ATC path located outside the CAISO's Balancing Authority Area may have on the transmission transfer capability of an ATC path located at an Intertie. In the event of such path interactions, the CAISO uses a TRM value to prevent the risk of a system operating limit violation in Real Time for the CAISO ATC path. The amount of the TRM value may be set at a level up to, but not greater than, the forecasted impact on the CAISO ATC path's capacity imposed by expected flow on the non-CAISO ATC path.

The CAISO uses the following databases or information systems, or their successors, in connection with establishing TRM values: the CAISO's outage management system pursuant to Section 9, Existing Transmission Contract Calculator (ETCC), PI, EMS, and CAS.

**L.1.6 Capacity Benefit Margin (CBM)** is that amount of transmission transfer capability reserved for Load Serving Entities (LSEs) to ensure access to Generation from interconnected systems to meet generation reliability requirements. In the Day Ahead Market, CBM may be used to provide reliable delivery of Energy to CAISO Balancing Authority Area Loads and to meet CAISO responsibility for resource reliability requirements in Real Time. The purpose of this DAM implementation is to avoid Real Time Schedule curtailments and firm Load interruptions that would otherwise be necessary. CBM may be used to reestablish Operating Reserves. CBM is not available for non-firm transmission in the CAISO Balancing Authority Area. CBM may be used only after:

- all non-firm sales have been terminated,
- direct-control Load management has been implemented,
- customer interruptible Demands have been interrupted,
- if the LSE calling for its use is experiencing a Generation deficiency and its transmission service provider is also experiencing Transmission Constraints relative to imports of Energy on its transmission system.

The level of CBM for each Transmission Interface is determined by the amount of estimated capacity needed to serve firm Load and provide Operating Reserves based on historical, scheduled, and/or forecast data using the following equation to set the maximum CBM:

$$CBM = (Demand + Reserves) - Resources$$

Where:

- Demand = forecasted area Demand
- Reserves = reserve requirements
- Resources = internal area resources plus resources available on other Transmission

## Interfaces

~~The CAISO does not use CBMs. The CBM value is set at zero.~~

### ~~L.2 — ATC Algorithm~~

~~The ATC algorithm is a calculation used to determine the transfer capability remaining in the physical transmission network and available for further commercial activity over and above already committed uses. The CAISO posts the ATC values in megawatts (MW) to OASIS in conjunction with the Market Close for the Day-Ahead Market and Real-Time Market process.~~

~~The following OASIS ATC algorithms are used to implement the CAISO ATC calculation for the ATC-rated path (Transmission Interface):~~

~~ATC Calculation For Imports:~~

~~ATC = TTC – CBM – TRM – AS from Imports – Net Energy Flow – Hourly Unused TR Capacity.~~

~~ATC Calculation For Exports:~~

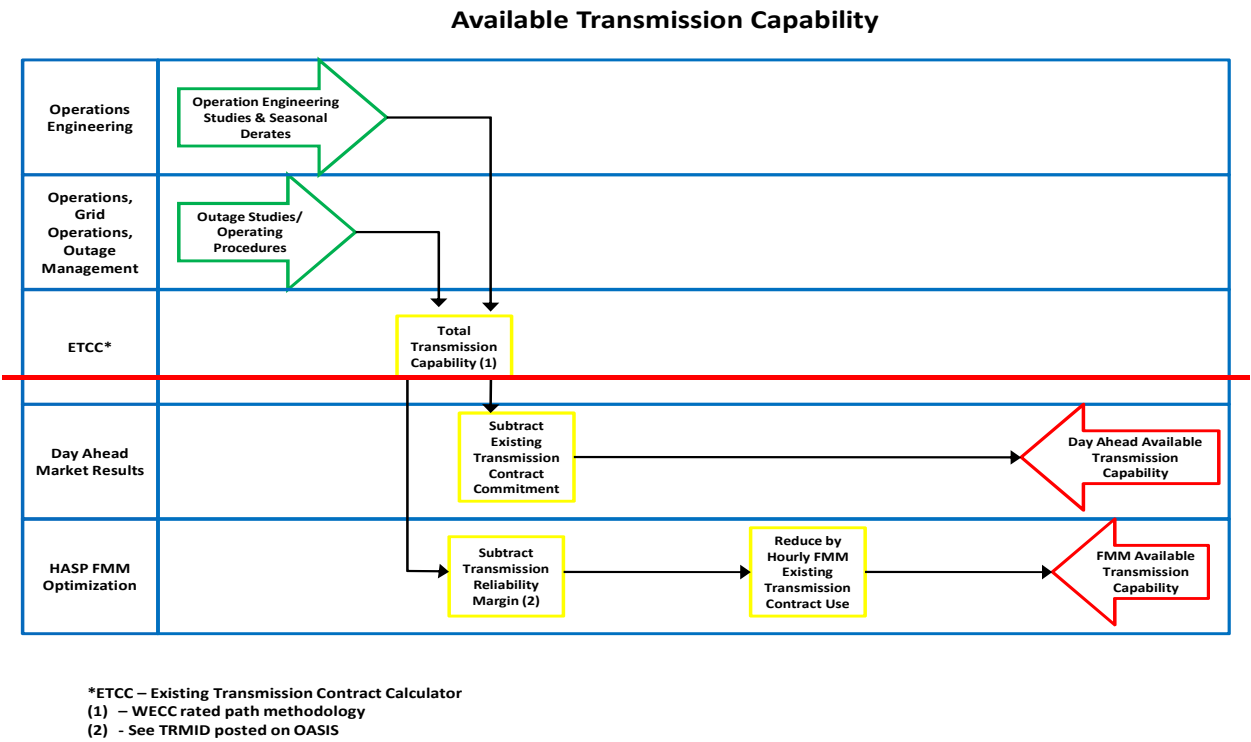
~~ATC = TTC – CBM – TRM – Net Energy Flow – Hourly Unused TR Capacity.~~

~~The specific data points used in the ATC calculation are each described in the following table.~~

<b>ATC</b>	<b>ATC-MW</b>	<b>Available Transfer Capability, in MW, per Transmission Interface and path direction.</b>
<b>Hourly Unused TR Capacity</b>	<b>USAGE_MW</b>	<b>The sum of any unscheduled existing transmission commitments (scheduled transmission rights capacity for ETC or TOR), in MW, per path direction.</b>
<b>Scheduled Net Energy from Imports/Exports (Net Energy Flow)</b>	<b>ENE_IMPORT MW</b>	Total hourly net Energy flow for a specified Transmission Interface.
<b>AS from Imports</b>	<b>AS_IMPORT MW</b>	<b>Ancillary Services scheduled, in MW, as imports over a specified Transmission Interface.</b>
<b>TTC</b>	<b>TTC-MW</b>	<b>Hourly Total Transfer Capability of a specified Transmission Interface, per path direction, with consideration given to known Transmission Constraints and operating limitations.</b>
<b>CBM</b>	<b>CBM-MW</b>	<b>Hourly Capacity Benefit Margin, in MW, for a specified Transmission Interface, per Path Direction.</b>
<b>TRM</b>	<b>TRM-MW</b>	<b>Hourly Transmission Reliability Margin, in MW, for a specified Transmission Interface, per path direction.</b>

~~Actual ATC mathematical algorithms and other ATC calculation information are located in the CAISO's ATC Implementation Document (ATCID) posted to the CAISO Website.~~

**L.3 — ATC Process Flowchart**



**L.4 — TTC Determination**

All transfer capabilities are developed to ensure that power flows are within their respective operating limits, both pre-Contingency and post-Contingency. Operating limits are developed based on thermal, voltage and stability concerns according to industry reliability criteria (WECC/NERC) for transmission paths. The process for developing TTC also requires the inclusion or exclusion of operating Transmission Constraints based on system conditions being studied.

L.4.1 — Transfer capabilities for studied configurations may be used as a maximum transfer capability for similar conditions without conducting additional studies. Increased transfer capability for similar conditions must be supported by conducting appropriate studies.

L.4.1.2 At the CAISO, studies for all major inter-area paths" (mostly 500 kV) TTC are governed by the California Operating Studies Subcommittee (OSS), which provides detailed criteria and methodology. For transmission system elements below 500 kV the methodology for calculating these flow limits is detailed in Section L.4.3 and is applicable to the operating horizon.

L.4.2 — Transfer capability may be limited by the physical and electrical characteristics of the systems including any one or more of the following:

- Thermal Limits — Thermal limits establish the maximum amount of electric current that a transmission line or electrical facility can conduct over a specified time period as established by the Transmission Owner.
- Voltage Limits — System voltages and changes in voltages must be maintained within the range of acceptable minimum and maximum limits to avoid a widespread collapse of system voltage.

- ~~Stability Limits — The transmission network must be capable of surviving disturbances through the transient and dynamic time periods (from milliseconds to several minutes, respectively) following the disturbance so as to avoid generator instability or uncontrolled, widespread interruption of electric supply to customers.~~

~~**L.4.3** — Determination of transfer capability is based on computer simulations of the operation of the interconnected transmission network under a specific set of assumed operating conditions. Each simulation represents a single “snapshot” of the operation of the interconnected network based on the projections of many factors. As such, they are viewed as reasonable indicators of network performance and may ultimately be used to determine Available Transfer Capability. The study is meant to capture the worst operating scenario based on experience and good engineering judgment.~~

~~**L.4.3.1 System Limits** — The transfer capability of the transmission network may be limited by the physical and electrical characteristics of the systems including thermal, voltage, and stability consideration. Once the critical Contingencies are identified, their impact on the network must be evaluated to determine the most restrictive of those limitations. Therefore, the TTC becomes:~~

~~TTC = lesser of {Thermal Limit, Voltage Limit, Stability Limit} following contingencies consistent with requirements of the NERC Reliability Standards~~

~~**L.5** — Developing a Power Flow Base Case~~

~~**L.5.1** — Base cases will be selected to model reality to the greatest extent possible including attributes like area Generation, area Load, Intertie flows, etc. At other times (e.g., studying longer range horizons), it is prudent to stress a base case by making one or more attributes (Load, Generation, line flows, path flows, etc.) of that base case more extreme than would otherwise be expected.~~

~~**L.5.2** — Update a Power Flow Base Case~~

~~The selected base case will be updated to represent the current grid conditions during the applicable season. The following will be considered to update the base cases:~~

- ~~Recent transmission network changes and updates~~
- ~~Overlapping scheduled and Forced Outages~~
- ~~Area Load level~~
- ~~Major path flows~~
- ~~Generation level~~
- ~~Voltage levels~~
- ~~Operating requirements~~

~~**L.5.2.1 Outage Consideration**~~

~~Unless detailed otherwise, the CAISO considers modeling Outages of:~~

- ~~Transmission lines, 500 kV~~
- ~~Transformers, 500/230 kV~~
- ~~Large Generating Units~~



- ~~Generating Units within the studied area~~
- ~~Transmission elements within the studied area~~

~~At the judgment of the CAISO, only the necessary Outages will be modeled to avoid an unnecessarily burdensome and large number of base cases.~~

#### **~~L.5.2.2 Area Load Level~~**

~~Base case Demand levels should be appropriate to the current studied system conditions and customer Demand levels under study and may be representative of peak, off-peak or shoulder, or light Demand conditions. The CAISO estimates the area Load levels to be utilized in the peak, partial peak and/or off-peak base cases. The CAISO will utilize the current CAISO Load forecasting program (e.g., ALFS), ProcessBook (PI) or other competent method to estimate Load level for the studied area. Once the appropriate Load levels are determined, the CAISO may scale the base case Loads to the area studied, as appropriate.~~

#### **~~L.5.2.3 Modify Path Flows~~**

~~The scheduled electric power transfers considered representative of the base system conditions under analysis and agreed upon by the parties involved will be used for modeling. As needed, the CAISO may estimate select path flows depending on the studied area. In the event that it is not possible to estimate path flows, the CAISO will make safe assumptions about the path flows. A safe assumption is more extreme or less extreme (as conservative to the situation) than would otherwise be expected. If path flow forecasting is necessary, if possible the CAISO will trend path flows on previous similar days.~~

#### **~~L.5.2.4 Generation Level~~**

~~Utility and non-utility Generating Units will be updated to keep the swing Generating Unit at a reasonable level. The actual unit by unit Dispatch in the studied area is more vital than in the unstudied areas. The CAISO will examine past performance of select Generating Units to estimate the Generation levels, focusing on the Generating Units within the studied area. In the judgment of the CAISO, large Generating Units outside the studied area will also be considered.~~

#### **~~L.5.2.5 Voltage Levels~~**

~~Studies will maintain appropriate voltage levels, based on operation procedures for critical buses for the studied base cases. The CAISO will verify that bus voltage for critical busses is within tolerance. If a bus voltage is outside the tolerance band, the CAISO will model the use of voltage control devices (e.g., synchronous condensers, shunt capacitors, shunt reactors, series capacitors, generators).~~

### **~~L.6 Contingency Analysis~~**

~~Contingency analysis studies are performed in an effort to determine the limiting conditions, especially for scheduled Outages, including pre and post Contingency power flow analysis modeling pre and post Contingency conditions and measuring the respective line flows, and bus voltages.~~

~~Other studies like reactive margin and stability may be performed as deemed appropriate.~~

#### **~~L.6.1 Operating Criteria and Study Standards~~**

~~Using standards derived from NERC and WECC Reliability Standards and historical operating experience, the CAISO will perform Contingency analysis with the following operating criteria:~~

##### **~~Pre-Contingency~~**

- ~~All pre-Contingency line flows shall be at or below their normal ratings.~~
- ~~All pre-Contingency bus voltages shall be within a pre-determined operating range.~~

#### **Post-Contingency**

- ~~All post-Contingency line flows shall be at or below their emergency ratings.~~
- ~~All post-Contingency bus voltages shall be within a pre-determined operating range.~~

~~The CAISO simulates the appropriate Contingencies as required by applicable NERC and WECC Reliability Standards and criteria.~~

#### **L.6.2 Manual Contingency Analysis**

~~If manual Contingency analysis is used, the CAISO will perform pre-Contingency steady-state power flow analysis and determines if pre-Contingency operating criteria is violated. If pre-Contingency operating criteria cannot be preserved, the CAISO records the lines and buses that are not adhering to the criteria. If manual post-Contingency analysis is used the CAISO obtains one or more Contingencies in each of the base cases. For each Contingency resulting in a violation or potential violation in the operating criteria above, the CAISO records the critical post-Contingency facility loadings and bus voltages.~~

#### **L.6.3 Contingency Analysis Utilizing a Contingency Processor**

~~For a large area, the CAISO may utilize a Contingency processor.~~

#### **L.6.4 Determination of Crucial Limitations**

~~After performing Contingency analysis studies, the CAISO analyzes the recorded information to determine limitations. The limitations are conditions where the pre-Contingency and/or post-Contingency operating criteria cannot be conserved and may include a manageable overload on the facilities, low post-Contingency bus voltage, etc. If no crucial limitations are determined, the CAISO determines if additional studies are necessary.~~

#### **L.7 Traditional Planning Methodology to Protect Against Violating Operating Limits**

~~After performing Contingency analysis studies, the CAISO next develops the transfer capability and develops procedures, Nomograms, RMR Generation requirements, or other Transmission Constraints to ensure that transfer capabilities respect operating limits.~~

#### **L.8 Limits for Contingency Limitations**

~~Transfer limits are developed when the post-Contingency loading on a transmission element may breach the element's emergency rating. The type of limit utilized is dependent on the application and includes one of the following limits:~~

- ~~Simple Flow Limit — best utilized when the derived limit is repeatable or where parallel transmission elements feed radial Load.~~
- ~~RAS — existing Remedial Action Schemes (RAS) may impact the derivation of simple flow limits. When developing the limit, the CAISO determines if the RAS will be in-service during the Outage and factors the interrelationship between the RAS and the derived flow limit. CAISO will update the transfer limits in recognition of the changing status and/or availability of the RAS.~~

**Attachment E – Final Proposal**

**Tariff Amendment Filing**

**Short-Term Wheeling Through Self-Schedule Priorities**

**California Independent System Operator Corporation**

**July 28, 2023**



California ISO

# **Transmission Service and Market Scheduling Priorities – Phase 2**

Final Proposal

January 18, 2023

**Transmission Service and Market Scheduling Priorities Initiative****California ISO****Phase 2 Final Proposal****Table of Contents**

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**Transmission Service and Market Scheduling Priorities Initiative****California ISO****Phase 2 Final Proposal**

## **1 Introduction**

This final proposal presents a long-term, durable framework to establish wheeling through scheduling priorities in the ISO markets that can further evolve with operational experience. This final proposal, and prior proposal iterations, have been informed by stakeholder working groups, conversations with other transmission service providers and regional transmission organizations/independent system operators, and input/comments the ISO has received from stakeholders. This initiative does not focus on, nor does it change, the processes for wheeling out or exporting from the ISO balancing area.

Evolving conditions across the western grid necessitate developing a durable framework for establishing wheeling through priority across the ISO balancing authority area. Supply shortfalls across the western interconnection<sup>1</sup> are contributing to increased dependence on import generation to serve load reliably. This generation may need to be wheeled through other transmission systems. A workable framework for establishing market scheduling priority for wheeling through the ISO system is a critical issue for external and internal load serving entities, and this is a key topic as the West considers different regional market designs. This final proposal introduces a design to identify available transfer capability (ATC) across its system, while also providing external entities the opportunity to drive transmission upgrades across the ISO system to support a wheeling through priority. Together with other innovative efforts to unlock grid capacity, including non-wires solutions and coordinated operational efforts throughout California and the West, as well as transmission expansions in and outside of the ISO, a durable wheeling priority framework will support robust inter-regional trades that benefit everyone in the Western Interconnection.

This final proposal will be presented to the ISO Board of Governors for decision on February 1<sup>st</sup>, 2023.

## **2 Executive Summary**

This final proposal describes the design for establishing wheeling through market scheduling priority on the ISO system while effectively accounting for transmission capacity needed to

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<sup>1</sup> Western Electric Coordinating Council (WECC), *The Western Assessment of Resource Adequacy Report* (December 18, 2020).

<https://www.wecc.org/Administrative/Western%20Assessment%20of%20Resource%20Adequacy%20Report%202021218.pdf>

**Transmission Service and Market Scheduling Priorities Initiative****California ISO****Phase 2 Final Proposal**

serve native load. The proposed framework minimizes seams issues between the Open Access Transmission Tariff (OATT) framework that is prevalent across the West and the ISO's organized market by providing external load serving entities the opportunity to establish a high scheduling priority for wheeling through transactions in advance. This does not modify the existing processes and priorities for wheeling out or exporting from the ISO balancing area. The following are the key design elements of the proposed framework for establishing wheeling through scheduling priority across the ISO system:

- *Calculating Available Transfer Capability (ATC) in monthly and daily increments* – the proposal is to calculate ATC across the interties to derive an amount of transmission capacity that entities seeking to wheel through the ISO system can reserve in advance to establish a scheduling priority equal to ISO load. The ISO will calculate ATC in monthly increments across a rolling 13-month horizon and in the daily timeframe across a 7-day rolling horizon. In calculating ATC, the ISO will set aside an amount of transmission capacity for existing commitments, including anticipated native load needs and load growth. The native load needs, including load growth, would be estimated based on historical volumes of import supply contracted by ISO load serving entities as represented by historical resource adequacy (RA) imports and contracted import supply that may not have been shown on resource adequacy plans. The design also provides for the ability to inform the historical assumptions to the extent load serving entities can demonstrate forward contracted import supply at the time that the ATC is initially calculated for a particular month. The design also provides for the set aside of transmission capacity for uncertainty that may materialize across the different horizons as a transmission reliability margin (TRM).
- *Accessing and Reserving ATC* – the proposal is that ATC on the interties be accessed through a request window process through which parties submit requests to reserve ATC on an intertie to establish wheeling through scheduling priority. Parties would compete to the extent there are more requests than there is ATC. Requests would be submitted during a specified window period, and parties can request ATC across the horizon for which ATC is calculated, both in the monthly horizon and daily horizons. If there is not sufficient ATC to accommodate all the requests, the requests will compete with each other based upon the number of hours for which they seek a priority across the horizon for which ATC is calculated. The requested hours must align with the service hours in an underlying supply contract, which is a requirement to support priority wheeling through transactions across the ISO. Entities securing ATC following this process will receive certainty that they have secured the ATC, and such ATC cannot be taken back or be preempted later (in a future request window). Further, the proposal is that entities requesting the ATC must demonstrate they have a firm power supply contract in place to serve external load (or a power supply contract conditioned upon

## Transmission Service and Market Scheduling Priorities Initiative

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securing of wheeling through scheduling priority across the ISO system). Once the ATC is obtained, the design allows the wheeling through customer to resell the wheeling through scheduling priority.

- *Transmission study and expansion process* – the proposal describes a process where entities seeking to establish wheeling through scheduling priority for one-year or longer can submit a request for a study. The ISO will study such requests in a cluster with other like requests and generator interconnection requests, leveraging the Generator Interconnection and Deliverability Allocation Procedures (GIDAP).<sup>2</sup> If a transmission upgrade is needed to accommodate service, the entity submitting the request would be able to fund the transmission upgrade and receive a wheeling through scheduling priority equal to load on a long-term basis. The wheeling through customer funding the upgrade would receive transmission credits to repay the funding of the transmission upgrade, the process which will be further defined in the tariff drafting process.
- *Application of priorities in post-HASP process* – the proposal retains application of a post-HASP process that effectuates adjustments or curtailments of priority wheeling through transactions and ISO load in specified conditions. These curtailments are triggered only in corner case stressed system conditions if (1) there is a transmission limitation on the intertie and (2) a power balance infeasibility is triggered due to an inability to serve load. In those instances, under the final proposal and consistent with current practice, the post-HASP process will curtail, on a pro-rata basis to obtain the necessary relief, scheduled Priority Wheeling Through transactions and scheduled ISO load transactions.<sup>3</sup> Under the final proposal, to ensure a mere overload on an intertie that is not derated does not result in an inappropriate curtailment of high priority transactions, the proposal adopts a rule whereby the amount of awarded Priority Wheeling Through transactions plus the amount of capacity represented as ISO load for the hour (set aside transmission for historical contracted imports, contracted imports securing daily ATC, imports under TRM, and CPM imports to the extent they are supported by ATC or otherwise TRM) cannot exceed the TTC of the intertie for purposes of conducting a post-HASP process.

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<sup>2</sup> CAISO Business Practice Manual, *Generator Interconnection and Deliverability Allocation Procedures*, 2022.

<sup>3</sup> Under the final proposal, ISO load will be represented by contracted imports for which transmission capacity has been set aside in the monthly horizon, any contracted import supply supported by ATC obtained in daily timeframe, import supply supported by TRM, and import supply procured by the ISO under Capacity Procurement Mechanism (CPM) to the extent there is any remaining ATC that can be allocated for CPM or it is otherwise within the TRM amounts set aside.



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- *Compensation framework for wheeling through scheduling priority* – the proposal is that entities obtaining wheeling through scheduling priority pay the Wheeling Access Charges (WAC) for the month(s) or day(s) across which ATC is reserved based upon the energy delivery timeframes of the underlying power supply contract. For example, an entity seeking wheeling through priority to support delivery of a 6x16 supply contract would pay the WAC on that same basis, whether or not the transaction is actually scheduled on a given day. This approach recognizes the value of establishing a wheeling through scheduling priority equal to load.

The ISO is committed to monitoring the effectiveness of the design, and based on operational experience, evolving the design through an open and transparent stakeholder process. The elements of the design framework are further described in the sections below.

### 3 Changes from Draft Final to Final Proposal

This final proposal introduces several design changes or clarifications compared to the draft final proposal that are highlighted here:

- *Calculating native load needs*: the proposal introduces the ability to consider executed contracts for import supply at the interties in informing and improving the accuracy of the set aside of transmission capacity for native load needs. The methodology for setting aside transmission capacity for native load needs is based on historical volumes of import supply ISO load serving entities have under contract at an intertie. If a load serving entity has entered into a long term contract that can be shown at the time the ISO first calculates ATC for a particular month in the 13-month horizon, the contract can be used to more accurately inform the set aside of transmission capacity for native load.
- *Calculating TRM*: the proposal recognizes, in response to stakeholder comments, that the TRM values and components of uncertainty can vary depending on the timing of the TRM calculation as conditions and uncertainty on the grid change driven by a range of factors. The proposal provides for the set aside of TRM on the interties, and to the extent conditions warrant, by the time that the initial ATC numbers are calculated, the ISO will articulate the need and rationale for the adjustment subject to stakeholder review.
- *Post-HASP process effectuating schedule curtailments*: the proposal further clarifies that inclusion of ISO procured import supply under the Capacity Procurement Mechanism (CPM) to manage stressed grid conditions can be included in the post-HASP ratio effectuating pro-rata adjustments between priority wheel through transactions and ISO load to the extent there is remaining ATC to accommodate the CPM or it is supported by transmission set aside as TRM, but would otherwise not be

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included within the pro-rata assessment. Furthermore, the proposal clarifies that in effectuating the post-HASP schedule adjustments between priority wheeling through transactions and ISO load, the sum of the different transaction considered in the assessment should not exceed the TTC of the intertie.

- *Long-term study process:* the proposal introduces that wheeling through customers funding transmission upgrades to support the establishment of wheeling through priority on a long term basis will be responsible for funding the upgrade either through a crediting-type mechanism or comparable framework consistent with FERC policy.

## **4 Initiative Background**

In January 2021, the ISO conducted an expedited stakeholder initiative - *Market Enhancements for Summer 2021 Readiness* - which evaluated market enhancements in anticipation of challenging system conditions in summer 2021. As a result of this initiative, on April 28, 2021, the ISO filed a tariff amendment, among other elements, to implement interim Wheeling Through scheduling priorities. In June 2021, FERC approved the proposed scheduling priorities on an interim basis through May 31, 2022.<sup>4</sup>

As part of the same initiative, the ISO committed to undertake a separate effort to develop a long-term, holistic, framework for establishing scheduling priorities in the ISO's markets. In July 2021, the ISO launched the *Transmission Service and Market Scheduling Priorities* initiative. The ISO divided the initiative into two phases. Phase 1 focused on more immediate enhancements to the wheeling through priorities framework for summer 2022, and phase 2 focused on developing a longer-term framework for establishing wheeling through scheduling priority across the ISO system.

In phase 1, the ISO proposed extending the interim wheeling through scheduling priorities through May 31, 2024. This would allow the ISO and stakeholders additional time to develop a durable scheduling priorities framework, while providing certainty regarding the rules for wheeling through the ISO system during the next two summers, pending implementation of a long-term solution.<sup>5</sup>

This final proposal sets forth a workable framework for establishing wheeling through market scheduling priority across the ISO system that can evolve with operational experience, while recognizing the ISO's unique market and service structure and ensuring native load is adequately protected. This proposal is informed by the practices of other western transmission providers and ISOs/RTOs, as well as input received from stakeholders.

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<sup>4</sup> *California Independent System Operator Corporation*, 175 FERC ¶61,245 (2021).

<sup>5</sup> *California Independent System Operator Corporation*, 178 FERC ¶61,182 (2022).

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In developing the framework described in this final proposal, the ISO secured the consulting services of Open Access Technology International Inc. (OATI) in March 2022. OATI was a key contributor to the development of this initial proposed design and the analysis shared in this proposal. OATI has written an opinion on discrete elements of the proposal and this opinion will be posted commensurate with or soon after the publication of this proposal.

## **4.1 Interdependency with Existing Initiatives**

There are interdependencies between this initiative and the Extended Day Ahead Market Enhancements (EDAM) initiative. The EDAM design contemplates that entities depending upon import resources to meet their resource sufficiency evaluation will need to demonstrate and make available to the market high quality transmission associated with the delivery of that import, *i.e.*, “Bucket 1” transmission. This ensures that high quality transmission supports resources used to demonstrate resource sufficiency, instilling further confidence in transfers and making high quality transmission available to the market to support transfers between EDAM balancing authority areas. The one nuanced difference pertains to delivered firm energy products, which are prevalent across the West and are an important source of supply (*i.e.*, WSPP Schedule C contract or similar arrangements), where the EDAM entity or LSE in an EDAM balancing area takes title to the power at the border of its balancing area. These transactions would be self-scheduled in the market. The EDAM encourages this supply to be delivered on high quality transmission, but it does not dictate specific requirements because such supply would be self-scheduled without the market optimizing the transmission. As such, this supply may potentially be delivered across EDAM balancing areas on transmission less than firm.

This final proposal describes the design for establishing wheeling through scheduling priority equal to load across the ISO system. The design allows an entity to reserve wheeling through scheduling priority in advance, across monthly and daily horizons. In the context of EDAM transactions, if an EDAM entity relies on delivered firm energy contracts where title to power is taken at the border of the EDAM entity balancing area, these transactions are self-scheduled and could be supported by high wheeling through scheduling priority or low wheeling through scheduling priority across the ISO system, just like they could be supported by firm or less than firm transmission across other EDAM balancing areas under OATT arrangements.

In comments to the draft final proposal, one stakeholder requested clarification on whether the ISO would optimize transmission in the day ahead market if the wheeling through priority transaction was not scheduled and what other implications may be if wheeling through priority transactions are not scheduled in day ahead but are exercised in real time. In the EDAM, the ISO will continue to support high priority wheeling through transactions particularly to non-EDAM balancing areas. However, if a balancing area joins the EDAM, transactions across

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EDAM balancing areas become market transfers, the market and participating balancing areas will afford these transfers equal priority to load in corner case scenarios as described in the EDAM proposal.<sup>6</sup> The ISO will honor EDAM transfers, high priority wheeling through transactions to non-EDAM balancing areas on an equal basis to load in the EDAM. As today, the market will continue to optimize all available transmission at the ISO intertie and across the ISO network to support efficient resource commitment in the day ahead timeframe, even if the high priority wheeling through transaction has not been scheduled in day ahead. If the wheeling through transaction is scheduled in the real-time market, the market will accommodate it through re-dispatch and afford it equal priority to load.

The ISO will continue to monitor the interdependencies between the designs and seek to align these designs as appropriate.

## **4.2 Problem Statement**

The ISO only has one category of transmission not associated with existing rights – new firm use.<sup>7</sup> The ISO does not require, or provide for, forward transmission service reservations. All transmission service on the ISO is “daily” and is associated with awards and schedules arising out of the day-ahead and real-time markets. Reserving transmission service is not a prerequisite to participate in the ISO market, either the day-ahead market or the real-time market, and the ISO does not use transmission reservations to manage the priority of schedules to address system constraints. Instead, the ISO manages schedules on its grid through the day-ahead and real-time markets and applies scheduling priorities defined in its tariff to adjust self-schedules (*i.e.*, price taker bids) in its markets.<sup>8</sup> The ISO markets honor these self-schedules if there is sufficient generation and transmission capacity to support them. If there is insufficient supply or binding transmission constraints, the ISO markets will adjust self-schedules to clear the market. The market software determines the priority order in which the various self-schedules are adjusted or curtailed using market parameters known as “penalty

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<sup>6</sup> Extended Day Ahead Market Final Proposal, section II.A.2, December 7<sup>th</sup>, 2022.

<sup>7</sup> ISO tariff section 23 defines new firm use as “any use of the ISO transmission service, except for uses associated with Existing Rights or TORs.”

<sup>8</sup> The scheduling priorities in the day-ahead market are specified in ISO tariff section 31.4, and the scheduling priorities for the real-time market are specified in ISO tariff section 34.12.

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prices.”<sup>9</sup> These penalty prices are set to specific values to (1) determine the conditions under which the market may relax a constraint or curtail a self-schedule, and (2) establish the market prices when these events happen.<sup>10</sup>

Unlike the tariff provisions of other transmission providers, the ISO tariff does not set aside capacity for native load or native load growth. The ISO implemented the interim wheeling through tariff provisions as a means to protect native load during stressed grid conditions pending development of a longer-term solution. The ISO recognizes that its interim native load protections differ from the native load protections under the OATT and those commonly used by other transmission providers. This final proposal presents a framework under which entities seeking to wheel through the ISO system can establish a market scheduling priority equal to load by reserving ATC across different time horizons. It also includes the opportunity for parties to pursue transmission system upgrades across the ISO system to support wheeling through transactions when there is insufficient ATC. Entities that do not secure the ATC in advance can continue to wheel through the ISO system, but as today, those wheeling through transactions will have a lower market scheduling priority than ISO load and the wheeling through transactions that have secured in advance scheduling priority.

### 4.3 Current Scheduling Priorities Framework in the ISO Market

As noted above, the ISO manages schedules on its grid through the day-ahead and real-time markets and applies scheduling priorities defined in its tariff to adjust self-schedules (*i.e.*, price taker bids) in its markets. The table below summarizes the current scheduling priorities in the day ahead and real time markets.

<b>Day Ahead Market<sup>11</sup></b>	<b>Real Time Market<sup>12</sup></b>
Priority wheel-through, PT exports, Load	Priority wheel-through, PT exports, Load
Non priority wheel-through, LPT exports	DAM LPT exports, DAM LPT wheels

<sup>9</sup> 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.

<sup>10</sup> See existing tariff section 27.4.3 *et seq.*; see also business practice manual for market operations, section 6.6.5.

<sup>11</sup> ISO tariff section 31.4.

<sup>12</sup> ISO tariff section 34.12.

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Economic transactions (exports, wheels)	RT LPT exports, RT LPT wheels
	Economic transactions (exports, wheels)

Focusing more specifically on wheeling through scheduling priorities, entities can establish a high scheduling priority by registering a wheeling through transaction at least 45 days ahead of the month by (1) demonstrating a firm power supply contract to serve an external Load Serving Entity's load throughout the month, and (2) firm transmission for the month has been procured to deliver the supply to the ISO border.<sup>13</sup> Entities can wheel through the ISO system without meeting the requirements above, but the wheeling through transactions will have a lower scheduling priority as described in the table above.

#### **4.4 Application and Firmness of Scheduling Priorities in the Market**

In comments to the draft final proposal, several stakeholders requested additional information regarding the application and level of firmness of the wheeling through scheduling priorities in the market. In particular, these stakeholders were interested in understanding the conditions that would cause a wheel through with high scheduling priority to be curtailed and how the priority compares to the firm transmission curtailment priority under the OATT. One of the reasons behind the request is to evaluate whether high wheeling through scheduling priority is consistent in quality to firm transmission service under the OATT and can support showings and delivery of supply under the Western Resource Adequacy Program (WRAP).<sup>14</sup>

The ISO's organized market has at its disposal several tools to manage and mitigate the impacts of both transmission derates and supply challenges, and to avoid or ameliorate potential scheduled adjustments or curtailments. For example, as discussed later, if there are internal transmission path derates, the market would seek to automatically re-dispatch supply across the system to avoid schedule adjustments to transactions, including wheeling through transactions across the ISO system. In that context, there are inherent differences between an organized market such as the ISO's and the bilateral transmission and supply paradigm, and the factors that drive intertie schedule adjustments may be different and can be different under both regimes.

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<sup>13</sup> ISO tariff section 30.5.4.

<sup>14</sup> Full implementation of the WRAP is expected closer to the 2028, providing additional time to gain experience with the proposed design and continuing to work collaboratively to ensure compatibility between the WRAP and ISO markets.

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Under the current scheduling priorities framework, if there are conditions on the grid that necessitate intertie schedule adjustments, the market would first seek to adjust economic offers and then lower priority transactions, before seeking to adjust high priority transactions – priority wheeling through schedules and self-schedule imports serving ISO load.<sup>15</sup> The ISO will not reduce priority wheeling through schedules in the event due only to a supply shortfall that triggers a power balance infeasibility. In these instances, if there is a power balance infeasibility only, and absent transmission limitations, the market may adjust economic schedules or lower priority transactions, but it will not seek to adjust the schedules of high priority wheeling through transactions at the interties because curtailment of the balanced import and export side of the wheel does not provide relief for a supply shortfall as they are net zero (import and export) energy contribution transactions to the power balance of the system.

The design described in this proposal introduces a methodology for calculating the amount of transmission capacity that can be made available, at individual interties, for reservation in advance to establish wheeling through priority. The ATC calculation provides an inherent limit to the allocation of transmission capacity not to exceed the total transfer capability of the intertie between priority wheeling through transactions, native load, and margins for uncertainty. This is an important factor in avoiding transmission over-scheduling or over-allocation of priority transactions at an intertie, and as will be discussed later, further contributes to decreasing the risk of triggering the need for adjustments of priority wheeling through transactions and ISO load transactions on a pro-rata basis. This is compared to today where there is no inherent ATC check or limitation to establishing priority, and practically speaking, priority transactions scheduled across an intertie could potentially exceed the TTC.

Applying the wheeling through high scheduling priorities and triggering the post-HASP process occurs only if two conditions are met: (1) there is a supply insufficiency in the ISO area such that there is a power balance infeasibility in the market, and (2) there is a transmission limitation on the intertie. A power balance infeasibility is triggered when the market indicates that there is insufficient internal, intertie or other supply to serve load. If the interties are not fully scheduled or otherwise are not limited, the infeasibility persists and there is transmission capacity to bring in additional imports, but there is just not enough supply offered to cure the infeasibility. If there is an infeasibility combined with a transmission limitation on an intertie, and there is economic and self-scheduled<sup>16</sup> supply in excess of the intertie capacity available, the market would seek to adjust economic offers first and then low priority transactions to respect the intertie

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<sup>15</sup> Section 6.1.6 of the final proposal discusses further effectuation of the priorities within the post-HASP process and the different components of the pro-rata assessment.

<sup>16</sup> Self-scheduled supply is willing to provide supply regardless of price.

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transmission limit to allow self-scheduled supply access to the limited import capability. If these adjustments are inadequate to address the transmission constraint, the market may need to make further adjustments to priority wheeling through schedules and self-scheduled imports serving ISO load at the intertie on a pro-rata basis through the post-HASP process. The proposed allocation of transmission capacity between priority wheels through the system, native load set asides and the uncertainty margin, and any remaining ATC, so that it does not exceed the total transfer capability provides an upper bound to the adjustments between priority wheeling through transactions on a pro-rata basis to obtain the needed relief and it reduces the need to trigger the post-HASP allocation since there can be no over-scheduling of priority transactions condition that would trigger the process. Thus, both conditions must be present to trigger the post-HASP process: (1) a transmission limitation on an intertie such that no additional transactions can flow (*i.e.*, due to a derate); and (2) a power balance infeasibility in the ISO area that can only be mitigated through import of additional supply across that particular limited intertie. These events are corner case, very rare events, due to the confluence of conditions that would need to occur. If there is sufficient supply available behind any other interties that are not limited, the power balance infeasibility would not trigger.

One stakeholder expressed concern that in corner cases, when there are limitations on an intertie, but not yet a power balance infeasibility, the ISO load conformance in the market may create a power balance infeasibility at the same time there is supply and priority wheels competing for limited transmission. It is important to clarify that the default approach of the post-HASP process is not to curtail or adjust schedules automatically; rather, operators have to explicitly review and approve application of the calculated post-HASP schedule adjustments. If operators use load conformance in the market, and it triggers an infeasibility which also results in needing the additional supply that is competing with priority wheels across an intertie with a limitation, the process would not automatically adjust wheel schedules. Rather, operators must evaluate overall conditions, through a manual check, the post-HASP results and whether the load conformance caused the power balance infeasibility, ultimately having the ability to discern whether to confirm and issue the post-HASP schedule adjustments, and whether these are necessary because it is determined the infeasibility represents a condition that actual load shed is necessary versus infeasibility being caused by load conformance and load is not actually at risk. The ISO believes this is an important consideration that further limits risk and appropriately allows operations to determine whether or not to approve the calculated reductions of high priority transactions on a pro-rata basis between priority wheeling through transactions and ISO load transactions. The ISO will pursue additional internal process enhancements to ensure that operators are aware of the power balance infeasibility status relative to the applied level of load conformance to be one additional reference for operators to assess the conditions leading to the adjustments of priority wheeling through transactions by the market that may put at risk priority transactions. The ISO further notes that there are several ongoing efforts to decrease dependence on load conformance, *e.g.*, the development



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of a flexible ramping product that is procured through the market rather than through load conformance. The ISO will continue to work with stakeholders to consider further reductions in frequency and the need for load conformance. Regardless, the process is designed only to curtail high priority wheels if all the following conditions exist: 1) power-balance constraint triggered, 2) supply is available behind binding transmission constraint, 3) scheduled high priority wheels are exceeding their allocated capacity (must be derate or higher RA showings than historical RA+TRM), and then 4) Operators determine load is actually at risk as they evaluate post-HASP results.

If there is a derate on ISO internal transmission facilities, the market will seek to redispatch supply to avoid curtailing internal or intertie schedules, including wheels through the system. This also adds a level of confidence and reliability because internal transmission derates can still allow wheeling through transactions to flow.

The different confluence of conditions that must come together and the measures that the market provides to avoid curtailment of priority wheeling through transactions are in large part the reason why since the inception of the high priority wheeling through framework in August 2021. The proposal of allocating ATC at the interties and providing a structure that manages priority transactions to within the TTC of the intertie will further reduce the potential for priority wheeling through transaction curtailments and ISO load transactions beyond what has been observed under stressed conditions.

Under the OATT framework, as described by stakeholders, firm transmission service denotes the highest priority of transmission service. These priorities apply in a transmission derate scenario, and these stakeholders noted that they would not curtail transmission schedules based on these priorities under supply shortfall conditions. In the event of a transmission derate, the transmission provider will curtail transmission schedules based on the quality and priority of transmission service with non-firm transmission schedules being curtailed before firm transmission service. These curtailments can result from derates on interties to the balancing area or derates or congestion on internal network flowgates or paths. The likelihood or risk of curtailment of firm service depends on the volume of non-firm transmission on the path because the less non-firm is scheduled, the more likely the needed relief will be obtained through curtailing firm transmission. To the extent curtailment of non-firm transmission does not provide the necessary level of relief, firm transmission service may be curtailed.

The ISO believes that a wheeling through scheduling priority is comparable to firm transmission service under the OATT with regard to the risk of curtailment, likely providing a comparable or lower risk of curtailment than firm transmission service under the OATT. As explained earlier, on the ISO system, in the organized market context, there is generally a confluence of factors that must occur before high priority transactions are at risk of curtailment. Discerning the differences between the market and the OATT frameworks teases out different application of the priorities. Whereas the market optimizes supply and transmission to produce an efficient

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market schedule and utilizes redispatch to effectuate all schedules even if there are individual transmission derates on the system, under the OATT framework entities schedule supply delivery over individually reserved transmission paths or flowgates. This can result in firm service curtailment if the line on which a point to point transaction depends is derated or goes on outage, and the customer has no right to redispatch. In other words, scenarios exist where firm schedules may be cut under the OATT frameworks, but such would not occur in the ISO's organized market framework because the ISO optimizes the system to serve all scheduled transactions. The lack of any curtailments of priority wheeling transmission in the ISO market since August 2021 – and given the severe heat event in September 2022 - is evidence of the high level of confidence and reliability of priority wheeling through transactions across the ISO system. Furthermore, as noted earlier, the risk of curtailments materializing is further reduced as compared to today since ATC and transmission capacity will be allocated within the total transfer capability of an intertie, avoiding adjustments due to over-scheduling of priority transactions in non-derate conditions. Other transmission providers in the West may face a higher frequency of firm transmission curtailments across portions of their system.

The ISO recognizes that as the Western landscape evolves, with the development of a wider Western resource adequacy program and new emerging organized markets, it will be important to continue to coordinate and manage interoperability between programs. This can be achieved by recognizing the different paradigms in the West and priority structures where the level of confidence and reliability in transactions is comparable, through potential seams agreements, or other structures. The ISO looks forward to continued collaborative engagement and coordination as the different Western programs become more defined and evolve.

## **5 Design Principles**

The ISO introduced several design principles in Phase 1 of the initiative and then refined them in the issue paper in response to stakeholder comments. In the straw proposal, the ISO introduced these refined design principles for stakeholder input and stakeholders commenting on these provided general support. The following principles are important for designing and developing a durable framework for establishing wheeling through scheduling priorities:

- Ensure the ISO maintains sufficient transmission capacity to meet native load needs reliably while providing non-discriminatory access to the transmission system consistent with open access principles;
- Ensure the framework is compatible with the ISO's existing, unique market design and does not unduly disrupt that design;

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- Minimize seams issues between the ISO organized market and the OATT framework prevalent across the west, while recognizing differences between the two frameworks exist;
- Support reliable service to load in the ISO and across western balancing authority areas; and
- Ensure ISO has the tools and processes necessary to manage the grid reliably.

These guiding principles recognize the importance of continuing to ensure open access to the ISO transmission system, while also ensuring that the native load needs can be reliably met. The principles also recognize there are inherent differences between the ISO's organized market paradigm and the OATT paradigm, and the design should seek to "bridge" seams to support competitive markets and the dependability of transactions that rely on the ISO system. The design framework also must be compatible with the current ISO market structure and evolving market policies, including the EDAM design. The ISO believes the design put forward in this final proposal is consistent with, and adheres to, the aforementioned principles.

## **6 Proposed Design: Establishing Wheeling Through Scheduling Priority – Monthly and Daily Horizons**

Previous proposal iterations introduced a design under which entities seeking to wheel through the ISO system can establish wheeling through market scheduling priority equal to ISO load in monthly increments, across a 13-month horizon, and daily increments across a 7-day horizon. Stakeholder comments supported the framework for deriving ATC that can be accessed to establish wheeling through scheduling priority, similar to how other transmission providers calculate ATC under their procedures. As part of the ATC calculation, the ISO would derive the transmission to be set aside for forecasted native load needs and the resulting transmission available to establish wheeling through scheduling priority.

The draft final proposal described the methodologies for calculating different components of the overall ATC methodology across the monthly and the daily time horizons. The proposal described the methodology for calculating the Existing Transmission Commitments (ETC) and Transmission Reliability Margin (TRM). Many stakeholder comments generally expressed that the methodologies were reasonable as a starting point for the design or did not otherwise oppose the proposed methodology. However, some stakeholders expressed concern that the methodologies may over-estimate the transmission capacity set aside for native load or that basing the assessment on historical data as opposed to supply under contract at the time of the

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ATC calculation may not be reasonable. These and other stakeholder comments are further discussed in the sections below.

This final proposal retains the methodologies proposed in the draft final proposal for calculating various components of the ATC methodology, with smaller enhancements informed by stakeholder comments. The final design, along with stakeholder comments, is described further below.

Consistent with prior proposal iterations, the final proposal does not propose to calculate ATC across internal paths because during peak conditions internal generation is committed and dispatched for local area purposes in northern and southern areas of the ISO system, limiting the risk of triggering internal transmission system reliability constraints, but does propose a periodic assessment during the year to evaluate the impacts on the internal network under different conditions of imports and wheels through the system. This is discussed further in section 6.1.3. The ISO will monitor impacts on internal paths, which may inform future evolution of the design. The proposal describes below the different components of calculating ATC across the ISO interties.

**6.1.1 Calculating the ATC – Monthly Horizon**

The proposal is to calculate ATC on the ISO interties, in monthly increments, across a rolling 13-month horizon. This approach is largely consistent with the horizon other western transmission providers use, under their OATTs, to calculate monthly firm ATC. Also, the horizon is consistent with the NERC standards, which establish a 13-month minimum time horizon for calculating monthly ATC increments.<sup>17</sup> Entities seeking to wheel through the ISO can reserve in advance this calculated ATC in monthly increments across the 13-month horizon to establish a wheeling through scheduling priority equal to load. Calculating the ATC and allowing entities to reserve it in advance across a 13-month horizon, and daily horizon (as discussed later) will help bridge seams between the ISO tariff and the OATT because an entity could reserve firm transmission service under the OATTs of transmission providers in monthly and daily increments and establish wheeling through scheduling priority across the ISO system in similar time horizons.

Calculating ATC on the interties will permit the ISO to set aside (1) a reasonable amount of transmission capacity for meeting native load needs, and (2) transmission capacity to account for a level of uncertainty because the monthly ATC is calculated far in advance of actual need and usage. The final proposal describes and discusses below the various components of the

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<sup>17</sup> NERC MOD-001-1a – Available Transmission System Capability.

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ATC methodology. The ATC calculation discussed further in this subsection is illustrated below:



Total transfer capability (TTC) represents the transfer capability of a path or intertie, the starting point in the calculation of ATC. From the TTC, the transmission provider subtracts existing transmission commitment (ETC) which refers to capacity set aside for the committed uses of the transmission provider's system. This includes capacity set aside for native load needs and native load growth. A further subtraction from TTC is a set-aside of transmission capacity for uncertainty associated with service to load and maintenance of transmission system reliability through the transmission reliability margin (TRM). A further potential reduction in TTC is a set-aside of transmission capacity as a margin for imports of supply during a declared emergency (EEA 3) - a capacity benefit margin (CBM). Only a handful of FERC-regulated transmission providers utilize CBM. There should not be "double counting" of set-aside capacity among the different components of the ATC calculation methodology. The transmission that remains after this calculation is the ATC which is made available for reservation. The proposal discusses each of these components in subsequent sub-sections.

**6.1.1.1 ATC Methodology – Calculating Total Transfer Capability (TTC)**

Total transfer capability (TTC) is generally referred to as the amount of electric power that can be transferred across a path or intertie. The TTC of a path or intertie is derived consistent with NERC standards, primarily based on path rating studies under different conditions that establish the TTC that will ultimately be utilized for operational, planning, and ATC calculation purposes. In calculating ATC across the interties, the proposal is to utilize the existing TTC of the specific intertie, which varies by intertie point and has already been studied with the relevant standards and practices. The starting point in the calculation of ATC is the TTC. However, the TTC may be reduced across the horizon where ATC is calculated if there are known, formally submitted, transmission outages within the horizon, which will reduce the TTC by the amount of the outage. Reducing TTC has the practical impact of reducing the ATC for the month where the outage is known because the starting point in the calculation of ATC is less than the full path rating. As the ISO recalculates monthly ATC across the 13-month horizon, and later into the daily horizon, the ATC may shift as planned and unplanned transmission outages are submitted and grid conditions change.

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The proposal is also to account for a level of uncertainty associated with transmission topology – particularly the uncertainty of transmission outages – through the TRM, which is discussed in section 6.1.1.3.

**6.1.1.2 ATC Methodology - Calculating Existing Transmission Commitments (ETC)**

Deriving ETC across the interties is perhaps the most critical element of the ATC calculation and the design of this framework. The ATC methodology will protect existing commitments as ETC by setting aside transmission capacity to meet existing transmission contracts and native load needs, including load growth. Transmission providers across the West, as well as other ISOs and RTOs that operate under an OATT framework, set aside transmission capacity needed to meet the expected native load needs and load growth as an existing commitment.

The draft final proposal described the different ETC components of the ISO's ATC methodology consisting of the following:

- *Legacy transmission contracts and transmission ownership rights* – these are the traditional “existing transmission contracts” on the ISO system along with transmission ownership rights that the ISO respects today and will continue to respect as an existing commitment that cannot be utilized by the market unless the transmission associated with existing contracts is voluntarily released to the market, as some entities do on a periodic basis in return for congestion revenue rights (CRR). Under these circumstances, some portion of the released transmission capacity may potentially be used to support additional availability of ATC.
- *ATC reserved by entities for high priority wheeling through transactions* – ATC an entity reserves, through the process described in this proposal, for wheeling through the ISO system becomes an existing commitment for the month(s) for which the priority is established.
- *Native Load needs* – a reasonable amount of transmission capacity set aside to serve native load needs and load growth for the time period being calculated – 13-month horizon and daily timeframe - not otherwise accounted for within the margins being calculated.

The following section discusses the proposed calculation of the transmission set-aside on the interties for native load needs, including load growth, and the associated stakeholder comments on these components.

**Calculating ETC – Native Load and Load Growth Set-Aside**

ATC is calculated on a forward basis to derive the amount of transmission capacity that is available for reservation in advance of need, across different time horizons. As such, the ATC

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calculation is inherently based on estimates and forecasts within a number of its components and particularly within the calculation of ETC and the margins allowed under the ATC methodology.

As part of the ATC methodology, the calculation of existing transmission commitments – ETC – allows for the set aside of transmission capacity to meet estimated or forecasted native load needs, including load growth across the horizon for which ATC is being calculated. In determining overall native load needs and the amount of capacity that should be set aside for native load (and native load growth) on each transmission path, there is no single standard methodology or approach. Practices vary among transmission providers tailored to their unique circumstances including transmission system topology, customer and load serving entity composition, load and resource mix and other factors that ultimately help inform the design of how they effectively set aside transmission and plan for service to their native load. Nevertheless, the calculation of ETC must be reasonable, should not unduly tie-up transmission capacity, and should not “double count” transmission capacity set aside among ETC and the different margins considered in the methodology.

The draft final proposal provided for the set aside of transmission capacity at the interties for native load needs across a 13-month rolling horizon based on historical volumes of import supply under contract to ISO load serving entities dedicated to serving load as demonstrated by RA showings at individual interties and non-RA contracted supply. In particular, the methodology would:

- Set aside transmission capacity on an intertie for a month based on the higher quantity of RA imports on that intertie for that month during the previous two years; and
- Set aside transmission capacity on an intertie for a month based on the higher quantity of non-RA contracted supply delivered on the intertie for that month during the previous two years.

The proposal also described that as actual RA showings and showings of non-RA contracted imports for an upcoming month become available, the ISO will use the actual values for the month, not historical values – a true-up to actual showings of import supply under contract.

Stakeholder comments on the draft final proposal predominantly found the design of ETC, including the native load derivation, reasonable or did not otherwise oppose the proposed design, recognizing it is a starting point to operationalize and should be monitored after implementation for its impact and effectiveness. A couple of stakeholders expressed concern or opposition with aspects of the design for deriving native load needs, with one suggesting the proposed design could overestimate native load needs, and another noting that the ISO should only set aside transmission capacity for native load based on import supply under contract at the time of the ATC calculation. Some stakeholders suggested enhancements to the design for calculating native load needs to allow flexibility to consider a updating the historical

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assumptions to account for actual forward contracts to the extent the ISO load serving entity can show such contract sufficiently in advance of the ATC calculation. These points and comments are discussed below.

A stakeholder expressed concern that the current design for forecasting native load needs at an intertie based on historical contracted import supply may overestimate native load needs. It noted that using the greater of contracted imports over the last two years, combined with the trend of decreasing imports over the last several years, can overestimate native load needs and set aside too much capacity for native load. Although the volume of RA imports has decreased the last two years, the procurement of RA imports can vary from year to year. This can be driven by a numerous factors including load forecasts, in-state hydro availability, changes in grid conditions, changes in availability of supply, seller's decisions on where to sell their energy, and price competition. Relying solely on the prior year's imports may not adequately account for the needs of native load because the prior year may not demonstrate a sufficient pattern of need for the upcoming year. Looking at the higher of the prior two years provides more data points and more accurately accounts for potential changes in RA import procurement patterns and provides some small protection against under estimating of native load needs, which would be far more damaging. Moreover, to the extent there is a concern about a decrease in RA imports, this will be reflected in the native load set aside from year to year because each subsequent calculation will have lower historical contracted import values. Finally, the true-up that occurs at 30-days prior to the start of the month, as discussed further below, will be based on actual contract showings. If actual shown contracted import values (RA and non-RA) are less than the historical assumptions for which transmission capacity has been set aside, there will be more ATC that can be accessed in the daily request window process.

Another stakeholder expressed concern that the set aside of transmission capacity for native load is based upon historical volumes of contracted imports as opposed to contracted import supply at the time of the ATC calculation. The design described in this proposal is consistent with the range of practices that exist within the West and the industry in calculating and forecasting native load needs by transmission providers. There is no single standard or practice for forecasting or estimating the amount of transmission capacity to set aside for native load needs on a forward basis. Transmission providers have developed different practices to estimate these native load needs based on their unique circumstances. This includes setting aside transmission capacity based on reasonable assumptions about generation to the extent it has not yet been contracted to serve load. These assumptions are generally informed by historical patterns of resource procurement, but they are also be informed by other factors. The OATT, for example, provides for load serving entities taking network integration transmission service to submit annual 10-year resource projects that the transmission provider can utilize to



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support various processes including ATC calculation.<sup>18</sup> A prudent transmission provider, when it is calculating ATC and setting aside transmission capacity for native load, will ensure it has set aside sufficient transmission capacity for reasonably anticipated native load needs and load growth informed by reasonable assumptions, as opposed to basing the native load set aside of transmission solely on contracted supply at the time of the ATC calculation because the load serving entity may not have procured all of the supply to meet its load for next 13 months or longer. Such a requirement would unreasonably and inappropriately create a *de facto* new resource adequacy program for ISO load serving entities (and for network integration transmission service customers under the OATT). Moreover, limiting the native load set aside only to contracted supply 13-months ahead of time would under-reserve transmission capacity compared to the load need, and would undersell the transmission capacity from the native load by making it available as ATC for others to reserve. If that ATC is fully procured, the load serving entity may have difficulty serving its load reliably, and the transmission provider may be unable to adequately serve native load. In the context of the ISO, any requirement to procure capacity 13 months in advance does not align with the established resource adequacy framework or the ISO's existing market framework. The ISO believes that the proposed native load transmission set aside methodology at the interties reasonably forecasts and estimates the import supply expected to be under contract to serve native load including load growth. Further, at T-30 the native load set aside (excluding TRM) will be based on actual contractual showings. This is consistent with the ISO's RA and market framework.

Several stakeholders suggested that the native load methodology calculation could be enhanced to allow for consideration of supply under contracts by the ISO load serving entities to inform the set aside of transmission capacity for native load needs. In particular, the stakeholders described a scenario where they may have historically had an import supply contract at a particular ISO intertie that they utilized to serve load and to the extent that contract expires or they otherwise enter into a new contract, the historical information may no longer be accurate. Under those circumstances the native load set aside should be updated to reflect the new contract and its impact (if any) on the historical set aside. They suggest that if the load serving entity can demonstrate that contract sufficiently in advance, it should be considered in updating the set aside of transmission capacity for native load needs. The ISO believes this is a reasonable approach that will improve the accuracy of the methodology for deriving native load needs. As discussed further below, the methodology will allow load serving entities to identify long-term contracts, to be shown in advance of the derivation of ATC for a particular month, to more accurately reflect and inform the native load set aside.

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<sup>18</sup> FERC Open Access Transmission Tariff, section 29.2(v).

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Finally, other stakeholders suggested that the two year historical look back of RA and non-RA contracted import supply to estimate the native load needs, when calculating the “higher of” contracted imports, should look at RA and non-RA contracted supply volumes together – as a single value – in identifying the “higher of” amount between the two years as opposed to each RA and non-RA supply being considered individually. They argued this would provide for ease of tracking and information and a better representation of total native load needs. This is a reasonable clarification to the calculation of native load needs that will be included into the proposed design.

Based on stakeholder feedback, this final proposal continues to propose that native load needs, as existing commitments, be calculated based on historical volumes of contracted imports, with the enhancements mentioned above. The proposed methodology for forecasting native load needs as an existing commitment is designed as follows:

- Set aside of transmission capacity on an intertie for a month based on the higher quantity of contracted historical imports, represented as the sum of RA imports and non-RA imports under contract to an ISO load serving entity, for that particular month over the two prior years.
- If an ISO load serving entity has a contract for import supply at the time the ATC is first calculated for a particular month and native load needs forecasted as an existing commitment across the 13-month horizon, that contract can be shown to update or otherwise inform the historical import data in order to improve the accuracy of the native load set aside. For example, by the time the ISO is calculating ATC for the first time for a month, effectively 12-13 months out, load serving entities can identify an executed contract to better inform the assumptions for calculating native load based on historical information.

The proposed methodology recognizes that there is a formal RA program in the ISO balancing area under which LSEs secure import supply under contract to meet their RA obligations and reliably serve load. Under the RA program, the monthly RA plans provide a more complete picture of the dependency and volume of contracted imports to serve native load.<sup>19</sup> The methodology also recognizes that many ISO LSEs also rely on import supply under contract that is not shown on RA plans, whether because of limited allocation of maximum import capability (MIC) to support import RA showings or other local regulatory authority mandates for meeting reliability or planning reserve margins. Determining the quantity of capacity that should

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<sup>19</sup> Under the current RA program, CPUC-jurisdictional LSEs only have to show up to 90 % of their supply to meet resource adequacy obligation for the summer months in the year-ahead timeframe, and 100 % of their RA supply obligation in the month-ahead timeframe. ISO LSEs make their monthly RA demonstrations at T-45 and have until T-30 to cure deficiencies.

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be set aside for native load should account for an amount of contracted supply associated with non-RA imports serving load.

The proposed methodology provides a reasonable representation of the forecasted or estimated amount of import supply that will be under contract to serve native load needs across the 13-month forward horizon supporting a set-aside of transmission capacity as ETC. The ISO today receives monthly RA plans that identify specific imports at individual interties and has historical information on these showings, but the ISO will need to develop a new process to obtain information regarding monthly non-RA contracted imports for the last two years in order to inform the calculation of forecasted native load needs. The ISO will also need a process that allows LSEs to identify their contracted non-RA import supply. For a given month, any non-RA contracted supply would have to be shown at the same time that final monthly RA plans are submitted.

This final proposal introduces a narrow enhancement, as described above, to permit an ISO load serving entity to inform the ISO of import supply that is under an existing contract that may inform the set aside of transmission capacity based on historical import volumes. For example, although historical data may show for a load serving entity that 15 MW of contracted import supply has been procured at Malin, but the load serving entity knows that this is no longer accurate because they have contracted for supply at a different location for 15 MW at Palo Verde. The ISO will develop a process that allows the load serving entity to inform the ISO of this new contract at the time that the ATC for the particular month is first calculated, 12-13 months in advance, to the extent there is a contract in place. This enhancement will improve the accuracy of the native load transmission set aside assumptions to be more in line with expected future showings. The process will require attestation as to the existence of a contract, along with relevant information on the import location, MW amount, and its relation to historical information and showings from the load serving entity for contracted imports over the last two years.

One stakeholder requested clarity on the type of contract that an ISO load serving entity would need particularly representative of non-RA contracted import supply, historically and going forward, to allow for the set aside of capacity for native load. The proposal is to extend the same general contract quality requirement that applies to wheeling through transactions seeking to establish scheduling priority as described in section 6.1.5.

Alternate approaches for calculating native load needs suggested by stakeholders in prior iterations were considered. However, the proposed approach is most consistent with the unique nature of the ISO's services and markets, and general ATC principles. The proposed approach focuses on historical supply under contract as indicative of the amount of import supply that will be under contract on the various interties across the forward 13-month horizon for which ATC is calculated. The ISO will also have to account for the potential impact of load

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growth on intertie usage. Other transmission providers across the West also rely on resource forecasts or otherwise estimate, to the extent supply is not under contract at the time of the ATC calculation, where they expect supply to be contracted and delivered to serve load. These transmission providers do not leave load unserved when calculating ATC if there is not a supply contract in place; rather, they make reasonably informed assumptions based, in part, on historical information as to where supply is likely to be contracted.

In calculating ATC, the transmission provider may make some informed assumptions about how that load will be served in the planning horizon, whether from internal generation or from import supply. Historical information and resource forecasts provided by load serving entities within the BAA inform the transmission provider about the likely locations where supply will be contracted to serve load. Absent consideration of estimates or forecasts based on historical data, the transmission provider may under-represent how load will be served and set aside insufficient transmission capacity. Working within the design framework of the California RA program, the proposal relies on historical volumes of contracted import supply to represent a forecast of supply that will be under contract across the forward 13-month horizon to set aside transmission capacity for native load.

Looking at historical import volume flows during stressed system conditions as a representation of native load needs was also considered. However, those import flows include economy imports that are not under contract and, thus, relying on those numbers potentially could over-estimate the volume of import supply required to meet native load needs or likely to be under contract. Setting-aside transmission capacity for native load based upon an estimation of import volumes during extreme load conditions was also considered, e.g., such as 1-in-20 or similar load conditions. This poses potential challenges because today LSEs generally are not procuring supply to meet a 1-in-20 obligation. Nevertheless, the final proposal recognizes that to serve their load some LSEs contract for import supply beyond the quantities shown on RA plans. Based on ISO experience, this constitutes a mere fraction of the overall contracted RA imports. It is important to recognize that the proposed methodology for calculating the native load set-aside does not preclude or unduly limit import supply – whether under contract or not from offering into the market.

Separately, the ETC component also recognizes a transmission provider's ability to set-aside transmission capacity to serve native load growth expected across the horizon for which ATC is being calculated. The ISO will derive the load growth value based on the difference in the load forecast utilized to set the RA requirements (*i.e.*, the CEC load forecast) from the current year to the next. Typically, load growth is approximately 2-3%, but it is expected to increase in the future with increased electrification. Imports can reasonably be expected to serve a fraction of the load growth with the rest being served from internal resources. The proposal is to estimate the amount of transmission capacity to set aside at the interties for serving load growth based on the ratio of RA imports shown in relation to total RA capacity shown for the month. More

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specifically, the ISO would derive this ratio by looking at each month individually over the two most recent RA showing years and taking the “higher of” ratio from those two years. For example, in seeking to derive the amount of transmission capacity to set aside for load growth for September 2023, the ISO would consider the ratio of RA imports shown to total RA shown in September 2022 and September 2021 and take the “higher of” ratio that it would then apply to the system load growth to determine the amount of transmission capacity to be set aside on the interties to serve the load growth. If the ratio of import RA to total RA shown is 10%, then the ISO would attribute 10% of the load growth as being served by import supply, and transmission capacity would be set aside for that load growth across the interties on which RA import showings are traditionally identified.

In comments to the draft final proposal, one stakeholder expressed concern that the proposed load growth calculation may overestimate the load growth served by import supply because import RA showing patterns on certain interties have decreased the past two years. The ISO’s methodology relies on the portion of load historically served by imports. Thus, if contracted import supply were to continue decreasing, the amount of load growth attributed to being served by imports would similarly decrease. Further, the ATC calculation at T-30 will reflect actual import contract showings at each intertie. In any event, the risk exists that the percentage of imports serving native load growth could increase compared to the historic ratio. Under those circumstances, the ISO’s set aside of capacity for native load growth could be short. The ISO’s proposal represents a reasonable, balanced, and justifiable approach.

Appendix 1 provides a representation of the ATC calculation, and the resulting ATC, based on the proposed methodology for calculating native load needs and load growth as the ETC component of the methodology. It also provides an estimated margin component of the methodology. The example represents the resulting ATC as if the proposed methodology were in place today and ATC was being calculated for the June through September 2023. It is important to remember that the different inputs – whether TTC, ETC, or TRM - will vary year-to-year which will lead to fluctuation in the resulting ATC.

It is important to highlight as well that if the resulting ATC calculated by the ISO is limited, entities seeking to wheel through the ISO can also consider alternate approaches to wheeling through the ISO, such as working with entities that have existing transmission contracts (legacy) and potentially contract for their import capability that they may have at individual interties. At times, some of the legacy transmission rights holders may release transmission capacity to the market in return for congestion rights. To the extent this occurs, it could create additional ATC on particular interties. This provides a wheeling through customer with additional options to establishing priority across the ISO system, whether it is acquiring ATC through the ISO processes or working with parties holding existing transmission contracts to establish wheeling through priority across the system.

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The ISO will hold a stakeholder process, at least once a year, and more often as necessary, to preview ATC values ahead of the summer months, which are of most interest to internal and external load serving entities. As part of this process, the ISO will preview the expected native load set aside of transmission capacity, margins, and the resulting ATC and overall respond to questions. This forum can also consider whether any modifications or enhancements to the ATC ID document describing the overall ATC methodology and process, are appropriate. The stakeholder process is further discussed in section 6.1.3.

**True-Up of ETC Based on Actual RA Plans and Non-RA Contracted Resources**

As noted above, the ISO will seek to forecast the amount of transmission capacity to set aside for native load needs based on historical RA import showings and non-RA contracted import supply across the forward 13-month rolling horizon. However, sometime after the T-45 timeframe (45 days ahead of the month) when monthly RA plans are submitted, representing contracted supply, the ISO will “true up” the transmission capacity set aside across the interties to the shown monthly RA plans and the identified contracted non-RA supply. This “true-up” will further ensure that the ISO is setting aside capacity at this point based on supply under contract for service to ISO load.

The ISO will also provide a mechanism for LSEs to identify import supply they have contracted for but not shown on RA plans. As noted above, there are different reasons why LSEs contract for import supply but do not show it on RA plans. For one, the ISO may not have allocated maximum import capability (MIC) to the LSE at a particular intertie to support RA showings, and the LSE thus may be unable to show the monthly supply on RA plans. Separately, individual LSEs subject to the jurisdiction of different local regulatory authorities, may have different adequacy procurement mandates or reliability/risk parameters that necessitates they procure additional supply, including imports, to serve their load. As such, to the extent these LSEs can show contracted non-RA import supply it will also be subject to the “true up.”

Although monthly RA plans are submitted at the T-45 timeframe, these are initial plans that are finalized at the T-30 timeframe after the cure period closes. The proposal is to “true-up” forecasted native load needs for which transmission capacity has been set aside in advance for a particular month and shown RA imports on the monthly RA plan and shown non-RA contracted supply submitted by the LSE at this time. The showing period and the request window for wheeling through priorities are expected to close simultaneously.

If the amount of estimated transmission capacity set aside for native load and load growth needs at a specific intertie is greater than the actual contracted import supply by LSEs to serve load, as represented by monthly RA plans showings and showings of non-RA contracted imports at T-30 (30 days ahead of the month), the excess transmission capacity will be released as ATC and available for reservation. However, if the opposite is true and the amount of transmission capacity set aside for native load and load growth at an intertie is less than the

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contracted import supply (RA and non-RA), including the TRM for uncertainty, if there is any remaining ATC at that intertie that has not been reserved, it will be reduced to make up this deficit or difference. If there is no remaining ATC at an intertie because it has been reserved in advance, then the set aside for native load will remain as originally calculated, and the ISO will continue to honor the scheduling priority of wheel through transactions for which ATC has been reserved in advance to the extent a grid or market condition arises that requires application of market scheduling priorities.

### 6.1.1.3 ATC Methodology – Transmission Reliability Margin (TRM) and Capacity Benefit Margin (CBM)

This subsection discusses consideration of a TRM and CBM as part of the ATC calculation. The draft final proposal introduced a calculation of TRM and proposed accounting for various types of uncertainty, consistent with NERC standards:<sup>20</sup>

- *Aggregate load forecast uncertainty* – this element sets aside an amount of transmission capacity as TRM to account for load forecast uncertainty. Considering that TRM will be calculated across a 13-month horizon, it is important to account for load forecast uncertainty across that time horizon.
  - As a starting point, this amount would be set at up to 2% of TTC on select interties where the ISO has historically relied upon import supply to serve load.
- *Forecast uncertainty in transmission system topology* – this element sets aside transmission capacity associated with transmission topology uncertainty, including planned and unplanned transmission outages. The proposal is to set aside an amount of TRM across interties, across the 13-month horizon, to account for transmission outage uncertainty. This component is necessary to account for a risk that certain transmission outages may not be submitted far enough in advance to cover a level of uncertainty that these conditions materialize.
  - As a starting point, this amount would be set at up to 2% of TTC on select interties where the ISO has historically relied upon import supply to serve load.
- *Variations in generation dispatch* – this element sets aside transmission capacity for variations in generation dispatch driven by resource outages or other conditions recognizing that in some circumstances, supply may need to be replaced or additional supply brought into the system to meet the changing needs. It is important to account

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<sup>20</sup> NERC MOD-008-1.

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for variations in generation dispatch, particularly associated with net peak load periods, when variable energy resources may be unavailable and additional imports are needed to serve load reliably, or accounting for variation in the availability of hydro resources and variable energy resources, where the ISO may depend more upon import of supply under certain conditions. Additionally, to the extent there are design changes in the California RA program such that changes may influence the amount of import supply, the TRM provides a pathway to set aside transmission capacity for this uncertainty if it materializes.

- As a starting point, this amount would be set at up to 2% of TTC on select interties where the ISO has historically relied upon import supply to serve load.

Stakeholder comments generally found the proposed consideration of TRM to manage uncertainty as reasonable or did not otherwise oppose the proposed design. However, some stakeholders, primarily ISO load serving entities and the Department of Market Monitoring (DMM), suggested that the design should consider a larger TRM across the 13-month horizon due to the greater level of uncertainty associated with assumptions made further out in time about contracted imports dedicated to serving load. One scenario of concern is to account for the risk that the estimation of native load needs based on historical contracted import volumes (RA and non-RA) may under-represent actual procurement of imports. A more conservative TRM in the 13-month horizon could account for uncertainty associated with contracted import supply to serve native load, as well as account for larger load variability uncertainty that far out compared to closer in real time.

The ISO recognizes these points and agrees that TRM, in accounting for uncertainty, is a malleable component of the methodology to account for uncertainty. A reasonable starting point to the design is the TRM as described in this proposal accounting for the different specified components of uncertainty and a 6% total TRM on interties. However, the proposal is not intended to limit the ISO's ability to adjust or evolve the application of TRM on specific interties to account for a greater level of uncertainty consistent with NERC standards. The ISO has the ability to adjust the TRM on the interties over the 13-month period for which ATC is being established. This is necessary to, *inter alia*, account for changed conditions, new information, and the level of uncertainty associated with the timing of the calculations (e.g., closer in vs further out), or accounting for different components of uncertainty over time. The ISO will more fully describe in its ATC Implementation Document (ATC ID) the TRM considerations, and will discuss this with stakeholders. There are a number of factors that may drive changes in TRM on particular interties across the different components of uncertainty. For example, if there is a low hydro year in California, there likely will be increased dependency on import supply that may warrant consideration of a larger TRM on select interties to account for additional imports. Changes to the TRM methodology or factors in the methodology would be described in the ATC ID document and discussed with stakeholders to provide the



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appropriate rationale, justification, and transparency. The ability to adjust and evolve the TRM design is consistent with industry practice where over time, in particularly season or conditions, the transmission provider may adjust the TRM to account for different types of uncertainty. Similarly, the ISO will monitor and review the effectiveness of the TRM and adjust it as necessary through a transparent process. Ahead of the publication of the first set of ATC values, the ISO will evaluate the appropriate levels of TRM on interties and whether these may need to be different, based on expected conditions and uncertainty, than the initially estimated 6% values.

The TRM design will be described in further detail in the *ATC ID* document consistent with applicable requirements. An important concept is that there should be no “double counting” of capacity set aside in ETC and the various margins. In other words, an ATC methodology should not set aside capacity for the same need or same uncertainty in different components of the ATC calculation. The elements provided for above as part of the TRM cover the critical uncertainty elements and do not result in any double counting.

The proposal is to not set aside transmission capacity at the interties as part of CBM, which allows a set aside of transmission capacity for delivery of imports in emergency (EEA 3) conditions. Across the industry, use of CBM is uncommon particularly because the other components of the ATC methodology typically provide a reasonable design and the individual load serving entities for whom CBM is set aside must pay for the transmission capacity regardless of actual usage. Moreover, a set-aside of transmission as CBM must align with applicable resource or reliability requirements.

### **6.1.2 Calculating ATC – Daily Horizon**

In addition to calculating ATC across a 13-month horizon as discussed in section 5.1.1, the proposal is to also calculate ATC in the daily horizon timeframe ahead of the day ahead market close (10am) to derive an amount that can be accessed by entities seeking to wheel through to establish market scheduling priority equal to load. The general components of the daily ATC calculation remain consistent with the monthly ATC calculation, and the inputs are carried into the daily ATC calculation horizon.

The straw proposal recommended calculating ATC across a rolling 2-day horizon ahead of the day-ahead market close at 10:00 a.m. This would allow entities seeking to wheel through the ISO system to secure ATC and associated priority in advance of the day-ahead market run, allowing for more near term establishment of a scheduling priority. Stakeholders largely supported allowing interested parties to secure ATC in the daily horizon and obtain a scheduling priority for wheeling through transactions. This would provide additional flexibility compared to today’s framework particularly for dealing with more near term stressed system conditions. However, stakeholders noted that the horizon across which daily ATC is calculated

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is overly narrow or restrictive and requested alignment with the more common timelines for reserving daily ATC under the OATT and across the West, which is across a 7-day rolling horizon.

Based on the stakeholder input, the final proposal continues to recommend to calculate daily ATC across a rolling 7-day horizon. This will allow entities to access daily ATC up to seven days in advance. The ISO will calculate ATC, based on the inputs described further below, across a rolling 7-day horizon, and it will publish the ATC values for each day across the 7-day horizon for entities to access through the reservation process described in later section 6.1.2.2.

**6.1.2.1 Daily ATC - Calculating Total Transfer Capability (TTC)**

In the daily ATC horizon, the ISO will have more up to date information regarding transmission outages across the interties and can adjust the TTC to reflect the expected conditions of transmission topology on the grid, which may impact the starting TTC within the ATC calculation. If there are submitted transmission outages that affect a particular intertie, and the outage spans multiple days, the ISO would reduce the starting TTC when calculating ATC for the days of the transmission outage. This may reduce ATC, to the extent there was remaining ATC available, for the timeframe of the outage. If TRM was set aside at that intertie for risk of transmission outage, the TRM would not be released as ATC for reservation, but if later the outages do not materialize, the capacity previously set aside can later support low priority wheeling through transactions and other transactions that may clear in the market.

**6.1.2.2 Daily ATC – Calculating Existing Transmission Commitments (ETC)**

In the daily ATC horizon, the ISO will calculate ETC similar to the ATC calculation in the monthly horizon. The ISO would continue to account for and carry over existing transmission contracts and transmission ownership rights, as well as wheel through transactions that secured scheduling priority across the monthly time horizon. For the derivation of native load needs within the ETC calculation, the ISO would carry over the ETC derivations from the monthly horizon and, in particular the “true-up” that occurs at the T-30 timeframe, to reflect actual monthly RA showings and showings of contracted non-RA imports. This represents the contracted import supply to serve native load, as discussed earlier.

Within the daily horizon, ISO LSEs will have the ability to access ATC, along with entities seeking wheeling through scheduling priority, to the extent there are additional imports that are contracted to serve load. ISO LSEs would follow the same process in the daily horizon to access ATC as wheeling through customers, by demonstrating a contract and submitting a request for the ATC. The access to this ATC in the daily horizon is beyond what may have already been set aside for native load through the monthly ATC process described earlier,

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including the “true up” that occurs at the T-30 timeframe representative of contracted RA and non-RA imports.

**6.1.2.3 Daily ATC – TRM**

The ISO will carry the TRM calculated in the monthly horizon, into the daily ATC calculation horizon, as described in section 6.1.1.3. The TRM reduces the amount of ATC made available for reservation, but the market may nevertheless continue to optimize the transfer capability of the path and support low priority wheel through and other transactions. Because the ISO will not be calculating a CBM on the interties in the monthly horizon, there will be no CBM carried into the daily horizon.

***6.1.3 Transparent Stakeholder Process and Review of ATC Methodology***

As evidenced by the preceding paragraphs, the ATC calculation has numerous individual components each with their own methodology. Together, these components identify an amount of transmission capacity that can be made available for reservation in advance and can support establishment of a wheeling through scheduling priority across the ISO system. Generally, the ATC components and methodologies are described at a high level in transmission provider tariffs. Greater detail regarding the inputs into the individual ATC components and the methodologies used to calculate each of the inputs is captured in a more detailed document – the “ATC ID” document. In implementing the proposed ATC methodology, the ISO would update its existing ATC ID document to describe in greater detail the methodology for calculating ETC and TRM as compared to the tariff.

The ISO will hold at least one stakeholder meeting annually to preview ATC values and the various components of the ATC calculation. The stakeholder meeting will allow stakeholders to review the underlying data and assumptions, ask questions of the ISO, comment on the ATC calculations, consider possible changes or enhancements to the values, and discuss the determination of the TRM values for the upcoming 13-month period.

In particular, the ISO would hold the stakeholder meeting ahead of releasing ATC values for upcoming summer months. The ISO expects that internal and external entities are most interested in understanding the underlying resulting ATC values for the summer months as likely the months external entities are most interested in reserving ATC. In April and/or May of each year, ahead of the calculation of ATC values for the following summer months in the 13-month horizon, the ISO would preview the resulting ATC values based on the ATC methodology described in the ATC ID document and the underlying components deriving those ATC values. This includes a description of the ETC, which includes the derivation of native load, and the TRM. This will allow stakeholders to evaluate the numbers and provide an open forum to discuss whether the underlying methodologies and resulting numbers remain

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reasonable and provide expected results and whether there are additional elements or uncertainties that need to be considered. At this time, the ISO will also perform the assessment of internal transmission constraints or potential internal reliability impacts, if any, of different volumes of import and wheel through transactions. Stakeholders will be able to comment on the results, identify concerns, and suggest possible modifications or enhancements to the methodologies.

The ISO will monitor the effectiveness and accuracy of the implemented proposed methodologies. The proposed forum and potentially additional ones, will provide an opportunity for stakeholders to vet the effectiveness of the methodologies and consider whether they need to be updated or modified based on operational experience.

**6.1.4 Evaluating Internal Transmission Network Impacts**

The design in this proposal focuses on the calculation of ATC across the interties to derive an amount of transmission capacity that can be made available for wheeling through customers to establish in advance a market scheduling priority equal to load. As part of that calculation of ATC, the ISO has proposed to set aside capacity on these interties to serve for native load. In comments to prior proposal iterations, several stakeholders requested that the ISO consider periodically performing an assessment -- a power-flow analysis -- to provide confidence that the internal system is sufficiently robust to support different volumes of imports and wheels through the system. Other stakeholders suggested that the ISO calculate ATC at export points as well on the system, and not just at import points, as indication of the system's ability to support wheels across the system. As discussed below, the proposal is to conduct an annual assessment, through a power-flow and similar analysis, leveraging existing studies and assessments, to test the robustness of the system under different conditions to support imports and wheels through. This assessment can help inform the evolution of the ATC methodology design.

For several reasons, the proposed design does not, at this time, include a calculation of ATC across the internal paths or export points from the ISO system. First, calculating ATC on each of the ISO internal paths would require significant effort and add significant complexity as it is not done currently. Today, all the transmission capacity internal to the network is available to the market to support optimized unit commitment and dispatch, including transfers, exports and wheels through the system. As a result, under normal conditions, transmission utilization across internal transmission can be adequately managed using existing congestion management mechanisms without having to manage wheel through uses versus serving native load via prior allocation and reservation of ATC. Calculating ATC on internal paths and export points would *de facto* require a design where internal supply and exports would also need to reserve ATC in order to appropriately calculate and track what is available for future

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reservation. That would constitute a significant change to how the market operates and the requirements imposed both on internal resources serving internal load and internal resources supporting exports out of the ISO. The current market design can operate without the need to require internal resources serving ISO load or exporting to reserve ATC in advance to establish high scheduling priority.

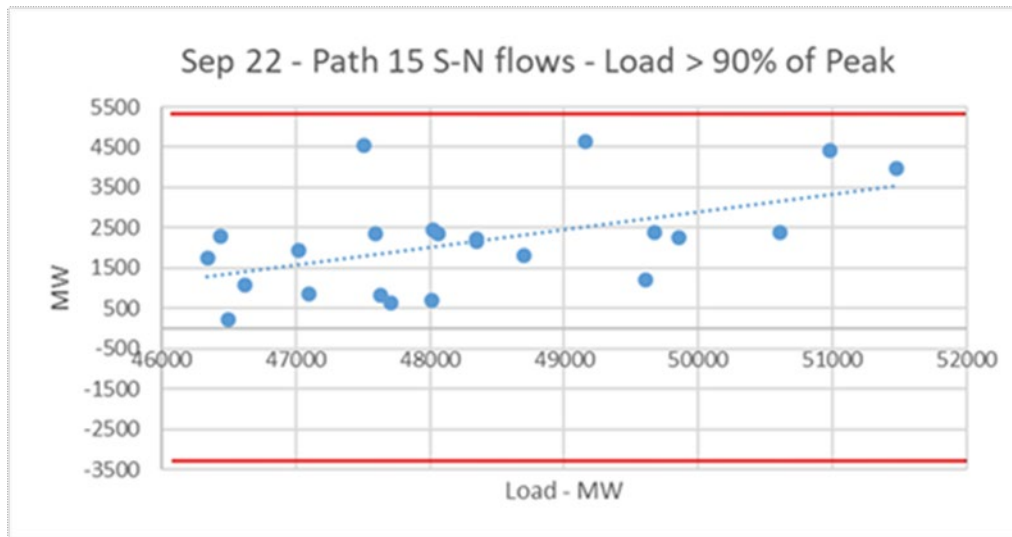
Second, the ISO's recent assessment of heat wave events suggests internal transmission network constraints generally do not pose an impediment to supporting wheels through or exports from the system while at the same time serving native load, including in more stressed system conditions. This seems to be the case in part because during peak conditions where there is internal congestion and internal generation is committed and dispatched for local area purposes – northern generation is dispatched to serve northern load and solve local area congestion while southern generation dispatched generally to serve southern load and solve local area congestion on the system – reducing north to south flow and limiting the risk of congestion or overloading through the middle of the system, including path 26 under various stressed system conditions that impedes the ability to serve load in an area due to competing wheel through uses of the system.

For example, the graphs below illustrate the loading patterns on path 26 north to south and path 15 south to north during high load conditions in September 2022 when load was within 90% or more of the peak. The graphs illustrate that although the load was near or at the peak, and there were a sizable number of wheels through the system, path 26 and path 15 loading was manageable and did not trigger internal reliability constraints. Currently, there appears to be a sizable amount of supply both in the north and the south of the system that the market can re-dispatch to accommodate different uses of the system, including accommodating large quantities of imports and wheels through the system without triggering internal reliability limits. Looking forward, with potential future resource retirements, we expect that there will remain sufficient resource dispatch capability on either side of path 26 to continue to manage flows, primarily driven by new resource additions across the balancing area.

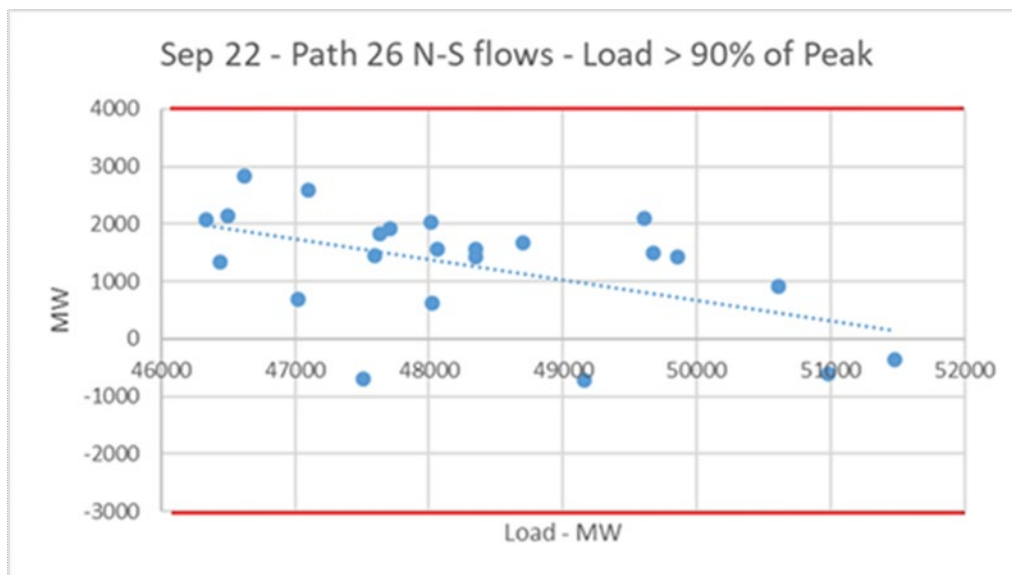
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Graph 1: Path 15 loading levels during September 2022 periods when the load was above 90% of the peak.



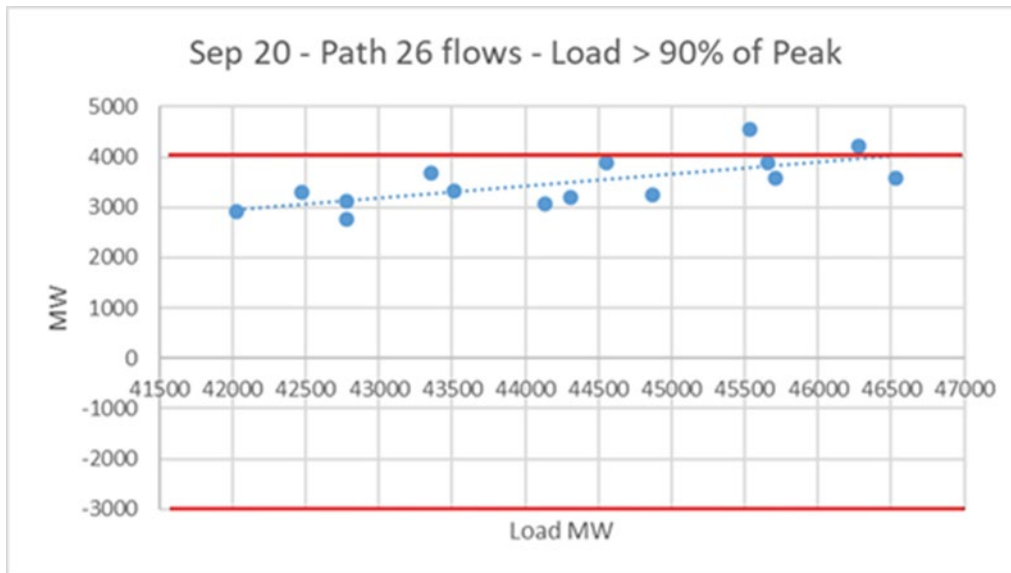
Graph 2: Path 26 loading levels during September 2022 periods when the load was above 90% of the peak.

The ISO also looked at September 2020 conditions and the loading on Path 26 relative to the conditions on the California Oregon Intertie (COI). The graphs below illustrate the loading on path 26 in relation to a 4000 MW traditional path rating with limited excursions above the limit. However, the 4000 MW path 26 rating is primarily a proxy rating to monitor acceptable post-contingency loading and post-contingency flows on path 26 are managed in relation to loading or flow on other paths. Although flows in those 2020 conditions may have exceeded on a couple occasions the informal path rating of path 26 on a couple of occasions, it did not result in the triggering of internal reliability constraints.

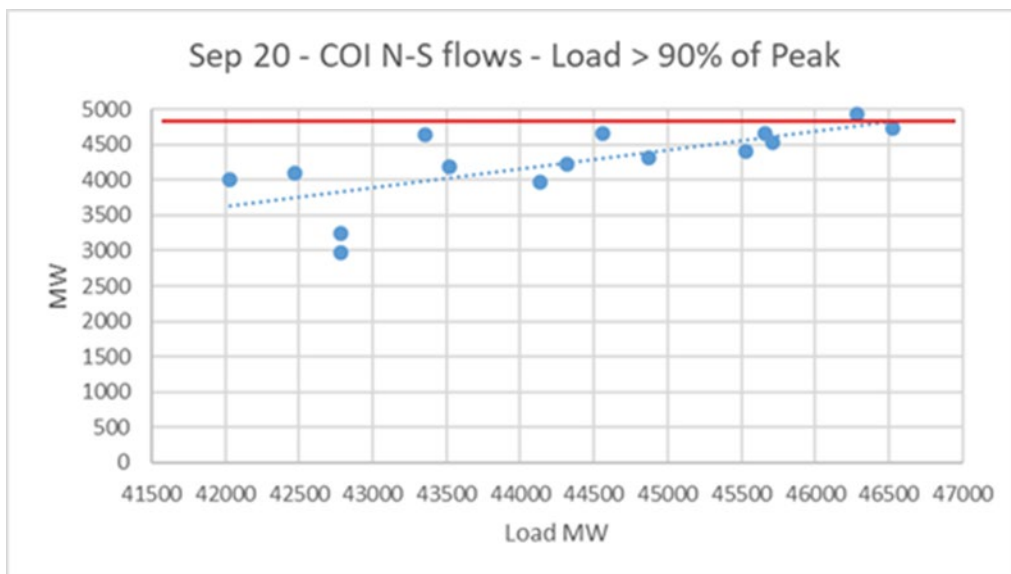
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Graph 3: Path 26 loading levels during September 2020 periods when the load was above 90% of the peak.



Graph 3: COI loading levels during September 2020 periods when the load was above 90% of the peak.

It is an appropriate starting point, in the interest of managing complexity of the ATC calculation process and overall design, to evaluate the ability to accommodate high priority wheeling through requests based upon the derivation of ATC at the interties in the import direction. The ISO will closely monitor the impacts of import and wheel through volumes under different conditions, in addition to evaluating analysis periodically as suggested by stakeholders to test the ability of the internal network to operate reliably without triggering internal reliability constraints.

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**6.1.5 Accessing ATC to Establish Scheduling Priority**

Calculating ATC in the monthly and daily horizons will allow entities seeking to wheel through the ISO system to access ATC in advance and establish a market scheduling priority equal to load, the same priority that wheeling through transactions can establish under the framework today. The ability to access ATC in advance to establish scheduling priority will provide external LSEs greater confidence and certainty regarding transactions through the ISO system to serve load. Entities can continue to wheel through the ISO system without accessing ATC in advance, but such transactions will have a lower market scheduling priority as they do today.

The draft final proposal retained the prior proposal requirement that entities accessing ATC must demonstrate ownership of the supply or an executed firm power supply contract. It further proposed to remove the transmission pre-payment requirement to access ATC. A contractual requirement for accessing ATC helps ensure that external entities needing access to limited ATC to serve their native load can obtain it. This is consistent with the FERC approved requirement for a power supply contract under the interim wheeling through priority design. In meeting this requirement, as entities submit a request for ATC, the entities will need to attest that they meet the following contractual requirement which is carried over from the straw proposal:

- Demonstration of an executed firm power supply contract to serve external load, a firm power supply contract to serve external load where execution is contingent upon the availability of wheeling through scheduling priority on ISO's system, or demonstration of ownership of a resource to serve external load;

Stakeholders generally supported the design for accessing ATC and establishing wheeling through scheduling priority, and some of them noted that they do not oppose the design. Some stakeholders asked clarifying questions that will be addressed throughout the subsequent paragraphs. Several stakeholder comments focused on the resale of wheeling through scheduling priority, with some noting that the party contracting for resold wheeling through scheduling priority should also meet the same requirement applicable to accessing ATC in the first instance, *i.e.*, the contractual requirement. Another stakeholder suggested codifying a rate for the resale of wheeling through priority, and other stakeholders emphasized the importance of providing transparency into the resale of wheeling through priority process. These comments will be discussed further below in the applicable subsections.

With regards to the previously proposed requirement to pre-pay for transmission when accessing ATC, the final proposal continues to remove that requirement in response to stakeholder feedback. Stakeholders are correct that this element may not be necessary and to the extent entities reserve ATC for one or more months, they will be assessed the charges for transmission at regular settlement intervals as they take the service.



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As discussed below, the proposal is to establish a process for submitting a request for accessing the limited ATC that meets the requirements identified above. Monthly ATC can be accessed during the period for which it is calculated, effectively up to 365 days in advance and up to 30 days prior to flow, consistent with the proposed design of reservation windows setting the periods when requests may be submitted. Daily ATC can be accessed up to 7 days prior to flow and up to one day prior to flow by the close of the DA market for the applicable day (10am).

**Supply Contract Duration Requirements for Accessing ATC**

This final proposal continues to propose that wheeling through scheduling priority be established for the period of the underlying duration of the supply contract supporting the wheeling through priority. For example, if the underlying supply contract provides for firm energy delivery on a 6x16 basis (6 days a week, 16 hours), the wheeling through scheduling priority is established for that particular period. The periods for which wheeling through scheduling priority may be established would be commensurate with the duration of RA imports that can be secured, e.g., 7x24, 6x16, 6x8, and 6x4.

In the monthly horizon the minimum requirement for establishing scheduling priority would be a 6x4 supply contract (6 days a week, 4 hours) which is consistent with the different duration firm energy products that may be available bilaterally such as 6x4 to 6x8, 6x16 and so forth. The intent of this requirement is to avoid the depletion of limited ATC in the monthly horizon – a full month of ATC – to support a wheel through the ISO of a supply contract that provides for firm energy once or twice per week. Similarly in the daily horizon the minimum requirement is a 1x4 (one day, 4 hours) supply arrangement, but it could span multiple days across the 7-day horizon for which ATC is calculated.

In comments to the draft final proposal, stakeholders that commented on this item generally supported the framework as a starting point in the design that can evolve with implementation and operational experience.

**Reservation Windows and Competition for ATC**

The proposal is to establish a two-week window each month during which entities seeking a wheeling through priority submit a request for monthly ATC across an intertie. For example, in January 2025 eligible parties can request ATC for the months of February 2025 through January 2026. All requests submitted during the monthly window will be treated as having been submitted simultaneously. Priority for limited ATC will be granted based on the number of hours for which a monthly priority is sought, and the priority request must be supported by an underlying supply contract as discussed above. The hours of any monthly priority must align with the hours of the supply contract supporting the priority request. Thus, requests for more hours during the ATC horizon will be prioritized, provided they are supported by the underlying supply contract. For example, a request for ATC to establish wheeling through priority for one

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month based on an underlying 6x16 supply contract would have preference to the ATC over a 6x8 or a 6x4 supply contract for the same month to the extent there is not sufficient ATC to accommodate all requests. A request for a priority for five months supported by a 6x4 contract will have priority over a request for ATC during one of those months supported by a 6x16 supply contract because the request is for more total hours. If there is a tie in the number of hours of a request and insufficient ATC to accommodate all of the requests, the ATC will be allocated pro rata among all of the tied requestors to the extent the requestor agrees in its request to accept a pro rata allocation, if required. This proposal considers the need to provide certainty regarding access to the ATC and, thus all priority awards for ATC during a monthly request window will be unconditional. In other words, the amount of MW awarded a wheeling through priority in a monthly window cannot be taken back or superseded by a longer duration bid in a subsequent monthly request window. This provides certainty to entities awarded a wheeling through priority in a given monthly window.

The same process would apply to accessing ATC in the daily timeframe. The ISO would hold a five hour window every day, from 7:00 a.m. to 12:00 p.m., for parties to request ATC for the subsequent seven day period across which ATC has been calculated. For example, on Monday the ISO would open a request window for all entities seeking to request a daily wheeling through priority for any day(s) Tuesday through next Monday. Unlike the monthly window process, the daily window process is open both to parties seeking a wheeling through priority and to ISO load serving entities seeking capacity for incremental import volumes under contract, as described in section 6.1.2.2. All requests for a daily wheeling through priority must be supported by an underlying power supply agreement in the same manner as requests for a monthly wheeling through priority, and ISO load serving entity requests for incremental ATC similarly must be supported by a power supply contract. All requests submitted during the daily request window will be treated as having been submitted simultaneously. Priority for limited ATC will be granted based on the number of hours for which a daily priority is sought, and the priority request must be supported by an underlying supply contract as discussed above. The hours of any daily priority must align with the hours of the supply contract supporting the priority request. Thus, requests for more hours during the ATC horizon will be prioritized, provided they are supported by the underlying supply contract. For example, a request for ATC to establish wheeling through priority for one day on an underlying 1x16 supply contract would have preference to the ATC over a 1x8 or a 1x4 supply contract for the same day to the extent there is insufficient ATC to accommodate all requests. A request for a priority for five days supported by a 5x4 contract will have priority over a request for a priority during one of those days supported by a 1x16 supply contract because the request is for more total hours. If there is a tie in the number of hours of a request and insufficient ATC to accommodate all of the requests, the priority will be accorded pro rata among all of the tied requestors to the extent the requestor agrees in its request to accept a pro rata allocation. This proposal considers the need to provide certainty regarding access to the ATC and, thus all priority awards for ATC during a

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daily request window will be unconditional. In other words, the amount of MW awarded a wheeling through priority in a daily window cannot be taken back or superseded by a longer duration bid in a subsequent daily request window. This provides certainty to entities awarded a wheeling through priority in a given daily window. In the context of the EDAM, the reservation of ATC supporting a wheeling through scheduling priority would be considered in the EDAM market results to the extent the wheeling through transaction is scheduled.

An entity with a monthly or daily wheeling through priority must notify the ISO promptly if the supply contract supporting the wheeling through priority is terminated for any reason or modified such that the quantity, import point, or export point changes if this occurs prior to the period for which ATC was reserved. Under these circumstances the wheeling through priority will terminate and the transmission capacity will be made available as ATC for others to reserve unless the priority rights holder can show a replacement supply contract for the same MW, quantity, import point, and export point. If the supply contract supporting the wheeling through priority is terminated after the period of reserved ATC commences, the entity continues to retain the allocation of transmission capacity (ATC) and will continue to be charged for transmission, but it can resell the wheeling through priority as described further below. One stakeholder suggested that if there is only a reduction in duration or MW values of the contract, rather than terminating the wheeling priority due to a change in the contract, the MW priority granted to the wheeling through scheduling priority should simply be reduced and the transmission capacity be made available as ATC for others to access for establishing scheduling priority. This is a reasonable suggestion, and the ISO will enhance the proposal to acknowledge that a reduction in duration or MW amount of the underlying supply contract does not terminate the wheeling through priority, but would create an amount of transmission capacity that can subsequently be released as ATC.

**Resale of Wheeling Through Scheduling Priority**

The proposal is that the holder of an established wheeling through scheduling priority can resell the priority during the term of the priority and based upon the underlying duration of the supply contract supporting the priority. For example, an entity establishing wheeling through scheduling priority for August and September for 100 MW based on an underlying 6x16 supply could resell the scheduling priority for those same months and hours. Entities may want the opportunity to resell the priority if the supporting resource goes on outage and they are unable to obtain replacement capacity at the same point of entry into the ISO, as an example. Such resales would be reported to, and tracked by, the ISO and posted publicly with information on the price and duration of the resale of wheeling through priority.

In comments to the draft final proposal, stakeholders that commented on the resale element supported the ability to resell wheeling through scheduling priority. One stakeholder suggested imposing a requirement that the entity procuring the supply via resale should also meet the contractual requirements imposed for accessing ATC. The final proposal does not include such

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a limitation at this time because a resale is a bilateral arrangement between parties, independent of the ISO. However, the ISO will monitor resales and identify reporting requirements, including term, price, and parties to the resale, and it will seek to make this information transparent and available to stakeholders consistent with FERC requirements. If it appears parties are potentially “end running” the ATC requirements in the tariff through resales, they can be referred for investigation. Another stakeholder requested that the ISO impose a tariff rate at which scheduling priority can be resold. The ISO will not adopt this recommendation at this time due, in part, to the complexity of considering and imposing such a rate at the onset of the process without prior history or operational experience. However, the ISO will monitor resale transactions and, if necessary and appropriate, at a later time consider imposition of additional requirements.

**Consideration of Capacity Procurement Mechanism (CPM) Import Supply**

In the draft final proposal, the ISO introduced the concept that CPM import supply would be considered as dedicated to serving ISO load and, consequently, it would be considered in the ratio of pro-rata curtailments between priority wheeling through transactions and ISO load (as represented by contracted import supply, imports under TRM, and CPM). The few stakeholders that commented on this topic were generally divided on including CPM import schedules within the post-HASP allocation process. Proponents favoring inclusion recognized the importance of including this supply because it is reliability capacity procured by the ISO to serve load in stressed conditions. Opponents suggested including CPM would serve to dilute the priority that wheeling through transactions establish. The post-HASP process effectuating pro-rata adjustments to priority wheel through and ISO load transactions is further discussed in section 6.1.6.

Unlike supply secured by ISO LSEs, the ISO secures supply under the CPM process to manage stressed system conditions and maintain reliability. Although infrequent, at times CPM supply may be procured from imports at the interties in conjunction with internal supply. The proposal is to account for CPM import supply to the extent there is remaining ATC in the daily timeframe, prior to release for reservation the following day, at the particular intertie where the supply is being secured. In other words, if there is remaining ATC, prior to making it available for reservation the following (or in other words, after the reservation windows have passed from the prior day), the ISO would decrement the ATC. If there is insufficient ATC, but there is unused TRM set aside it can also support the CPM supply (the appropriate component of TRM). To the extent there is no remaining ATC to account for the CPM, nor sufficient TRM, similar to other supply, it can continue to be offered into the market and can be committed or dispatched to serve ISO load, but in corner case scenarios it would not be part of the post-HASP ratio representing ISO load when curtailing priority wheels through the system and ISO load transactions on a pro-rata basis. In considering whether to procure CPM import supply across a particular intertie, the ISO could consider the availability of ATC and/or TRM on that

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particular intertie to provide the greater possibility of ensuring in the corner case scenarios this supply can be afforded the ISO load priority. The treatment of CPM is further discussed in section 6.1.6 in the context of post-HASP process.

**6.1.6 Applying the Scheduling Priorities in the Post-HASP Process**

As introduced by sections 4.3 and 4.4 of this proposal, the ISO manages schedules on the grid through the day-ahead and real-time markets, and it applies scheduling priorities defined in the tariff to adjust self-schedules (*i.e.*, price taker bids). These market scheduling priorities become relevant in stressed system conditions, if both a transmission limitation and a power balance infeasibility are present in the market as described in section 4.4. In those instances, the market seeks first to economically re-dispatch, and it may unwind certain economic transactions across that intertie. If that is insufficient to alleviate the constraint, the market will then look to adjust self-schedules in the Hour Ahead Scheduling Process (HASP). These adjustments to self-schedules occur based on the relative market scheduling priorities, which are reflected in the table in section 4.3 of this proposal. As a general matter, the market will seek to first adjust lower priority transactions to obtain the necessary relief and gradually move higher in the priority order of transactions until the desired relief is obtained. In more corner case scenarios, where all the high priority transactions cannot be accommodated, the ISO will perform a post-HASP process to pro-rata allocate available transmission capacity between ISO load and priority wheeling through transactions.<sup>21</sup> In those instances, under the current design, the ISO load pro-rata share is based on the lower of each applicable RA resource's real-time energy bid or based on its shown RA capacity.<sup>22</sup> It is the intent of this proposal to extend that the existing post-HASP process, as it exists today, to effectuate the priorities with the enhancements suggested below that will further be reflected in the tariff stakeholder process.

The proposal provides for the explicit derivation of native load needs at the interties based on a historically derived value of RA and non-RA imports under contract. This value is further updated at the T-30 day timeframe (30 days ahead of the month) based on actual shown RA imports and non-RA imports under contract to derive a MW amount, per intertie, that is set aside for native load needs and is carried into the day ahead timeframe. Because this is the value that would now represent native load needs, the final proposal is for this value to represent ISO load in the post-HASP process, and it is the amount to which the pro rata allocation of transmission capacity will apply in those more corner cases. The draft final

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<sup>21</sup> CAISO Tariff, section 34.12.3 (2022).

<sup>22</sup> *Id.*

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proposal also proposed inclusion of CPM import supply within the ratio as ISO load when allocating the necessary relief among priority wheeling through transactions and ISO load.

As noted earlier, the stakeholder comments on this element of the draft final proposal were divided primarily on inclusion of CPM imports ensuring reliable service to ISO load within the post-HASP process. Stakeholders that supported including CPM as a component of the ISO load component in the post-HASP process stated that although the procurement of CPM imports is infrequent, it should have been included at the outset within the post-HASP process. They note that it reflects an important mechanism for the ISO to procure supply under contract to serve load reliably. Another stakeholder raised concern with including CPM imports in the ISO load number, when comparing it to priority wheeling through transactions, particularly if it would cause the total number of ISO load and priority wheeling through transactions to exceed the TTC. The stakeholder was particularly concerned that the combination of awarded priority wheeling through transactions plus ISO load represented by scheduled transactions as contracted imports, the TRM, and the CPM supply could in extreme cases exceed the TTC, potentially triggering curtailments of priority wheeling through transactions earlier on a pro-rata basis and diluting the wheeling through scheduling priority.

With regards to the treatment of CPM imports within the post-HASP process, as discussed in section 6.1.5, the proposal is to account for import supply procured by the ISO under the CPM process to the extent the specific CPM capacity obtains ATC or is treated as an import under the TRM. If there is no ATC or TRM available to accommodate the import CPM, the scheduled import CPM supply would not be considered within post-HASP ratio process. This is a reasonable approach to consider availability of ATC to support CPM supply, because in its absence the sum of the different schedules that are considered in the post-HASP process, in more extreme cases, could exceed the TTC of the particular intertie which could necessitate schedule adjustments through the post-HASP process.

To that end, the post-HASP process will consider the following transaction when applying the pro-rata schedule adjustments in those corner case scenarios between high priority transactions:

- Priority wheeling through transactions that have secured ATC in advance in monthly process.
- ISO LSE contracted imports (RA and non-RA) as represented in the ATC calculation.
- ATC secured in the daily request window process by ISO LSEs for imports or external parties to support wheel through transactions.
- TRM as used to support imports within the ATC calculation.
- CPM supply (to the extent it is not already accounted for in TRM and there is sufficient ATC to accommodate).

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The ISO recognizes the concern that in certain corner case scenarios, if at a particular intertie the ATC is fully reserved between priority wheeling through transactions and native load transactions, in the post-HASP process it is possible that including CPM transactions could exceed the TTC of the intertie. This can occur in very corner case scenarios where in addition to contracted imports being fully scheduled, priority wheeling through transactions fully scheduled, uncertainty materializing such that the TRM on the intertie is fully scheduled, and there are CPM imports at the same time are also fully scheduled. To address this concern of exceeding TTC at an intertie, the final proposal is to include a limitation in the post-HASP process to ensure that the different transactions considered in that process between high priority wheels through the system and imports serving native load plus TRM, do not exceed the TTC. Specifically, the ISO would adopt a rule whereby the amount of awarded priority wheeling through transactions plus the amount of capacity represented as ISO load for the hour (set aside transmission for historical contracted imports, contracted imports securing daily ATC, imports under TRM, and CPM imports to the extent they are supported by ATC or TRM) cannot exceed the TTC of the intertie for purposes of conducting a post-HASP process. Thus, the amount of capacity considered for pro rata allocation in the post-HASP Process cannot exceed the TTC of the intertie. This will ensure a mere overload on an intertie that is not derated will not cause an inappropriate curtailment of high priority self-schedules.

### ***6.1.7 Requests for Establishing Long Term Scheduling Priority & Study Process***

Prior iterations of the proposal introduced a process for studying long-term requests for establishing wheeling through scheduling priority that leveraged the existing Generator Interconnection and Deliverability Assessment Process (GIDAP). As part of this process, the ISO would study long-term wheeling through requests seeking to establish scheduling priority along with other like requests and deliverability requests across the internal network. Stakeholder comments generally recognized that a long-term study process that provides the ability for external entities to pursue transmission upgrades across the ISO system to support wheeling through scheduling priority and other types of uses of the system was beneficial.

As will be described below, the ISO continues to propose leveraging the GIDAP process to study requests with the clarification that what is the portion of the GIDAP study process being leveraged is the deliverability portion of the process. The GIDAP study process includes a reliability study of generation interconnection requests, a deliverability study identifying the necessary upgrades for the generation projects seeking deliverability, and a deliverability allocation process for generators seeking deliverability. The requests for long-term wheeling through scheduling priority would not be part of the reliability study of generation interconnection requests, but it would be part of the deliverability study and deliverability allocation process.

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Aside from allowing external entities to request and access ATC across a 13-month rolling horizon and a daily horizon, the proposal is to establish a process under which external entities seeking to wheel through the ISO system can request scheduling priority on a long-term basis for 12 months or longer in duration, in yearly increments. Transmission planning studies show that over the long-term planning horizon the deliverability of generation to ISO load can be constrained by the transmission system. As a result, wheeling transactions across the ISO transmission system can adversely impact the deliverability of internal generation and imported generation that is serving ISO load. This impact is of primary concern during resource shortage conditions. The ISO's on-peak generation deliverability studies focus on system conditions reflecting resource shortage conditions. Therefore, it is important that the impacts of priority long-term wheeling priority requests on generation deliverability across the internal ISO network be evaluated and mitigated.

In comments to the draft final proposal, a small number of stakeholders commented on this process of the overall proposed design. While a number of stakeholders commenting supported the overall design on this topic, a smaller number of stakeholders raised clarifying questions that will be identified and addressed further below. The draft final proposal requested stakeholder feedback on whether wheeling through customer funding transmission upgrades to establish wheeling through priority should receive and the limited stakeholder feedback indicates a preference toward transmission credits repaid over a period of time as they take transmission service supported by the transmission upgrade. This will be further discussed below in additional detail.

The following describes the proposed process for performing this assessment. This section describes further the process for seeking and establishing a Wheeling through scheduling priority on a long-term basis.

**Study Process**

- The ISO will study requests to establish a wheeling through or wheeling in scheduling priority on a long-term basis (1-year or longer) along with other like-requests and generation deliverability requests, in an annual cluster study. It is important to recognize that the deliverability study is not of interconnection requests, but rather of requests seeking deliverability across the ISO system. An additional assessment will also be performed to assess the impact of the wheeling request on Path 26 during resource shortage conditions<sup>23</sup>. The requesting entity will be subject to study costs and, if an

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<sup>23</sup> The Path 26 assessment will be based on production cost simulation and power flow analysis. The ISO will utilize the latest production cost model and power flow models and study results from its ten year transmission planning process to determine if Path 26 would be a binding constraint during summer peak load hours with the eligible long-term wheeling scheduling priority requests included.



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upgrade is needed, the entity will have the choice of funding the upgrade to accommodate the request. The study process is intended to leverage the existing Generator Interconnection and Deliverability Allocation Process (GIDAP) and studies, particularly the deliverability portion of the process. All wheeling requests must identify the source and sink inter-tie points and will be studied together to assess the impacts and the necessary transmission system upgrades to mitigate those impacts on the ISO system.

- The entity seeking to establish wheeling through priority on a long-term basis, will submit a study request, which the ISO will review within ten (10) business days, consistent with the steps of the GIDAP process.
- The ISO will evaluate all study requests submitted within the open study request period as part of the same study cluster, which will also include any generation deliverability study requests submitted for delivery to the ISO load during the same period. The cluster study window closes on April 15th. Requests submitted after that date will be studied during the following year's cluster study process.
- The ISO will provide the study results – whether a transmission upgrade is needed or whether the ISO can accommodate the request without an upgrade – generally within 90 to 120 days of the cluster study window closing for requests for the following year ( $n + 1$ ), and generally within 180 days for requests for years ( $n + 2$ ) through ( $n + 10$ ). A stakeholder requested additional detail on what would happen to requests that are seeking wheeling through priority 18-24 months in advance and when they would receive the study results identifying whether an upgrade may be needed or if the request can be accommodated. For example, an LSE that plans to enter into a two year PPA in September of 2025 would need to submit a wheeling priority request between April 1 and April 15, 2025, and by September 2025 would have the necessary study results.
- The ISO will use the deliverability study models described in the GIDAP Appendix DD of generation interconnection deliverability studies. The deliverability of long-term scheduling priority requests will be studied with the deliverability of generation following the On-Peak Generation Deliverability process, which will be enhanced to provide the details of including the long-term scheduling priority requests.
- The ISO will perform the annual cluster study in phases consistent with the GIDAP process. This study process consists of a Phase I study between July through December and a Phase II study between May through November of the following year:
- Phase I of the study will identify whether any transmission system upgrades are needed to accommodate requests within years ( $n + 3$ ) through ( $n + 10$ )<sup>24</sup> and the transmission constraints requiring the upgrade. If no transmission constraints and no upgrades are

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<sup>24</sup> The operational deliverability study in the Phase II study from the preceding cluster will be utilized to study years ( $n + 1$ ) and ( $n + 2$ ).

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identified, then the customer will be granted the requested long-term wheeling scheduling priority once the previously approved transmission upgrades assumed in the study that were needed for the wheeling request to be accommodated are in-service. If an upgrade is needed, the study will identify the estimated costs of the identified upgrades. The customer will be required to submit a financial posting consistent with the GIDAP process in order to proceed to the next phase. In addition, if the customer decides to proceed to the Phase II study it will be required to select either Option A or Option B. If the customer selects option A, then it will compete with other requests behind the identified Area Deliverability Constraints for the available transmission across those constraints in the Transmission Plan Deliverability Allocation process following the Phase II study. If the customer selects Option B, then the transmission upgrades needed to accommodate the request will be identified in the Phase II study.

- Phase II of the study, consists of an updated analysis for the customers that selected Option A and moved on to the Phase II study. The analysis will determine if the transmission constraints identified in Phase I are no longer binding. If there are no binding constraints identified for a customer, then the customer will be granted the requested long-term wheeling scheduling priority once the previously approved transmission upgrades assumed in the study that were needed for the wheeling request to be accommodated are in-service. For the Option B, the necessary transmission upgrades are identified.
- The entity submitting the study request can, at its discretion, choose to discontinue participation in a study at any time during the phased study process. The entity will be responsible for the study costs incurred to that point consistent with the GIDAP process.

**Participation in the Transmission Plan Deliverability Allocation Process:**

Eligible Generating Facilities and eligible long-term wheeling scheduling priority requests will compete for available transmission system deliverability. The transmission constraints identified in the Phase II study are identified with all generation deliverability and priority wheeling requests in the deliverability analysis. Some of these requests can likely be accommodated, but not all of the requests. After completing the Phase II study, eligible generating facilities and eligible long-term wheeling scheduling priority requests can compete for available deliverability by participating in the Transmission Plan Deliverability (TPD) allocation process. One stakeholder raised the concern of generation interconnection projects in the queue that will never be built. The deliverability allocation process largely addresses this concern by only allowing generation projects to be eligible for a TPD allocation that demonstrate, through an affidavit, that they are well along in the development process.

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After completing the studies, the ISO will share the study results with the entity submitting the request to establish long-term wheeling scheduling priority. To the extent a transmission upgrade is needed, the study results will provide a description of the upgrade along with the costs of the upgrade. After releasing the Phase II study, the ISO will have first choice to move forward with the project as a reliability, economic, or public policy transmission project if it meets the applicable criteria under the tariff. If so, the ISO will reimburse the facility study cost to the original requestor and any other requesting party. If the ISO does not approve the project under one of these transmission categories, the entity – whether a wheeling through customer or some other entity - can choose whether to proceed with the transmission upgrade. Thus, a potential wheeling through customer will need to fund an upgrade only if the ISO finds in the transmission planning process that there is no reliability, economic, or public policy need for the upgrade. In other words, such proposed upgrade is only needed to accommodate a request to obtain a wheeling priority. If the entity chooses to pursue a transmission upgrade, it would be required to fund, up front, the total cost of the transmission upgrade consistent with the current requirements of the GIDAP process.

In the situation where the ISO determines that a requested upgrade to support a wheeling through transaction is not needed to meet a reliability, public policy, or economic need, the requesting customer will be responsible for funding the upgrade and will receive wheeling through scheduling priority. This can involve a transmission crediting framework or other comparable approach consistent with FERC policy. The ISO will also consider the possible establishment of a rollover right opportunity. The ISO will develop the implementation details of this compensation framework through the tariff development and associated stakeholder process.

Regarding new transmission upgrades the ISO approves through the transmission planning process as reliability, economic, or public policy projects, the ISO would need to (1) determine how much capacity should be set aside for native load needs and native load growth, and (2) identify the incremental amount of ATC created by such upgrade, if any, available to establish wheeling through priority. Depending upon the circumstances and the need driving the transmission upgrade, the upgrade may increase the TTC of an intertie and the derivation of ATC across the intertie.<sup>25</sup>

Under these circumstances, the ISO would allow the entity that requested a long-term priority to obtain such priority for the MW amount and term it requested, provided it commits to pay for

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<sup>25</sup> To the extent the nature of the transmission upgrade needed is an upgrade to the intertie facilities, it could increase TTC and consequently ATC on the intertie. If the transmission upgrade is on the internal network, it may not lead to a direct increase in TTC and ATC on a particular intertie.

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wheeling service for such term. The ISO contemplates that the customer would pay WAC charges consistent with the compensation framework in this final proposal, and it would have a scheduling priority only in those hours of the month for which it is responsible for paying a WAC charge. The ISO will also consider the possible establishment of a rollover right opportunity after the initial priority term expires. The ISO will develop the implementation details of this framework through the tariff development and associated stakeholder process.

This final proposal promotes better coordination between the generator interconnection and transmission planning processes resulting in a more efficient and comprehensive overall process. Combining the two in a single process is the optimal approach, resulting in the most efficient and cost-effective outcomes. Of note, PJM combines generator interconnection deliverability and transmission service requests into a single process.

***6.1.8 Compensation for Wheeling Through Scheduling Priority***

One point of discussion in prior phases of this initiative was how wheeling through scheduling priority should be priced given the value the priority affords. As a starting point, it is important to understand the current pricing for high priority wheeling through transactions. Under the current wheeling through scheduling priority framework, a high priority wheeling through transaction secures a scheduling priority for the registered quantity equal to ISO load for the entire month. The registered priority wheeling through quantity has a scheduling priority higher than the scheduling priority accorded to non-priority wheeling through transactions. The ISO does not impose a monthly charge for the monthly priority wheeling through quantity; rather, the wheeling through customer pays the Wheeling Access Charge (WAC) only when it actually schedules a wheeling through transaction on any day. Non-priority wheeling through customers pay wheeling through charges on the same basis. In other words, the same pricing framework applies both to priority wheeling through customers and non-priority wheeling through customers and uses of the ISO transmission system.

Applying the WAC only during the hours when the priority wheeling through transaction is actually scheduled may not be the appropriate compensation approach where a finite amount of ATC is available for priority wheeling through transactions and is reserved in advance to establish wheeling through priority. Assessing the transmission charge only during hours when the priority wheeling through is scheduled does not reflect the value conferred to a priority wheeling through customer – it secures a monthly scheduling priority higher than the scheduling priority accorded all other wheeling through transactions, which are charged on the same basis as the priority wheeling thorough customer.

The draft final proposal continued to propose that high priority wheeling through transactions pay for transmission access based upon the underlying quantity and duration of the power

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supply contract supporting the wheel through transaction to serve external load. For example, if a wheeling through customer seeks to reserve ATC to support a high priority wheeling through transaction based on a 6x16 power supply contract, the customer will pay the WAC charges associated with using a 6x16 contract for the entire month. The wheeling through customer would have a scheduling priority only during the 6x16 period. The wheeling through customer would not be required to pre-pay these transmission charges, but the wheeling through customer would pay WAC charges consistent with the hours in the underlying power supply contract regardless of its actual usage of wheeling through service. The wheeling through customer would pay these charges in accordance with the standard settlement and invoice timeline.<sup>26</sup>

In comments to the draft final proposal, stakeholders largely supported or did not oppose the proposed design. Several stakeholders recognized that assessing transmission charges for a wheeling through priority based on the underlying duration of the supply contract as a reasonable approach compared to assessing a 24/7 charge. Some stakeholders do not oppose the design as an initial framework and view it as an improvement over the existing design, but they would have preferred the ISO consider a different rate structure that establishes a higher rate for shorter-term wheeling through service. These stakeholders suggested that the ISO monitor operations under the proposed design but possibly consider evolving the rate design in the future. One stakeholder opposed the charge design stating that failure to include an adder to the existing current WAC charge for wheeling through transactions fails to recognize the value of the high priority accorded such transactions.

After considering stakeholder comments, the ISO continues to propose applying the WAC transmission charge for wheeling through transactions establishing scheduling priority based upon the duration of the underlying supply. The ISO is not at this time prepared to implement new short-term or peak period rates for wheeling through customers without fully assessing the potential broader implications of such a rate change, the issues it raises, possible undue discrimination claims, and the need for more expansive transmission rate changes. The ISO would prefer to do this in a dedicated stakeholder process. As discussed earlier, the WAC payment approach proposed herein represents a starting point in the design that recognizes the value of priority wheeling throughout the ISO system without changing the WAC charge itself. The ISO is committed to monitoring and evaluating the compensation structure informed in part by operational experience. As the ISO and stakeholders gain operational and implementation experience with the design, the ISO and stakeholders can to evaluate and

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<sup>26</sup> Although there would be no prepayment requirement, this approach still aligns with the WAC prepayment concept in tariff section 36.9.2.1 whereby external LSEs can prepay the WAC to obtain CRRs for the month, to the extent the wheeling through customer wanted to establish CRRs.

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consider evolving the design as necessary, including considering different approaches for reflecting the value of high wheeling through scheduling priority.

The proposed approach for charging for transmission associated with establishing wheeling through scheduling priority appropriately distinguishes wheeling through transactions that obtain a priority from non-priority wheeling through transactions and pay based on their actual usage (but in return have a lower scheduling priority). This approach tracks what an ISO LSE would pay in TAC charges if it utilized all of the hours of the RA import supply contract over the entire month. In that regard, ISO LSEs pay for transmission based on their gross load across the month. For example, RA imports that are contracted on a 6x4, 6x8, or 6x16 basis, contribute to the load served, and the ISO charges transmission across that gross load.

It is important to note that the CPUC's Maximum Cumulative Capacity (MCC) bucket rules dictate the duration and availability of imports that can qualify as RA supply.<sup>27</sup> Under the MCC buckets, RA imports must have a minimum duration of six day a week (Monday through Saturday), but their hours of availability across those six days can vary from a minimum of four hours (*i.e.*, 6 x 4) to eight hours (*i.e.*, 6 x 8) or 16 hours (*i.e.*, 6 x 16) or ultimately 7 x 24 (available all the time). Similarly, the proposal is that wheeling through transactions establishing high scheduling priority have a duration each month no less than 6x4, similar to the duration of RA imports. Wheeling through customers would then pay for transmission across the ISO system based upon the duration of their power supply contract.

In the daily time horizon, for wheeling customers seeking to access ATC and establish wheeling through priority, the compensation framework similarly would be based on the underlying duration of the supply arrangement supporting that priority. To the extent the underlying contract is a 1x4, a 1x8, 1x16, or 1x24 supply contract, the priority wheeling through customer would pay the WAC for the appropriate period.

The proposal is that a priority wheeling through customer would be able to resell the scheduling priority on a daily basis during the term of the priority as discussed earlier. The ISO would also credit any monthly payment toward satisfaction of the WAC prepayment amount required to obtain monthly Congestion Revenue Rights (CRR) through the Out of Balancing Authority Area Load Serving Entity (OBAALSE) CRR allocation process in tariff section 36.9 to the extent an entity desires to pursue that option. Under the OBAALSE CRR process, an external LSE can receive a monthly allocation of CRRs if it demonstrates a legitimate need for the CRRs and prepays WAC charges for the number of hours comprising the CRR. An OBAALSE demonstrates legitimate need by providing "an executed Energy contract from a Generating Unit or System Resource that covers the time period nominated, or ownership of such Generating Unit or System Resource." See ISO tariff section 36.9.1. Additional requirements

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<sup>27</sup> Reference to MCC buckets - <https://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M326/K933/326933860.PDF>.

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for OBAALSEs seeking an allocation of monthly CRRs are set forth in tariff sections 36.9 *et seq.* and Section 12 of the Business Practice Manual for Congestion Revenue Rights.

The approach described above is reasonable. It eliminates the external firm transmission requirement under the interim wheeling through rules and establishes a payment for transmission based on expected usage, as determined by the wheeling through customer's underlying power supply contract. Further, this approach allows the wheeling through customer to resell its priority. The transmission payment structure aptly distinguishes priority wheeling through transactions from non-priority wheeling through transactions and reflects a concept used elsewhere in the ISO tariff to afford additional benefits to external LSEs. The proposal is compatible with the current gross load transmission payment framework applicable to internal load. Finally, the proposal does not require overhauling the current ISO transmission rate design which would create additional complexities and require significant time to consider.

## **7 WEIM Decisional Classification**

This initiative considers changes to the forward scheduling rights for wheel through self-schedules in the ISO balancing authority area. The recommendation is that the WEIM Governing Body have an advisory role.

The role of the WEIM Governing Body regarding policy initiatives changed on September 23, 2021, when the ISO Board of Governors adopted revisions to the corporate bylaws and the Charter for EIM Governance to implement the Governance Review Committee's Part Two Proposal. Under the new rules, the Board and the WEIM Governing Body have joint authority over any proposal to change or establish any ISO tariff rule(s) applicable to the EIM Entity balancing authority areas, EIM Entities, or other market participants within the EIM Entity balancing authority areas, in their capacity as participants in EIM. This scope excludes from joint authority, without limitation, any proposals to change or establish tariff rule(s) applicable only to the ISO balancing authority area or to the ISO-controlled grid.<sup>28</sup>

This initiative would revise the tariff rules that govern whether, and to what extent, self-schedules to wheel through the ISO balancing authority area would receive a scheduling priority. None of the currently contemplated tariff changes would be "applicable to EIM Entity balancing authority areas, EIM Entities, or other market participants within EIM Entity balancing authority areas, in their capacity as participants in EIM." Instead, the proposed tariff rules would be applicable "only

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<sup>28</sup> Charter of EIM Governance § 2.2.1.

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to the ISO balancing authority area or the ISO-controlled grid.” Accordingly, these proposals fall outside the scope of joint authority.

The WEIM Governing Body has an advisory role over any proposal to change rules of the real-time market that fall outside the scope of joint authority.<sup>29</sup> This ensures the WEIM Governing Body “has an opportunity to provide formal input on all proposals to change real time market rules, including those rules that may significantly impact market participants in WEIM balancing authority areas but that do not directly apply to them in their capacity as WEIM participants.”<sup>30</sup> Because the proposal contemplates changes to the rules of the real-time market, the WEIM Governing Body would have an advisory role regarding those changes.

## 8 Stakeholder Engagement

The table below outlines the schedule for the remainder of this of initiative.

Date	Milestone
12/9/2022	Draft Final Proposal posted
12/16/2022	Stakeholder call
1/04/2023	Comments due
1/18/2023	Final proposal posted
2/1/2023	Joint ISO Board of Governors and WEIM Governing Body meeting

Table 1: Upcoming initiative milestones.

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<sup>29</sup> See GRC Part II Draft Final Proposal, page 12.

<sup>30</sup> *Id.* at 13.



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# **APPENDIX**

## Transmission Service and Market Scheduling Priorities Initiative

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**APPENDIX 1 – Example of ATC Calculation Based on Proposed Methodology [Section 6.1.1.2]**

The proposal introduces the calculation of ATC where existing transmission commitments (ETC) are represented by (1) legacy transmission contracts (existing transmission contracts) and (2) native load needs, including load growth. This appendix illustrates the resulting ATC under the proposed methodology if the ISO were to calculate ATC for June – September 2023, with a focus on the Malin and NOB interties which represent the more sought after locations for imports to serve ISO load but also import points supporting wheels through the ISO.

As a reminder, the proposed methodology for calculating native load needs is as follows:

- “Higher of” RA import capacity shown at a specific intertie for the specific month being calculated based on the monthly RA import showings during the last two years; and
- “Higher of” contracted imports, not shown on RA plans, at a specific intertie for the specific month being calculated based on the shown amounts during the last two years.

For example for September 2023, the ISO would consider (1) the “higher of” shown RA import capacity at a specific intertie in September 2022 and September 2021, and added to (2) the “higher of” contracted imports not shown on RA plans at a specific intertie in September 2022 and September 2021. These two “higher of” values would be added together to provide a forward looking estimation or forecast of native load needs that would be an input into the calculation of ATC for a particular month.

In addition, when deriving native load needs, the transmission provider can set aside transmission capacity for load growth. The proposed methodology for deriving load growth as described in this proposal is to compare the load forecasts setting the ISO LSE RA requirements, year over year, to derive the amount of load growth for a particular month and then derive a ration, based on the last two years of monthly RA showings, that compares shown imports to total shown RA supply. This will identify the proportion of import supply shown to total RA supply shown that would be applied to the amount of load growth for that month to approximate the amount of that load growth that would be served by imports compared to internal supply. The resulting amount of load growth attributable to being served by imports would then be distributed across different interties to set an additional amount of transmission capacity for anticipated load growth.

For purposes of this illustrative example of resulting ATC for June – September 2023, the table below illustrates the last two years of RA import showings for June – September 2021 and 2022 as these are inputs into the calculation of transmission capacity to set aside for native load.

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MALIN	June	July	August	September
2021 RA	1119 MW	1571 MW	1615 MW	1981 MW
2022 RA	270 MW	1055 MW	1148 MW	1751 MW
ETC	1200 MW	1200 MW	1200 MW	1200 MW
TTC	3200 MW			

Table 2: Historical RA import showing volumes at the Malin intertie for June-September 2021 and 2022.

NOB	June	July	August	September
2021 RA	412 MW	844 MW	939 MW	1092 MW
2022 RA	261 MW	708 MW	693 MW	1083 MW
ETC	0	0	0	0
TTC	1622 MW			

Table 3: Historical RA import showing volumes at the NOB intertie for June-September 2021 and 2022.

The following tables then illustrate the resulting ATC for June – September 2023 based on the different inputs considering the starting TTC for each of the interties as noted above (Malin TTC of 3200 and NOB TTC of 1622).

Malin	June	July	August	September
Native Load	RA: 1119 MW nRA: 100 MW	RA: 1571 MW nRA: 100 MW	RA: 1615 MW nRA: 100 MW	RA: 1981 MW nRA: 100 MW
Load Growth	20 MW	20 MW	20 MW	20 MW
ETC (legacy)	1200	1200	1200	1200
TRM	160	160	160	160
<b>Remaining ATC</b>	601 MW	149 MW	105 MW	0

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Table 4: Illustration of resulting ATC on the Malin intertie, representative of June – September 2023, based on the proposed ATC methodology.

NOB	June	July	August	September
Native Load	RA: 412 MW nRA: 100 MW	RA: 884 MW nRA: 100 MW	RA: 939 MW nRA: 100 MW	RA: 1092 MW nRA: 100 MW
Load Growth	20 MW	20 MW	20 MW	20 MW
ETC (legacy)	0	0	0	0
TRM	81	81	81	81
<b>Remaining ATC</b>	1009 MW	537 MW	482 MW	329 MW

Table 5: Illustration of resulting ATC on the NOB intertie, representative of June – September 2023, based on the proposed ATC methodology.

Within the tables above, the transmission capacity set aside for native load is represented by “RA” which is the “higher of” shown RA capacity for each one of the months based on the last two years of showings for a particular month. The “nRA” represents contracted imports that are under contract to ISO LSEs, but are not shown on RA plans. These numbers are an approximation, but generally representative of these volumes. The “ETC (legacy)” row is representative of existing legacy transmission contracts that have to be honored associated with each intertie, and “TRM” represents the transmission capacity set aside as an uncertainty margin based on the methodology identified within the proposal.

Based on the inputs utilized for the ATC calculation for June – September 2023, the results appear to be consistent with expectations, with June having the most ATC, as the summer starts, and then the ATC steadily reduces as we approach September where the ATC becomes increasingly limited, at least on one of the interties. This is mainly driven by the increase in RA import showings in September.

Nevertheless, as these numbers illustrate, at least in the northern portion of the system to the extent there is no ATC on Malin under ISO control in September, there is ATC on NOB. Thus, there may be to re-supply wheels through the system to import at a different point that may have ATC. Separately, an option for entities may be to seek to contract with holders of legacy transmission contracts to support wheel through transactions across the ISO system given there is 1200 MW of capacity tied up under legacy agreements that must be respected. There may be also be instances where legacy transmission contract holders release some of their rights to the market in return for CRRs, and this is done generally on a quarterly basis. This can create additional ATC typically 3-4 months out, rather than further out in the 13-month horizon.

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**APPENDIX 2 – Benchmarking of Practices of RTOs and ISOs, Western Transmission Providers**

This appendix provides an overview comparison of general practices of other ISOs and RTOs, as well as other transmission providers in the west informed by working groups conducted last year. Table 6 below, focuses on limited aspects of the practices of other ISOs and RTOs around the country and their treatment of wheels through their system, along with aspects of the ATC methodology.

	NYISO	PJM	MISO	ISO NE
Forward Transmission reservation process	No	Yes	Yes	No
Monthly ATC Calculation Window	N/A	20-months	18-months	N/A
Native load/network load priority	Yes - included as Legacy ETC and TOR commitments.	Yes - included as Existing Transmission Commitment (ETC)	Yes - included as ETC	Yes - included as ETC
Calculating native load ETC	Does not explicitly account for native load within ETC.	Sets aside transmission for native load as ETC. Informed by load forecasts and generation assumptions based on ranking internal resource “blocks” based on effectiveness factors. Limited dependence on imports.  Assumptions updated closer in time - from monthly to daily horizon.	Sets aside transmission for native load as ETC. Informed by load forecasts and generation assumptions based on ranking and “stacking” of internal resources based on different factors including outage rates.  Assumptions updated closer in time - from monthly to daily horizon.	Does not explicitly account for native load within ETC.

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	NYISO	PJM	MISO	ISO NE
Wheel-through requirements	During stressed periods, wheel throughs have a lower priority than load due to application of penalty prices.	Required reservation of service (firm, non-firm). No unique additional requirements imposed.	Required reservation of service (firm, non-firm). No unique additional requirements imposed.	Wheel throughs cannot participate in the day-ahead market, only the real-time market. Real-Time: Priority given to transactions clearing DA market.
Capacity Benefit Margin (CBM)	No	Yes	Yes	No
Transmission Reliability Margin (TRM)	Yes	Yes	Yes	Yes

Table 6: General comparison of aspects of practices of other ISOs and RTOs.

Table 7 below provides a general overview of the practices of the Bonneville Power Administration (BPA), Salt River Project (SRP), and Idaho Power Company (IPC) who shared their practices during stakeholder working groups held from November 2021 to February 2022.

	BPA	IPC	SRP
Forward Transmission reservation process	Yes	Yes	Yes
Calculating native load ETC	Considers different scenarios, and 1-in-2 NCP load forecast. Generation assumptions informed by designated and	Considers 1-in-20 native load forecast. Generation assumptions informed by designated and	Considers 1-in-10 load forecast. Generation assumptions informed by

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	BPA	IPC	SRP
	forecasted resources. <sup>31</sup>	forecasted resources. <sup>32</sup>	resource plans (ip to 30-years). <sup>33</sup>
Monthly ATC calculation horizon	13-months	13-months	13-months
Calculates TRM	Yes - on limited basis in short term horizon.	Yes	Yes
Calculates CBM	No	Yes	No

Table 7: General comparison of aspects of practices of other Western transmission providers.

<sup>31</sup> BPA presentation during stakeholder working groups, available at - <http://www.caiso.com/InitiativeDocuments/BPAPresentation-TransmissionService-MarketSchedulingPriorities-WorkingGroup1-Nov15-2021.pdf>.

<sup>32</sup> Idaho Power presentation during stakeholder working groups, available at - <http://www.caiso.com/InitiativeDocuments/IPCPresentation-TransmissionService-MarketSchedulingPriorities-WorkingGroup1-Nov15-2021.pdf>.

<sup>33</sup> SRP presentation during stakeholder working groups, available at - <http://www.caiso.com/InitiativeDocuments/SRPPresentation-TransmissionService-MarketSchedulingPriorities-WorkingGroup1-Nov19-2021.pdf>.

**Attachment F – Board Memorandum and Board Presentation**

**Tariff Amendment Filing**

**Short-Term Wheeling Through Self-Schedule Priorities**

**California Independent System Operator Corporation**

**July 28, 2023**





California ISO

WESTERN ENERGY IMBALANCE MARKET

# Memorandum

**To:** ISO Board of Governors and WEIM Governing Body

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

**Date:** January 26, 2023

**Re:** **Decision on Transmission Service and Market Scheduling Priorities Phase 2**

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***This memorandum requires Board of Governors and WEIM Governing Body action.***

## EXECUTIVE SUMMARY

Management proposes to implement a durable framework for establishing market scheduling priority for transactions that wheel through the ISO balancing area to serve external load. The proposed framework replaces the current framework approved by FERC that is set to expire on June 1, 2024. Under the proposed design the ISO would calculate available transfer capability (ATC) on its interties that would be available to parties to reserve and establish wheel through scheduling priority equal to ISO load. In calculating the ATC, the ISO would set aside transmission capacity for forecasted or estimated native load needs, including load growth, and establish a Transmission Reliability Margin (TRM) to account for different elements of uncertainty.

Management further proposes a process through which wheel through customers can request and access limited ATC that may be available on the intertie. The process requires them to demonstrate they have a firm power supply contract to serve external load or a contract conditioned on their ability to obtain ATC. The process includes defined reservation windows in which interested external entities can submit requests to compete for limited ATC. The proposed design also includes transmission planning and study process enhancements to permit external entities to request wheel through scheduling priority on a long-term basis of one year or longer in duration. These requests would be studied along with other requests for long-term transmission service. If a transmission upgrade is needed, entities could elect to fund transmission upgrades and obtain the wheel through scheduling priority across the ISO system.

Finally, Management proposes that entities that reserve ATC in advance for high priority wheel through service will be assessed transmission charges based on the underlying duration of their supply contract, regardless of whether the transaction is scheduled, to reflect the value the higher priority provides.

The proposed design provides a reasonable bridge between the Open Access Transmission Tariff (OATT) framework and the current ISO market structure. The proposal provides open access to the ISO transmission system while protecting native load needs similar to the practices of other western transmission providers, while considering the unique characteristics of the ISO's market framework.

The proposal described in this memorandum falls under the ISO Board of Governors' approval authority with the WEIM Governing Body serving in an advisory role.

WEIM Governing Body motion

***Moved, that the WEIM Governing Body advises the ISO Board of Governors, as discussed in the February 1, 2023 joint general session meeting, that it supports / does not support Management's proposal pertaining to transmission service and market scheduling priorities phase 2 as described in the memorandum dated January 26, 2023.***

Board of Governors motion

***Moved, that the ISO Board of Governors approve Management's proposal pertaining to transmission service and market scheduling priorities phase 2 as described in the memorandum dated January 26, 2023; and***

***Moved, that the ISO Board of Governors authorizes Management to make all necessary and appropriate filings with the Federal Energy Regulatory Commission to implement these changes, including any filings that implement the overarching initiative policy but contain discrete revisions to incorporate Commission guidance in any initial ruling on the proposed tariff amendment.***

## **BACKGROUND**

As a result of operational challenges faced on the ISO grid in the summer 2020, the ISO conducted an expedited stakeholder initiative - *Market Enhancements for Summer 2021 Readiness* - that evaluated market enhancements in anticipation of challenging system conditions in summer 2021. The enhancements FERC approved in June 2021 included an interim process for establishing wheel through scheduling priorities. In approving the

ISO's proposal, consistent with prior stakeholder feedback, FERC encouraged the ISO to develop a durable process that identifies how much transmission capacity is needed to meet native load needs and identifies the amount of transmission capacity that can support wheel through transactions across the ISO system.

The interim framework currently in place permits entities to establish wheel through scheduling priority equal to ISO load if the following defined requirements can be met: (1) demonstration of a firm power supply contract to serve an external load serving entity's load throughout the month; and (2) firm transmission for the month reserved to the ISO border. Some external load serving entities have expressed that this framework is onerous and challenging, in part, due to the imposition of firm transmission requirements to the ISO border. They have expressed concern that this requirement does not enable them to establish wheel through priority for periods of less than a month, which they need to manage unexpected changes in conditions. Internal load serving entities also have found the framework challenging and potentially risky because it allows entities to establish a wheel through scheduling priority without considering how much available transmission capacity is available to support high priority wheel through volumes. Wheel through transactions unable to meet the requirements for establishing a wheel through priority have a lower scheduling priority across the ISO system for purposes of effectuating schedule curtailments or adjustments.

In July 2021, the ISO launched the transmission service and market scheduling priorities initiative separated into two phases. The first phase of the initiative resulted in a two-year extension of the interim wheel through scheduling priorities framework which extended the framework through May 31, 2024. Phase 2 of the initiative proposes a durable framework for establishing wheel through scheduling priority that, in accordance with FERC guidance, protects native load by setting aside transmission capacity for native load needs and load growth, while making the remaining transmission capacity available for reservation in advance to establish wheel through scheduling priority.

## **PROPOSAL**

Management's proposal addresses and responds to stakeholder needs that can evolve over time with operational experience. To that end, the design includes the calculation of available transfer capability (ATC) at the ISO interties across different time horizons. This ATC is then made available for advance reservation to support wheel through transactions that would have a priority equal to import transactions serving ISO load. Management proposes that in calculating ATC the ISO would first set aside an amount for forecasted/estimated native load needs, load growth, other existing contractual commitments, and an amount of transmission to account for uncertainty in conditions that may materialize. The remaining transmission – the ATC – would be made available for reservation to eligible entities to establish a wheel through scheduling priority.

Management further proposes to leverage and extend the ISO's transmission study processes to study requests for establishing wheel through scheduling priority on a

long-term basis of a year or longer. This will allow entities to submit a request for long-term, high priority wheel through transactions. The ISO will study such requests to determine if transmission upgrades across the ISO system are necessary to secure the wheel through scheduling priority.

Management also proposes a transmission compensation framework for establishing high priority wheel through schedules to account for their value and differentiate them from lower priority self-schedules. Management proposes to assess high priority wheel through schedules the current transmission charge – the wheeling access charge – based upon the duration of the underlying supply contract that supported the wheel through scheduling priority. The ISO would assess this charge whether or not the transaction is scheduled to utilize the priority for that period. This approach fairly values the higher scheduling priority without dramatically changing the transmission rates currently in place on the ISO system.

The components of the proposed design are discussed in more detail below.

#### Calculating available transfer capability (ATC)

Management proposes to calculate the ATC across a 13-month rolling horizon in monthly increments, and a 7-day rolling horizon in daily increments. The ability to access ATC across these time horizons will help bridge seams with other transmission providers across the West that have OATT transmission frameworks that allow the reservation of transmission service across similar horizons.

In calculating ATC across an intertie, like other balancing authority areas, the ISO would consider the total transfer capability of the intertie and then subtract existing transmission commitments and margins. The resulting ATC would be available for reserving wheel through scheduling priority across the ISO system. Existing transmission commitments include the transmission capacity needed for existing transmission contracts and native load needs. Existing transmission contracts are legacy transmission arrangements that reduce the amount of ATC available for reservation. The native load component of the calculation is a critical component that represents the transmission capacity needed to serve the ISO native load, including load growth.

Management proposes that, for the purpose of calculating ATC across a forward 13-month horizon, the ISO will determine the transmission capacity to set aside for native load needs for a particular month based upon the highest volume of import supply contracted by ISO load serving entities for that month during the previous two years. The import supply would be based upon both contracted imports shown on resource adequacy plans and contracted imports that may not have been shown on resource adequacy plans. For example, in calculating ATC and estimating native load needs for September 2024, the ISO will consider the historical import volumes under contract shown for September 2023 and September 2022 and use the higher of the two values. In addition, the ISO will develop a new process to permit load serving entities to indicate

the existence of import contracts in addition to those shown on resource adequacy plans to inform the amount of capacity to set aside for expected native load needs. This information would be provided to the ISO by the time the ISO first calculates ATC for a particular month (*i.e.*, 12-13 months in advance). Once the actual monthly resource adequacy showing plans are finally submitted, at 30 days prior to the start of the month, the ISO will “true-up” the historical data assumptions used to set aside capacity for native load needs to reflect the actual showings of contracted imports (both resource adequacy imports and contracted imports not shown on resource adequacy plans). This could affect the ATC that is available for reservation in the daily horizon.

Using historical data to estimate future native load needs at the interties supports the existing resource adequacy paradigm applicable to ISO load serving entities whereby import supply is procured primarily in the month-ahead timeframe to meet the month-ahead resource adequacy detailed showings. Because ATC is calculated across a 13-month horizon, the design must rely on historical imports under contract as a reasonable estimation of native load needs. This historical approach to estimating native load needs is in line with the wide and different range of approaches transmission providers use across the West. In particular, to the extent sufficient supply is not under contract at the time of calculating ATC and native load needs, some of the other transmission providers estimate or forecast where that additional supply will be contracted to serve native load.

Management also proposes use of a transmission reliability margin (TRM) to set aside transmission capacity for uncertainty that may materialize. TRMs are governed by NERC requirements and are standard components of the overall ATC methodology across the industry that allows a transmission provider to set aside transmission capacity for different types of uncertainty. The TRM is an important element of the ATC so that when uncertainty materializes that capacity can be utilized to serve load and maintain system reliability.

Management proposes that the ISO will conduct an annual assessment, through a powerflow and similar analysis, to evaluate the impacts of wheel through transaction flows on the internal transmission system and will test for any adverse reliability impacts. Similarly, before publishing ATC values for the summer months across a 13-month horizon, the ISO will hold a stakeholder process to preview ATC values and discuss the different assumptions informing those numbers based on the proposed methodology.

#### Accessing and reserving ATC

Management proposes that entities seeking to reserve ATC in advance to establish wheel through scheduling priority must demonstrate the existence of a power supply contract to serve external load. In particular, the entity seeking to reserve ATC must demonstrate that it has an executed firm power supply contract to serve external load, a firm power supply contract to serve external load where execution is contingent upon the availability of ATC on the ISO’s system, or demonstration of ownership of the

resource to serve external load. The contractual requirement is an extension of the current requirement under the interim framework and is intended to help ensure limited transmission capacity is accessible to those entities that need it to serve their load.

Management proposes reservation windows during which requests are submitted and entities seeking wheel through scheduling priority can compete, if necessary, for limited ATC. Under this proposed design, there will be reservation windows in both the monthly timeframe and the daily timeframe for accessing ATC across the horizon for which ATC has been calculated. If there is insufficient ATC to accommodate all submitted requests, the priority to such limited ATC will be granted based on the number of hours for which the priority is sought based upon the underlying duration of the supply contract. Thus, requests for ATC supported by an underlying supply contract with more hours would obtain the limited ATC over a request with a shorter set of hours. For example, a requestor with a 6x16 (6 days a week, 16 hours a day) supply contract would obtain ATC over another requestor with a 6x8 supply contract at the same intertie if there was insufficient ATC to meet both requests. At the conclusion of the submission windows, once a requesting party is granted ATC, it has certainty that it has established the wheel through scheduling priority. Entities that have established wheel through priority will also be able to resell this priority.

#### Establishing long-term wheel through scheduling priority & study process

Management proposes to introduce a process through which entities seeking to establish wheel through scheduling priority on a long-term basis, i.e., for a year or longer, can submit a request for the ISO to conduct a study to determine whether there is sufficient transfer capability available for the requested period or whether a transmission upgrade is needed. This process complements the short-term calculation of ATC because it enables entities to seek to establish the wheel through scheduling priority beyond the 13-month horizon and establish it for multiple years if necessary.

To support the study process, the ISO would leverage aspects of its existing generator interconnection process. In particular, the interconnection process includes a deliverability study the ISO would leverage for long term wheel through requests. Requests for long-term wheel through scheduling priority would be included in the existing annual interconnection process deliverability cluster study with other deliverability requests. The study would determine whether the request can be supported by the existing facilities or whether a transmission upgrade on the intertie or across the internal network is necessary to accommodate the request. If it can be accommodated without an upgrade, the ISO would grant the request, and the requestor would establish wheel through priority and pay the wheeling access charge for transmission. However, if the ISO cannot accommodate the request, the study will identify a plan of service, including the nature and cost of transmission facilities to be upgraded. The requestor can then determine whether to pursue the upgrade. If the requestor pursues the transmission upgrade option, it will be responsible for funding the transmission upgrade utilizing a transmission credit approach or a comparable

approach consistent with FERC policy. The ISO will develop the implementation details for this framework in the tariff drafting process.

Transmission compensation for wheel through scheduling priority

Management proposes that priority wheel through scheduling transactions pay for transmission service across the ISO system based upon the underlying duration of the supply contract that will be delivered across the ISO system. For example, an entity that has reserved ATC with a 6x16 supply contract to support a priority wheel through transaction across the ISO system would be charged the existing wheeling access charge rate for 6 days a week, 16 hours a day, whether or not the transaction is scheduled. This compensation design reflects the value of having a wheel through scheduling priority compared to lower priority wheel through transactions, which are assessed transmission charges only when they are scheduled.

Application of scheduling priority in the post-HASP process

In the event that there is insufficient transmission to support priority wheel schedules and serve ISO load, under the current framework, the ISO uses a post-HASP process to perform pro-rata schedule adjustments between priority wheel through transactions and ISO load transactions. Management's proposal for calculating ATC on the interties and capping priority transactions at an intertie's total transmission capability will decrease the risk that the post-HASP process will be needed. Today, the interim design does not consider ATC when establishing wheel through priority, which makes it possible for the sum of priority wheel through transactions and ISO load to exceed the total capability of the intertie. This can lead to over-scheduling of these transactions and trigger the pro-rata curtailment of these transactions.

Management proposes to update the inputs to the post-HASP process. In anticipation of stressed grid conditions, the ISO may procure additional import capacity through the capacity procurement mechanism (CPM). Management proposes that CPM import supply be included as part of the "ISO load" component of the post-HASP process if there is remaining ATC that has not been previously reserved, or there is sufficient TRM to support delivery of the CPM import supply. If there is insufficient ATC or TRM to support the CPM import supply, and the post-HASP process is triggered, the CPM import schedules would not be protected within the pro-rata adjustment between priority wheel through transactions and ISO load.

Management contracted the services of Open Access Technology International (OATI) as a consultant on the initiative and they have provided a written opinion on discrete elements of the proposal: the set aside of transmission capacity for native load and the TRM. Their opinion cites a range of different transmission provider practices across the West and concludes that Management's proposal on these elements is a reasonable starting point and consistent with the range of practices of sampled transmission providers.

## STAKEHOLDER POSITIONS

Overall, stakeholders expressed support for pursuing an approach that replaces interim design requirements for establishing wheel through scheduling priority with transparently calculating ATC to determine transmission availability, protect native load needs, and enable customers to establish scheduling priority in the monthly and daily timeframes.

While some stakeholders expressed support for the proposed calculation of ATC, others expressed concerns with certain elements of the formulation. For example, one concern was with basing the calculation of native load on historical contracted values, as opposed to supply under contract. Another concern was that the historical approach may overestimate the native load needs. Some stakeholders noted that it is a reasonable or acceptable design as a starting point, but the ISO should monitor and be prepared to evolve the calculation with operational experience. Management believes the proposed design for calculating native load needs is reasonable and consistent with the range of different practices employed by transmission providers in the West, and it would be overly restrictive and inconsistent with the existing resource adequacy framework to base the set-aside of transmission capacity on contracts executed more than a year in advance.

Stakeholders also generally supported retaining the contractual requirement to access ATC and providing additional flexibility regarding what contracts count toward meeting that requirement. Nevertheless, some stakeholders expressed concern about or opposed the requirement, stating that a contract is not required under the OATT to reserve transmission in advance. The contractual requirement is consistent with the interim FERC-approved design, and it ensures that entities with an imminent need for the capacity to serve their load, demonstrated through execution of a power supply contract, can access limited ATC.

Stakeholders generally found the proposed compensation framework for priority wheel through customers reasonable or noted they did not oppose the proposed design. Some of those stakeholders recognized that the design did not go as far as they would have preferred, but it was favored over the existing design where priority wheel through transactions pay for transmission only when the transaction is scheduled. Management proposes the ISO will monitor the proposed compensation design and consider different approaches in the future, recognizing that any approaches that attempt to change the rate structure will likely require extensive stakeholder discussion.

Finally, several stakeholders sought clarity and expressed concern that the wheel through scheduling priority established on the ISO system may not be comparable or of the same quality as the priority established for firm transmission service under the OATT. This is an important issue for several stakeholders as they evaluate not only their own risk tolerance, but also the compatibility of the wheel through scheduling priority with other emerging regional programs, particularly the Western Resource Adequacy Program (WRAP) that requires a large portion of the resource adequacy



supply be deliverable on firm transmission. The final proposal discussed when priority wheel through transactions are primarily at risk of being triggered: (1) there is a supply insufficiency in the ISO area such that there is a power balance infeasibility in the market (*i.e.*, insufficient supply to serve load); and (2) a transmission limitation on an intertie. If these conditions are present, and there is no additional supply available to the market across any other intertie than the one experiencing a limitation, the ISO will first adjust economic schedules and low priority transactions. Only if additional relief is needed would post-HASP pro-rata curtailments occur. Management noted that this confluence of conditions is infrequent, even under stressed system conditions. The ISO has not curtailed a single priority wheel through transaction since inception of the wheel through priorities in summer 2021, even under stressed supply shortfall conditions. Moreover, the introduction of an ATC calculation on the interties further reduces the risk of the post-HASP process being needed due to overscheduling since the amount of priority transactions cannot exceed the intertie's total transmission capability. This denotes the high confidence in, and reliable nature of, high priority wheel through transactions across the ISO system. The level of priority, confidence, and reliability of priority wheel through transactions is comparable, if not superior, to firm transmission service under the OATT.

## CONCLUSION

Management requests the WEIM Governing Body advise the ISO Board of Governors of their support for the proposal, and that the ISO Board of Governors approve Management's transmission services and market scheduling priorities phase 2 proposal described in this memorandum. This proposal will create a durable framework for wheel through scheduling priorities in the ISO markets while effectively accounting for transmission capacity needed to serve native load.



California ISO

WESTERN ENERGY IMBALANCE MARKET (WEIM)

# Decision on transmission service and market scheduling priorities phase 2

Milos Bosanac

Regional Markets Sector Manager

ISO Board of Governors and WEIM Governing Body Joint Meeting

General Session

February 1, 2023

## Background - Transmission Service & Market Scheduling Priorities

- The ISO has historically allocated and optimized the ISO controlled grid through the day ahead market and has not required reservations for firm transmission rights.
- The volume of wheel throughs in the ISO system has increased in recent years, contributing to competition for limited space and the potential crowding out of imports on some interties.
- The risk of curtailments of imports and wheel throughs after Summer 2020 precipitated development of interim priority framework.

## Background - Transmission Service & Market Scheduling Priorities

- Current interim process for establishing higher wheel through priority expires ahead of Summer 2024.
  - Requires demonstration, 45 days ahead of month, of an executed contract and firm transmission to the ISO border for the month.
- Wheel through transactions unable to meet this requirements have lower priority.

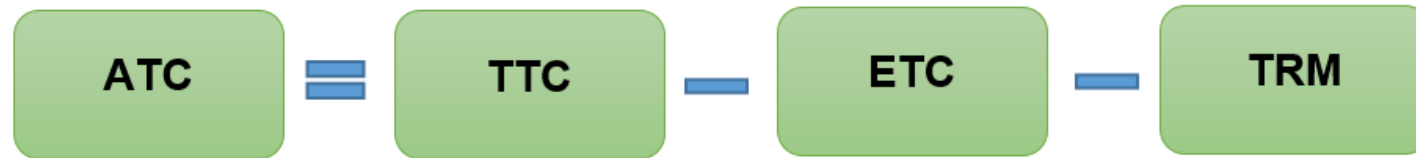
## Management proposes a more durable design for establishing wheel through scheduling priority

- Introduction of calculation of available transmission capacity (ATC) that provides the amount of transmission capacity available for reservation in advance to establish wheel through scheduling priority equal to ISO load.
- Establishing a process for reserving high scheduling priority in advance across different horizons.
- Defines process for studying, and pursuing longer-term transmission upgrades, for requests seeking wheel through priority.
- Payment of wheeling access charge for reservations.

# Management proposes to introduce calculation of Available Transfer Capability (ATC) at the ISO interties

- ATC represents the amount of transmission capacity available for reservation in advance to establish wheel through scheduling priority equal to ISO load.
- ATC is derived after setting aside transmission capacity for native load needs.
- The ATC will be calculated in monthly increments across a 13-month horizon, and daily increments across a 7-day horizon.

# Management proposes to use industry accepted ATC methodology



- TTC is the total transfer capability of the intertie.
- ETC are the existing commitments such as existing contracts and native load needs, including load growth.
- TRM refers to a reservation margin to account for uncertainty related to the ability to reliably serve load.

## Management proposes to set aside transmission capacity for native load

- The transmission providers across the West set aside transmission capacity for serving native load.
- Management proposes to set aside transmission capacity for native load needs at the interties based on historical import volumes under contract to ISO load serving entities.
  - Two-year lookback, for each month, set at the greater of two years of historical RA monthly showings of imports and historical non-RA contracted import volumes.
- Allow for ability to show executed import contracts in advance to qualify for protection of native load.
  - Improves accuracy of historical assumptions.
  - Must be identified in advance of calculating ATC for the first time and represent a change from history.



## Management proposes to make use of industry standard transmission reservation margins

- In addition to historical native load calculation, would set aside additional capacity through a transmission reliability margin (TRM) on interties to account for uncertainty.
- Consistent with NERC rules, accounts for load variability, generation dispatch variability, risk of outage and other elements as necessary.
- Can vary across time horizons and over time to account for changing or evolving uncertainty.

## Management proposes a process for requesting ATC to establish wheel through scheduling priority

- ATC calculated on the interties can be accessed to establish wheel through scheduling priority.
- Requesting ATC requires demonstration of a power supply contract to serve external load.
- Introduction of reservation windows which requests are submitted to be evaluated for ATC.
  - Requests with longer duration, based on number of hours supported by supply contract, outcompete those of shorter duration if ATC is insufficient to accommodate all requests.

## Management proposes to leverage existing transmission study process for long-term transmission priority requests

- Will study requests to establish wheel through scheduling priority on a long-term basis, a year or longer (beyond the period for which ATC is calculated).
- Leverages existing deliverability study processes to include such requests in an annual cluster study with similar requests.
- Entity seeking wheel through priority will have the ability to elect whether to pursue and fund the transmission upgrade.
  - Receive transmission credits in return, over time.

## Management proposes to assess wheeling access transmission charge for reservations

- Today high and low wheel through transactions pay the transmission charge only when these transactions are scheduled.
- Propose to assess the ISO wheeling access charge for priority wheel through transactions based upon the duration of the underlying supply contract.
  - Regardless of whether the transaction is scheduled.
  - Example: priority based on 6x16 contract pays for transmission across that duration for the month.
- The proposal better reflects the value of the priority and does not require changes to the current rate structure design.

## Management proposes to continue the application of wheel through scheduling priority equal to ISO load

- Priority effectuates pro-rata adjustments between wheel through priority transactions and ISO load transactions.
- Two simultaneous conditions must exist to potentially trigger adjustments of high priority transactions:
  - power balance infeasibility (internal and intertie supply exhausted), and
  - a transmission limitation on an intertie.
- Calculation of ATC further reduces the risk of overscheduling interties with priority transactions between priority wheel throughs and ISO load transactions.

While stakeholders generally supported the overall design, some expressed concerns with elements

- Some stakeholders supported the concept of calculating ATC that can be accessed in advance to establish priority.
- Some stakeholders expressed concern that the native load set-aside may overestimate native load needs and should instead be based on supply under contract.
- Some stakeholders expressed concern that wheel through priority equal to ISO load is not comparable to firm transmission service under the OATT.

Management recommends the WEIM Governing Body advise the ISO Board of Governors of its support for the proposal, and that the ISO Board of Governors approve the transmission service and market scheduling priorities phase 2 proposal

- This proposal will create a durable framework for wheel through scheduling priorities in the ISO markets while effectively accounting for transmission capacity needed to serve native load.

**Attachment G – OATI Opinion**

**Tariff Amendment Filing**

**Short-Term Wheeling Through Self-Schedule Priorities**

**California Independent System Operator Corporation**

**July 28, 2023**





**CALIFORNIA INDEPENDENT SYSTEM  
OPERATOR CORPORATION  
PROJECT #9007**

**CONSULTING TSMSP  
OATI OPINION ON CAISO STRAW PROPOSAL  
v2.0**

JANUARY 2023

**The Smarter Future of Energy**



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## 1. Introduction

Open Access Technology International, Inc. (OATI) is pleased to provide this write-up in support of some elements of the California Independent System Operator Corporation (CAISO) Transmission Service and Market Scheduling Priority (TSMSP) proposal. In providing this opinion we have considered both the prevalent industry practices and special circumstances dictated by CAISO's market design principles that have been in place for a quarter of a century.

Specifically, as a fundamental principle of its existing market design, the CAISO does not require or provide for forward reservation of transmission service as a pre-requisite to participate in the CAISO-facilitated markets. Rather, the CAISO market optimizes the use of all physically available transmission based on competitive bids for purchase and sale of different CAISO market products. In contrast, the Open Access Transmission Tariffs (OATT) adopted by other Balancing Areas and Transmission Providers across the west (WECC) require buyers/sellers to secure capacity/energy and separately reserve transmission service in advance of the transaction, to support delivery of the transaction from source to sink.

The CAISO market mechanism, like other ISO/RTO markets uses constraint relaxation parameter (aka penalty factors) to prioritize relaxation of otherwise hard constraints in cases where bids and offers prove inadequate for the market-clearing process to achieve a feasible solution. Scheduling priorities in CAISO's market become a factor when the market cannot find a feasible solution. The relative sequence of scheduling priorities are coordinated in the market solution through the use of the constraint relaxation parameters.

CAISO's TSMSP proposal is primarily concerned with scheduling priority of wheel-through transactions compared to import transactions intended to serve CAISO native load. As such, the straw proposal is primarily concerned with scheduling priority in the face of limited transmission capacity on the interties to accommodate both wheel-through schedules and wheel-in schedules to serve CAISO load.

The proposal adopts the industry accepted NERC formula for computation of the ATC, namely:

$$ATC = TTC - ETC - TRM - CBM$$

Where:

TTC = Total transfer capability of a path or intertie

ETC = Existing transmission commitment, which includes transmission capacity set aside for native load needs and native load growth.

TRM = Transmission Reliability Margin, which is a further transmission set-aside for uncertainty associated with service to load and preserving transmission system reliability.

CBM = Transmission set-aside of as a margin for imports of supply during declared emergency conditions.

Only a handful of FERC-regulated transmission providers utilize CBM. As such CAISO proposal sets the CBM component to 0.

OATI's opinion provided here pertains to:

- The component of ETC that CAISO's proposal sets aside for Native Load
- The TRM set aside

The comments are summarized in the next two sections.

## **2. Native Load Set Aside**

### **2.1 Summary of CAISO Proposal on Import Capacity Set Aside For CAISO Native Load**

The CAISO proposal on Native Load Set aside is to assign import of Resource Adequacy (RA) Showings and non-Resource Adequacy (non-RA) Contracted Supply at the individual interfaces.

The CAISO process for allocation of external interfaces use to serve Native Load within the CAISO boundaries will be based upon forecasts (based on two years of historical data) of future needs of the Load Serving Entities load (RA and non-RA contracted supply) at the external interfaces, plus the existing transmission commitments of entities use of the same applicable external interfaces. This process, though its components may be named differently than what neighboring Balancing Areas use, is nonetheless similar in usage to ensure that Transmission Capability to serve Native Load is prioritized in this new wheel through priority process.

CAISO presently will not incorporate any internal path congestion for ATC calculations but will closely monitor the impacts of import and wheel through volumes under different conditions. In addition CAISO will perform analyses periodically as suggested by stakeholders to test the ability of the internal network to operate reliably without triggering internal reliability constraints.

### **2.2 Reference Frame to Assess Degree of Alignment with Industry Practices**

CAISO proposes a simple methodology for resource assessment supporting native load needs. This includes resource assessment based on historical resource data (RA and non-RA imports) for similar months. As the CAISO straw proposal points out, other transmission providers across the West also rely on resource forecasts and estimates, to the extent supply is not under contract at the time of the ATC calculation, based on where they expect supply to be contracted and delivered to serve load.

To put the CAISO proposal for Native Load set aside in the context of Transmission Service Provider (TSP) practices in the West, we note that CAISO Load Serving Entities' (LSEs) load may be comparable to the Network Integration Transmission Service (NITS) loads served by other TSPs in the West. Accordingly, references to Bonneville Power Administration (BPA), Salt River Project (SRP), and Idaho Power Company (IPC) practices for Native Load and NITS set asides are offered below as representative samples.

**Relevant BPA Set Aside Practice** (Reference: Available Transfer Capability Implementation Document (MOD-001-1a)):

For BPA's paths where NITS commitments exist to serve Network Load outside BPA's BAA, the firm capacity set aside for NITS is equal to the Load forecast, which includes losses and Load growth, minus generation outside BPA's BAA that is designated to serve that Load. For BPA's paths where NITS commitments exist to serve Network Load inside BPA's BAA from a forecasted or designated network resource that impacts the path, the firm capacity set aside for NITS is equal to the amount the resource is forecasted/designated for.

**Relevant SRP Set Aside Practice** (Reference: Available Transfer Capability Implementation Document, Ver. 7):

For use in the ETC calculation for the Native Load/Network load, SRP "uses load and resource forecasts provided by network customers to determine the transmission capacity to be set aside for each network customer."

"SRP sets aside transmission for resources and energy purchases to serve native load needs, via the 13 Month Transmission Plan. The 13 Month Transmission Plan utilizes the peak hour forecast to establish native load needs for each month for 13 months. The 13 Month Transmission Plan is updated at a minimum of once a month for the next 13 months. Transmission capacity that is needed for resources and energy purchases is assigned a unique TSN(s) and the associated MWs are allocated via OASIS at a minimum of once a month for the next 13 months."

**Relevant IPC Set Aside Practice** (Reference: Idaho Power Transmission Business Practices Section 6 - Available Transfer Capability Implementation Document (ATCID) and Section 2 - Network Integration Transmission Service):

Idaho references the use of their transmission system by NITS or Native Load Service (NLS) customers within the Business Practice, Section 2 - Network Integration Transmission Service. Within this BP the following is stated: "Any load growth reservation must be based upon reasonably forecasted loads in the customer's current planning horizon and be supported by a reasonable plan for Network Resources to meet that load growth. Any energy replacement reservation must be based upon the customer's current planning horizon and be supported by a reasonable generation forecast for the Network Resource."

Moreover, different RTOs treat the native load needs differently in their ATC calculations based on their resource sufficiency practices. For example, PJM and MISO have capacity markets where supply is secured over a longer period of time, but the CAISO has a unique RA program with shorter look-ahead time frame. This should be considered in comparing CAISO's proposal to the ATCIDs of other RTOs who do have capacity markets in place.

### **2.3 OATI Opinion on Native Load Set Aside Methodology**

It is OATI's opinion that due to difference in the CAISO's market mechanism and the market mechanisms of the above referenced ISOs/RTOs, a step by step comparison cannot be made. OATI believes the lack of a capacity market should not be an impediment for CAISO to set aside transmission for native load based on resource assumptions derived from historical RA and non-RA showings.

More broadly, every TSP has to make some assumptions on load forecast, and associated resources to serve load, in their ATC calculations. As noted in Section 2.2, the methods of determining Native Load set-aside utilized by several Western Balancing Areas (Bonneville Power Administration, Idaho Power Company and Salt River Project), all rely on a native load forecast method, and involve commensurate generation assumptions informed by designated and forecasted resources. As such, the use of historical data for Resource Adequacy to serve CAISO LSE load along with Non-Resource Adequacy Contracted Capacity Supply allocated to the Transmission Paths from External Balancing Entities is not dissimilar, and in our opinion is adequate as a start as a simple forecasting method for Native Load needs.

Having said that, for better alignment with Native Load set aside practices of other RTOs and Western Balancing Areas, we recommend the following enhancements be considered as the proposed framework evolves and the CAISO and stakeholders gain experience with the design:

- **Forecasting Enhancement:** The CAISO should investigate the use of modern forecasting techniques and solutions in order to supplement and/or replace the currently proposed forecast method for load and resource forecasting needs for Native Load and Load Growth Set-Asides used in the ATC calculation for wheel through priority service.
- **Horizon consideration:** The CAISO should also consider future adaptation of the currently proposed Native Load set aside for different time horizons as more experience is gained after the initial implementation.



We note that methodologies for Native Load set-aside forecasting used by all comparable entities are refined as time passes, and evolve as their experience grows with providing these values for usage within their process to calculate ATC.

### 3. The TRM Set Aside

#### 3.1 Summary of CAISO Proposal on Transmission Reliability Margin

CAISO's TSMSP proposal includes the use of TRM in the calculation of ATC. The NERC Reliability Standard for TRM, MOD-008-1, outlines several elements that can be considered in evaluating TRM. CAISO is proposing to include the following three elements in its TRM evaluation:

- Aggregate load forecast uncertainty - TRM will be calculated across the entire 13-month ATC horizon, so this element is needed to account for load forecast uncertainty across that time horizon.
- Forecast uncertainty in transmission system topology - This TRM element is necessary to account for a risk that certain transmission outages may not be submitted with enough lead time to be incorporated into ATC calculations and therefore require TRM usage.
- Variations in generation dispatch - This TRM element sets aside transmission capacity in case there are needs to bring in additional generation to account for resource outages or other system conditions. CAISO plans to incorporate this TRM element to account for scenarios such as net peak load periods when variable energy resources may be unavailable and additional imports are needed to reliability serve load, or other scenarios where expected generation supply such as hydropower or variable energy is impacted and must be replaced to serve load.

For each of the three TRM components the CAISO proposal is to start with to 2% of TTC on select interties where CAISO has historically relied upon import supply to serve load. Each element of TRM would be assessed independently to determine the TRM need, so the final TRM amount on a given intertie may not have a full 2% TRM per component.

CAISO plans to incorporate TRM into both the monthly ATC and daily ATC calculations.

#### 3.2 Reference Frame to Assess Degree of Alignment with Industry Practices

CAISO is using the NERC TRM standard as the guideline for developing and implementing its TRM approach. The following summaries outline how some of the other RTOs define their TRM approaches.

- MISO - MISO applies TRM in the Operating Horizon for the next 48 hours of operation covering Real-Time and Day-Ahead periods as well as the Planning Horizon which is the

time period beyond the Operating Horizon up to 36 months ahead. The same calculation is applied for both Firm and Non-Firm ATC, although TRM may be released for sales as non-firm capacity by the MISO transmission provider. The following components are part of MISO's TRM:

- Automatic Reserve Sharing: MISO calculates the MW amount required on transmission flowgates to deliver contingency reserves based on contingency reserve obligations of its reserve sharing members. This component is calculated seasonally (summer and winter) and applied to both the Operating and Planning Horizons.
- Uncertainty Components: These include the following:
  - Aggregate Load Forecast: Load forecast errors can cause the need for TRM to account for real-time transmission facility loading about forecasted values. This TRM component is only applicable in the Planning Horizon.
  - Load Distribution Uncertainty: This TRM component is similar to Aggregate Load Forecast in accounting for differences in real-time transmission facility loading compared to predicted load forecasts. This TRM component is only applicable in the Planning Horizon.
  - Forecast Uncertainty in Transmission System Topology: This TRM component accounts for uncertainty in transmission system configuration from events including but not limited to forced, unplanned and maintenance outages. This TRM component is only applicable in the Planning Horizon.
  - Allowances for Parallel Path (Loop Flow) Impacts: This TRM component accounts for scheduled transfers from other entities which contribute to unexpected real-time facility loading and impact AFC values. This TRM component is only applicable in the Planning Horizon.
  - Variations in Generation Dispatch: This TRM component captures unplanned generator outages which impact AFC values. This uncertainty also can arise from the MISO market dispatch which may vary from forecasted levels based on economic and congestion factors. This TRM component is only applicable in the Planning Horizon.

The MISO Uncertainty Component, applicable only in the Planning Horizon, does not directly utilize uncertainty components to establish TRM values for Flowgates; instead, it addresses them by applying a factor of two percent (2%) of the Flowgate rating on the top of the Automatic Reserve Sharing component for each transmission flowgate. The

TRM Automatic Reserve Sharing component uses a study process to determine the largest MW impact on each flowgate on a post-contingency basis and sets a value that is used in the Operating and Planning Horizons.

- PJM - PJM applies the same TRM calculation for all time horizons and ATC products (hourly, daily, weekly, and monthly) which cover 18 months and both Firm and Non-Firm ATC calculations. The following components are part of PJM's TRM:
  - Aggregate Load Forecast: Load forecast errors can cause the need for TRM to account for real-time transmission facility loading about forecasted values. PJM notes that load forecast error generally increases as the forecast time period moves further away from real-time, and that the average day-ahead load forecast error has historically been approximately 2%. Therefore PJM sets 2% of the flowgate rating as TRM for both Non-Firm and Firm ATC calculations to account for aggregate load forecast error.
  - Allowances for Parallel Path (Loop Flow) Impacts: This TRM component accounts for scheduled transfers from other entities which contribute to unexpected real-time facility loading and impact AFC values. PJM simulates the loop flow impact on flowgates in its ATC process to calculate the difference in flowgate MW flow with and without the loop flow to calculate the difference as a percentage of the flowgate rating. If this loop flow percentage is greater than the 2% TRM set by aggregate load forecast then it is used for TRM.
  - Variations in Generation Dispatch: This TRM component captures unplanned generator outages which impact AFC values. This uncertainty also can arise from the MISO market dispatch which may vary from forecasted levels based on economic and congestion factors. PJM monitors for limitations on flowgates in ATC calculations which do not occur in real-time and may be attributable to variations in generation dispatch. PJM may apply an adjustment to TRM to prevent this type of flowgate limitation from restricting ATC.

Beyond the TRM components already listed, the PJM TRM Methodology allows for TRM adjustments due to certain historic conditions, current and expected operating conditions, unusual circulation and other operating conditions. PJM may set TRM on specific Flowgates consistent with historic loading, load forecast and distribution error, variations in facility loadings, uncertainty in transmission system topology, loop flow

impact, variations in generation dispatch, automatic sharing of reserves, and other uncertainties, as identified through the NERC reliability standards. If a flowgate is constrained in real time operations, but not in the AFC calculation, PJM may increase TRM to prevent additional commitments on the flowgate. PJM also sets a TRM of 5% of the flowgate rating for the following scenarios:

- A PJM owned flowgate had a Transmission Loading Relief (TLR) issued in the 12 months prior to PJM's TRM re-evaluation;
- Flowgates identified in Manual 37: Reliability Coordination as Interconnection Reliability Operating Limit (IROL) facilities; and
- A PJM owned flowgate that were bound constrained by the PJM market in the 12 months prior to PJM's TRM re-evaluation.
- SPP - SPP applies TRM in the Planning and Study time horizons which cover 12 months for firm ATC calculations. TRM may be released for sales as non-firm capacity by the SPP transmission provider in the Operating, Planning, and Study horizons. The following components are part of PJM's TRM:
  - Aggregate Load Forecast: Load forecast errors can cause the need for TRM to account for real-time transmission facility loading about forecasted values. SPP uses forecast hourly load for the next seven days for all applicable control areas; beyond seven days, SPP projects a demand based on seasonal peak load models for all applicable Transmission Owners.
  - Variations in Generation Dispatch: This TRM component captures unplanned generator outages which impact AFC values. SPP uses real-time snapshots of network system conditions for generation dispatch in near-term models. For the longer-term horizons, whenever possible, generation dispatch information provided by generation owners will be applied to the ATC calculations. However, it is recognized that longer-term dispatch is probably unknown to the generation controlling entities themselves except for baseload and must run type units.
  - Allowances for Parallel Path (Loop Flow) Impacts: This TRM component accounts for scheduled transfers from other entities which contribute to unexpected real-time facility loading and impact AFC values. Parallel flows can be an issue if pertinent data to the ATC calculations are not shared among the transmission providers and those transactions that have multiple wheeling parties are not identified. SPP

transmission owners of facilities that are impacted by unaccounted parallel flows or variations in dispatch may request additional TRM for their impacted Flowgates.

- Operating Reserve Sharing: SPP instituted an Operating Reserve Sharing program to provide both reliability and economic benefits to its members. This program reduces the amount of internal operating reserves each entity is required to maintain while providing an automated way of allocating resources on a region wide level to ensure quick recovery for the loss of any unit. Transmission facilities must be able to support the automatic implementation of the Reserve Sharing program. To that end, TRM on the Flowgates will provide enough capacity to withstand the impact of the most critical generation loss to that facility. All generation contingencies will be simulated by the Operating Reserve Sharing algorithm to determine the highest impact on each Flowgate. This capacity will be included in TRM.
- Counter Flow Impacts: Another factor SPP considers in its TRM process is that for the planning horizon the counter flow impacts of reservations on the Flowgates are removed with the exception of Designated Network Resources. This counter flow provides an inherent margin in the ATC calculation which is a proxy for the generation variation.

SPP uses a power flow model approach to find the generator outage that has the largest impact on a given flowgate. Therefore there is no standard percentage TRM offset for SPP ATC calculations but instead it is determined per flowgate. There are a limited number of flowgates in the SPP TRMID which have exceptions to the TRM calculation process and define additional TRM requirements for stability based flowgate definitions or per accepted FERC agreement.

### 3.3 OATI Opinion on TRM Methodology

California ISO is using the NERC TRM standard (MOD-008-1) as the guiding document for defining its needs for TRM. The previous section which outlined how some other ISO/RTO entities utilize TRM show that CAISO is using TRM in a similar manner. The main components which are common to all ISOs/RTOs are load forecast uncertainty to account for discrepancies in forecasted values compared to real-time transmission element loading, transmission system topology uncertainty due to planned and unplanned transmission system outages, and variations in generation dispatch due to unplanned generator outages or market dispatch differences compared to forecasted amounts.

The primary difference in TRM approach adopted by CAISO compared to the majority of utility transmission providers is attributable to the needs of a market-based transmission provider compared to the more traditional transmission providers who do not have day-ahead and real-time market processes to serve native load. However, as already stated CAISO is using similar TRM approaches compared to other ISO/RTO entities. The interties where CAISO has historically relied upon import supply to serve load may not warrant the inclusion of other TRM components provided for by NERC, although flexibility in the CAISO TRM implementation could allow for evaluating other TRM components as warranted.

The current CAISO proposal states that TRM will apply to both the Daily ATC and Monthly ATC calculations. OATI agrees with that approach, but there is no additional detail on whether the TRM evaluation between these two ATC calculations would apply TRM differently. As noted by other ISO/RTO entities, the uncertainty of the TRM elements increases as the time horizon from real-time increases. Additionally the NERC TRM standard allows for variations in how TRM is applied between different ATC horizons. Accordingly, OATI recommends that for monthly ATC computations for months farther away from the effective date, higher TRM levels be considered compared to the months closer to the effective date. OATI also recommends that the Daily ATC would decrease the amount of TRM, as forecast and outage information is less prone to change. The Daily ATC horizon still would expect to have a non-zero TRM component to allow for some risk in having unplanned transmission or generation outages.

OATI also recommends that the CAISO TRMID allow for the evaluation and inclusion of additional TRM components as system conditions or additional studies may identify the need for additional margin. This flexibility in defining the CAISO TRM approach is consistent with the approach of

other transmission providers and will evolve and be refined as their experience grows with setting a TRM for usage within their process to calculate ATC.

OATI also would like to point out that CAISO's proposal currently sets the Capacity Benefit Margin (CBM) to zero for ATC computations on the interties. This approach is in line with practices in most other RTOs and Western transmission providers with a few notable exceptions such as PJM, MISO and Idaho Power. However, as mentioned above, this and other set-aside components provided by NERC in ATC computation may be included in CAISO's ATC computations for wheel-through scheduling priority in the future, as warranted, based on minoring the outcome of the currently proposed methodology in practice.

Filename: OATI Opinion on CAISO TSMSP Straw Proposal v2.0 SW 012523



FERC rendition of the electronically filed tariff records in Docket No. ER23-02510-000

Filing Data:

CID: C001183

Filing Title: 2023-07-28 Short-Term Wheeling Through Self-Schedule Priorities Tariff Amendment

Company Filing Identifier: 1105

Type of Filing Code: 10

Associated Filing Identifier:

Tariff Title: CAISO eTariff

Tariff ID: 11

Payment Confirmation:

Suspension Motion:

Tariff Record Data:

Record Content Description, Tariff Record Title, Record Version Number, Option Code:

23., Transmission Capacity, 2.0.0, A

Record Narrative Name:

Tariff Record ID: 6379

Tariff Record Collation Value: 505801056 Tariff Record Parent Identifier: 0

Proposed Date: 2023-11-01

Priority Order: 500

Record Change Type: CHANGE

Record Content Type: 1

Associated Filing Identifier:

### **23. Transmission Capacity**

Record Content Description, Tariff Record Title, Record Version Number, Option Code:

23.1, Categories of Transmission Capacity, 0.0.0, A

Record Narrative Name:

Tariff Record ID: 10111

Tariff Record Collation Value: 506047509 Tariff Record Parent Identifier: 6379

Proposed Date: 2023-11-01

Priority Order: 500

Record Change Type: NEW

Record Content Type: 1

Associated Filing Identifier:

#### **23.1 Categories of Transmission Capacity**

References to new firm uses shall mean any use of CAISO transmission service, except for uses associated with Existing Rights or TORs. Prior to the start of the Day-Ahead Market, for each Balancing Authority Area Transmission Interface, the CAISO will allocate the forecasted Total Transfer Capability of the Transmission Interface to four categories. This allocation will represent the CAISO's best estimates at the time, and is not intended to affect any rights provided under Existing Contracts or TORs. The CAISO's forecast of Total Transfer Capability for each Balancing Authority Area Transmission Interface will depend on prevailing conditions for the relevant Trading Day, including limiting operational conditions. This information will be posted on OASIS in accordance with this CAISO Tariff. The four categories are as follows:

- (a) transmission capacity that must be reserved for firm Existing Rights;
- (b) transmission capacity that must be allocated for use as CAISO transmission service,

including transmission capacity for CAISO Demand and Priority Wheeling Through and non-Priority Wheeling Through transactions (*i.e.*, “new firm uses”);

- (c) transmission capacity that may be allocated by the CAISO for conditional firm Existing Rights; and
- (d) transmission capacity that may remain for any other uses, such as non-firm Existing Rights for which the Responsible PTO has no discretion over whether or not to provide such non-firm service.

Record Content Description, Tariff Record Title, Record Version Number, Option Code:

23.2, Accessing Transfer Capability, 0.0.0, A

Record Narrative Name:

Tariff Record ID: 10113

Tariff Record Collation Value: 506170736 Tariff Record Parent Identifier: 6379

Proposed Date: 2023-11-01

Priority Order: 500

Record Change Type: NEW

Record Content Type: 1

Associated Filing Identifier:

## **23.2 Accessing Available Transfer Capability**

The provisions of Sections 23.2 through 23.9 apply to Wheeling Through Priorities and Priority Wheeling Through transactions that will be effective beginning June 1, 2024 and thereafter.

Record Content Description, Tariff Record Title, Record Version Number, Option Code:

23.2.1, General Requirements for Monthly or Daily Requests, 0.0.0, A

Record Narrative Name:

Tariff Record ID: 10114

Tariff Record Collation Value: 506232349 Tariff Record Parent Identifier: 10113

Proposed Date: 2023-11-01

Priority Order: 500

Record Change Type: NEW

Record Content Type: 1

Associated Filing Identifier:

### **23.2.1 General Requirements For Monthly or Daily Requests for a Wheeling Through Priority**

Scheduling Coordinators may obtain a monthly or daily Wheeling Through Priority to support Priority Wheeling Throughs under the process in this Section 23. A Scheduling Coordinator can submit a request for a Wheeling Through Priority for a given month(s) up to twelve (12) months before the month for which it seeks the priority and for a day(s) up to seven (7) days before the day for which it seeks a priority. To be eligible for a Wheeling Through Priority for a month(s) or day(s), the Scheduling Coordinator for an external load serving entity, or the Scheduling Coordinator for a seller of Energy to the

external load serving entity, must submit a Wheeling Through Priority request and attest to the following:

(1) the Wheeling Through Priority request is supported by an executed firm power supply contract to serve an external load serving entity's load, a firm power supply contract to serve an external load serving entity's load where execution is contingent upon the availability of a Wheeling Through Priority on the CAISO system, or the external load serving entity's ownership of an external resource to serve external load; (2) the MW quantity of the firm power supply contract with an external load serving entity supporting the request and the Scheduling Points which the Energy will be imported to and exported from the CAISO Controlled Grid; (3) the start and end dates of the contract and the specific hours during the month or day covered by the power supply contract and for which the Scheduling Coordinator seeks a Wheeling Through Priority; (4) any information specified in the Business Practice Manual has been provided; and (5) whether the Scheduling Coordinator is willing to accept a pro rata allocation of capacity, or an award of only part of its request, if the result of the monthly or daily request window process in Sections 23.4 and 23.5, respectively, is that there is insufficient ATC to accommodate the entire request, because of a tie among competing requesters or for some other reason. The same MW in a firm power supply contract cannot support a Wheeling Through Priority for both the seller and the buyer for the same period of time.

Scheduling Coordinators cannot seek, and the CAISO will not award in the request window processes specified in Section 23.4 and 23.5, a monthly or daily Wheeling Through Priority for a MW quantity greater than the MW quantity in the underlying power supply contract or for a period greater than or non-coincident with the hours of the underlying firm power supply contract, or for a MW quantity or duration greater than the physical and operational capabilities of the external load serving entity's resource, whichever is applicable. Thus, for any month or day, an awarded Wheeling Through Priority will only apply during the hours of the underlying power supply contract and no other hours. For example, if the supporting power supply contract is a six (6)-days-by-sixteen (16)-hours contract, the priority will only apply to Priority Wheeling Throughs that the Scheduling Coordinator self-schedules during those specified hours. The minimum duration of any power supply contract that can support a monthly or daily Wheeling Through Priority is specified in Sections 23.4 and 23.5, respectively. All other

Wheeling Throughs without a priority will be considered non-Priority Wheeling Throughs. Priority

Wheeling Throughs will have a priority equal to CAISO Demand as set forth in Sections 31.4 and 34.12.1.

Record Content Description, Tariff Record Title, Record Version Number, Option Code:

23.2.2, Nature of a Wheeling Through Priority, 0.0.0, A

Record Narrative Name:

Tariff Record ID: 10115

Tariff Record Collation Value: 506263156 Tariff Record Parent Identifier: 10113

Proposed Date: 2023-11-01

Priority Order: 500

Record Change Type: NEW

Record Content Type: 1

Associated Filing Identifier:

### **23.2.2 Nature of a Wheeling Through Priority**

A Wheeling Through Priority does not convey a physical transmission right and is not a physical reservation of transmission service. A Wheeling Through Priority only accords a priority when a Scheduling Coordinator actually schedules a Priority Wheeling Through transaction on a given day (as new firm use in the CAISO markets). A Priority Wheeling Through accords the Scheduling Coordinator the highest scheduling priority of new firm use, equal to the priority of CAISO Demand. If a Scheduling Coordinator does not actually schedule a Priority Wheeling Through on a given day that it has the right, the Wheeling Through Priority is inapplicable.

Record Content Description, Tariff Record Title, Record Version Number, Option Code:

23.2.3, Termination or Modification of a Firm Power Supply Agreement, 0.0.0, A

Record Narrative Name:

Tariff Record ID: 10117

Tariff Record Collation Value: 506278559 Tariff Record Parent Identifier: 10113

Proposed Date: 2023-11-01

Priority Order: 500

Record Change Type: NEW

Record Content Type: 1

Associated Filing Identifier:

### **23.2.3 Termination or Modification of a Firm Power Supply Agreement Underlying a Monthly or Daily Wheeling Through Priority**

- (a) If the firm power supply contract supporting the Wheeling Through Priority is terminated for any reason or is modified such that the MW quantity, hours of service, import point, or export point changes, the Scheduling Coordinator with a monthly or daily Wheeling Through Priority must notify the CAISO by the earlier of (i) five (5) Business Days after the effective date of the termination or (ii) eleven (11) Business Days before the date any

Priority Wheeling Through transaction would actually occur under the awarded priority.

The Scheduling Coordinator will also attest to the circumstances surrounding and reason for termination or modification of the underlying firm power supply contract.

- (b) If the supporting firm power supply contract is terminated eleven (11) or more Business Days before the date on which the Scheduling Coordinator with the Wheeling Through Priority can first schedule a Priority Wheeling Through transaction using its Wheeling Through Priority, the Wheeling Through Priority will terminate unless the Scheduling Coordinator can demonstrate an equivalent replacement power supply contract (including MW quantity, import and export points, and service hours) by the earlier of (i) sixty (60) days from the date of termination, or (ii) eleven (11) Business Days before the date any Priority Wheeling Through transaction would actually occur under the awarded priority, provided the Wheeling Through Priority will be prorated if the replacement contract is for a lower MW quantity or for fewer hours than the original contract. If the Scheduling Coordinator decides it will not seek to replace the terminated power supply contract, it must notify the CAISO within five (5) Business Days of that decision, but no later than eleven (11) Business Days before the date any Priority Wheeling Through transaction would actually occur under the awarded priority. The CAISO will account for any capacity associated with a terminated Wheeling Through Priority in a revised ATC calculation.
- (c) If the MW quantity or hours of service of the original supporting firm power supply contract are reduced eleven (11) or more Business Days before the date on which the Scheduling Coordinator with the Wheeling Through Priority can first schedule a Priority Wheeling Through transaction using its Wheeling Through Priority, the MW quantity or hours of the Wheeling Through Priority will be reduced correspondingly unless the Scheduling Coordinator demonstrates, by the earlier of (i) sixty (60) days from the date of the modification, or (ii) eleven (11) Business Days before the date any Priority Wheeling Through transaction would actually occur under the awarded priority, the following: (1) a replacement contract for a MW quantity or hours of service, that when added to the

reduced MW quantity or hours of service of the revised supporting contract, equals the MW quantity or hours of service reflected in the original contract supporting the Wheeling Through Priority, provided that the Scheduling Coordinator can receive a priority for a total MW quantity or number of hours less than the MW quantity or number of hours in the original contract, but greater than the MW quantity or number of hours in the revised contract, and (2) the replacement contract has a Scheduling Point where the energy is to be imported to the CAISO and a Scheduling Point where the energy is to be exported from the CAISO identical to the Scheduling Points in the original contract supporting the priority. If the Scheduling Coordinator decides it will not seek any replacement contract if the original power supply contract has been modified, it must notify the CAISO within five (5) Business Days of that decision, but no later than eleven (11) Business Days before the date any Priority Wheeling Through transaction would actually occur under the awarded priority. The CAISO will account for any capacity associated with a modified Wheeling Through Priority in a revised ATC calculation.

- (d) If the Scheduling Coordinator seeks a priority in a replacement contract for a MW quantity greater than the MW quantity in the original contract, hours that are different than the hours in the original contract, or either the import or export Scheduling Point in the replacement contract is different than the import or export point in the original contract supporting the Wheeling Through Priority, the Scheduling Coordinator must re-apply for a Wheeling Through Priority for such deviations in a subsequent request window.
- (e) If the supply contract supporting the Wheeling Through Priority is terminated or modified after eleven (11) Business Days before the Day-Ahead Market run for the date on which the Scheduling Coordinator can first schedule a Priority Wheeling Through transaction using the Wheeling Through Priority, the Scheduling Coordinator will retain the Wheeling Through Priority and will be charged for such Wheeling Through Priority for the term of the priority.

Record Content Description, Tariff Record Title, Record Version Number, Option Code:

23.3, ATC Requirements Related to CAISO LSEs, 0.0.0, A

Record Narrative Name:

Tariff Record ID: 10118

Tariff Record Collation Value: 506288559      Tariff Record Parent Identifier: 6379

Proposed Date: 2023-11-01

Priority Order: 500

Record Change Type: NEW

Record Content Type: 1

Associated Filing Identifier:

### **23.3      ATC Requirements Related to CAISO LSEs**

Record Content Description, Tariff Record Title, Record Version Number, Option Code:

23.3.1, ATC Request Window Applicability to CAISO LSEs, 0.0.0, A

Record Narrative Name:

Tariff Record ID: 10119

Tariff Record Collation Value: 506289059      Tariff Record Parent Identifier: 10118

Proposed Date: 2023-11-01

Priority Order: 500

Record Change Type: NEW

Record Content Type: 1

Associated Filing Identifier:

#### **23.3.1      ATC Request Window Applicability to CAISO LSEs**

The CAISO will consider Native Load needs of its Load Serving Entities in determining ATC pursuant to Section 23.3 and Appendix L-1. In addition, Scheduling Coordinators for CAISO LSEs can compete to obtain ATC to support an import into the CAISO Balancing Authority Area in the daily request window process set forth in Section 23.5. The Scheduling Coordinator must attest to the following: (1) its ATC request is supported by an executed firm power supply contract, a firm power supply contract where execution is contingent upon the receipt of ATC, or ownership of a resource to serve the Load Serving Entity's load; (2) the MW quantity of the firm power supply contract with the Load Serving Entity supporting the request and the CAISO Scheduling Points to which the energy will be imported to the CAISO Controlled Grid; (3) the start and end dates of the power supply contract and the specific hours during the day(s) covered by the power supply contract for which the Scheduling Coordinator seeks ATC; (4) all information specified in the Business Practice Manual to support a daily ATC request has been provided; and (5) whether the Scheduling Coordinator is willing to accept a pro rata allocation of capacity, or an award of only part of its request, if the result of the monthly or daily request window process in Sections 23.4 and 23.5, respectively, is that there is insufficient ATC to accommodate the entire request, because of a tie among competing requesters or for some other reason.

Record Content Description, Tariff Record Title, Record Version Number, Option Code:

23.3.2, Historical Contract Info Re Non-RA Resource Import Supply, 0.0.0, A

Record Narrative Name:

Tariff Record ID: 10120

Tariff Record Collation Value: 506289559      Tariff Record Parent Identifier: 10118

Proposed Date: 2023-11-01

Priority Order: 500

Record Change Type: NEW

Record Content Type: 1

Associated Filing Identifier:

### **23.3.2 Historical Contract Information Regarding Non-Resource Adequacy Resource Import**

#### **Supply**

Under the process and by the deadline established in the Business Practice Manual, to enable the CAISO to calculate ATC on the Interties under Appendix L-1, each Scheduling Coordinator for a Load Serving Entity may attest to the CAISO and submit information regarding firm non-Resource Adequacy Resource import supply contracts the Load Serving Entity had in place to serve its load during the two (2) years prior to the month for which the CAISO is determining ATC. The firm import supply contracts that can be reported under this Section 23.3.1 must be contracts for a period greater than one month that includes the applicable month, monthly contracts for the month, or a portfolio of shorter-term contracts for the month. They cannot be contracts to replace other external capacity that becomes unavailable. LSEs must attest to and provide: (1) the start and end dates of the contract; (2) the MW quantity; and (3) the CAISO Scheduling Point where the energy is imported.

Record Content Description, Tariff Record Title, Record Version Number, Option Code:

23.3.3, New Contract Information, 0.0.0, A

Record Narrative Name:

Tariff Record ID: 10121

Tariff Record Collation Value: 506289809      Tariff Record Parent Identifier: 10118

Proposed Date: 2023-11-01

Priority Order: 500

Record Change Type: NEW

Record Content Type: 1

Associated Filing Identifier:

### **23.3.3 New Contract Information**

Before the CAISO initially establishes ATC for a month that is thirteen (13) months away, under the process and deadlines established in the Business Practice Manual, Load Serving Entities must (1) notify the CAISO of any new firm contracts for imports to serve their load that are for a period greater than one month and include the applicable month, monthly contracts for the month, or a portfolio of shorter-term contracts for the month, and that are not reflected in the historical two (2) year period and (2) notify the



CAISO of any import contracts reflected in the historical data that will be discontinued any time in the thirteen (13)-month horizon and will not be replaced with another import at the same Scheduling Point. The CAISO will consider these representations in establishing the initial ATC for the month. The Load Serving Entity must attest to whether the new import contract replaces capacity that the Load Serving Entity had under contract during the historical two (2)-year period or is incremental to that capacity. The Load Serving Entity must attest to and provide: (1) the start and end dates of the import contract; (2) the specific hours to which the contract applies; (3) the MW quantity of the contract by month; and (4) the CAISO Scheduling Point where the energy will be imported. If the new contract is intended as replacement capacity, the LSE must attest to and indicate the contract that is being replaced, the term of that contract, the MW quantity of the contract each month, and the CAISO Scheduling Point where the energy was imported under the contract.

If the LSE intends the new contract to be incremental capacity, the LSE must attest that the capacity will be additive to the import capacity under contract during the historic period and will be shown as such in the monthly Resource Adequacy or non-Resource Adequacy contract showings. Upon request of the CAISO, Load Serving Entities should be ready to provide information to demonstrate the incremental nature of the capacity including, but not limited to: Load Serving Entity resource plans that include the contract; the LSE's expected load growth, incremental procurement ordered or approved by Local Regulatory Authorities, replacement of generation internal to the CAISO, or other relevant information demonstrating the additive nature of the new contract. The CAISO will use contracts that meet the requirements in this section to determine the existing transmission commitments (ETComm) component of the ATC calculation under Appendix L-1.

Record Content Description, Tariff Record Title, Record Version Number, Option Code:

23.3.4, Monthly Non-Resource Adequacy Contract Showings, 0.0.0, A

Record Narrative Name:

Tariff Record ID: 10122

Tariff Record Collation Value: 506290059      Tariff Record Parent Identifier: 10118

Proposed Date: 2023-11-01

Priority Order: 500

Record Change Type: NEW

Record Content Type: 1

Associated Filing Identifier:

#### **23.3.4 Monthly Non-Resource Adequacy Contract Showings**

According to the process set forth in the Business Practice Manual, before the end of the Resource Adequacy cure period under Section 40 for the applicable month, a Load Serving Entity may show to the CAISO any firm non-Resource Adequacy contracts it has for the month that should be considered for inclusion in the existing transmission commitments (ETComm) component of the ATC calculation for the month under Appendix L-1. The contracts cannot be contracts to replace other external capacity that becomes unavailable. The Load Serving Entity seeking to make such a showing must attest to and indicate the following: (1) it has an executed firm power supply contract to serve its load, a firm power supply contract to serve its load where execution is contingent upon the receipt of ATC, or ownership of a resource to serve the Load Serving Entity's load; (2) the MW quantity of the firm power supply contract with the Load Serving Entity and the Scheduling Point(s) at which the energy will be imported to the CAISO Controlled Grid; and (3) the start and end dates of the power supply contract and the specific hours and days during the month covered by the power supply contract. Shown non-Resource Adequacy contracts must be monthly contracts or a portfolio of shorter-term contracts for the month.

Record Content Description, Tariff Record Title, Record Version Number, Option Code:

23.3.5, CPM Access to ATC, 0.0.0, A

Record Narrative Name:

Tariff Record ID: 10123

Tariff Record Collation Value: 506290309 Tariff Record Parent Identifier: 10118

Proposed Date: 2023-11-01

Priority Order: 500

Record Change Type: NEW

Record Content Type: 1

Associated Filing Identifier:

### **23.3.5 CPM Access to ATC**

If the CAISO designates import capacity under the CPM for any reason other than to address an annual or monthly Resource Adequacy deficiency, the CAISO will first utilize the CPM import capacity under the TRM to the extent any TRM capacity is available. If insufficient TRM capacity is available, then the CAISO will utilize ATC for the term of the CPM designation, or for part of the term, only to the extent ATC is available at the time of the designation. If the CAISO designates import capacity under the CPM to address an annual or monthly RA deficiency, the CAISO will first utilize ATC to the extent any ATC is available for all or part of the term and, if no ATC is available, then it will utilize TRM.

Record Content Description, Tariff Record Title, Record Version Number, Option Code:  
23.3.6, Annual Summer ATC & TRM Assessment Meeting with Stakeholders, 0.0.0, A  
Record Narrative Name:  
Tariff Record ID: 10124  
Tariff Record Collation Value: 506290559      Tariff Record Parent Identifier: 10118  
Proposed Date: 2023-11-01  
Priority Order: 500  
Record Change Type: NEW  
Record Content Type: 1  
Associated Filing Identifier:

### **23.3.6 Annual Summer ATC and TRM Assessment Meeting with Stakeholders**

Before the summer season (May-October) each year, the CAISO will meet with stakeholders to discuss ATC and its components and expected conditions for the upcoming summer and the following year's summer. The CAISO will issue a Market Notice announcing the meeting(s) in accordance with the timeline specified in the Business Practice Manual.

Record Content Description, Tariff Record Title, Record Version Number, Option Code:  
23.4, Obtaining a Monthly Wheeling Through Priority, 0.0.0, A  
Record Narrative Name:  
Tariff Record ID: 10125  
Tariff Record Collation Value: 506290809      Tariff Record Parent Identifier: 6379  
Proposed Date: 2023-11-01  
Priority Order: 500  
Record Change Type: NEW  
Record Content Type: 1  
Associated Filing Identifier:

### **23.4 Obtaining a Monthly Wheeling Through Priority**

On the date specified in the annual Wheeling Through priority request calendar, the CAISO will open a request window whereby Scheduling Coordinators can submit a request for a priority for Wheeling Throughs for a month(s). Scheduling Coordinators can request a monthly Wheeling Through Priority for any month or months ATC is calculated and available, no sooner than twelve (12) months in advance and no later than one (1) month prior to the effective date of the priority. The CAISO will hold the request window open for fourteen (14) days. Closure of the request window each month will coincide with the closure of the monthly Resource Adequacy cure period under Section 40 for that month. At a minimum, Wheeling Through Priority requests for a month(s) must be supported by a six (6)-days-by-four (4)-hours firm power supply contract for each full week during the month plus the relevant days in any partial week during the month. The CAISO will make its determination regarding monthly Wheeling Through Priority awards no later than three (3) Business Days after the request window closes. The CAISO will treat all requests for a monthly Wheeling Through Priority submitted during the request window as having been

submitted simultaneously. The CAISO will treat all requests for a monthly priority during the request window as confidential during the request window period and treat them in accordance with Section 20 thereafter. The CAISO will award ATC to support Wheeling Through Priority requests based on the total number of hours of the requested priority (which must be supported by a firm power supply contract supporting the priority request for those hours) over the entire thirteen (13)-month horizon. Thus, supported priority requests for more hours during the thirteen (13)-month period will be awarded ATC before requests for fewer hours. For example, a priority request supported by a six (6)-days-by-sixteen (16)-hours power supply contract for one (1) month will have priority over a request supported by a six (6)-days-by-eight (8)-hours power supply contract for the same month; a priority request supported by a six (6)-days-by-four (4)-hours power supply contract for five (5) months will have priority over a request supported by a six (6)-days-by-eight (8)-hours power supply contract for just one (1) of those months. If there is a tie among requests and insufficient remaining ATC to accommodate all such priority requests for the month, the CAISO will allocate Wheeling Through priorities on a pro rata MW basis, or grant part of the ATC request, to those Scheduling Coordinators that indicated they would accept a pro rata allocation or partial awards. Wheeling Through Priority awards coming out of a monthly request window are unconditional and cannot be unwound by Wheeling Through Priority awards in subsequent request windows. A Scheduling Coordinator for a Priority Wheeling Through does not lose an awarded scheduling priority if it does not self-schedule the transaction in the Day-Ahead Market.

Record Content Description, Tariff Record Title, Record Version Number, Option Code:

23.5, Obtaining a Daily Wheeling Through Priority, 0.0.0, A

Record Narrative Name:

Tariff Record ID: 10126

Tariff Record Collation Value: 506291059      Tariff Record Parent Identifier: 6379

Proposed Date: 2023-11-01

Priority Order: 500

Record Change Type: NEW

Record Content Type: 1

Associated Filing Identifier:

### **23.5      Obtaining a Daily Wheeling Through Priority**

The CAISO will open a request window each day whereby Scheduling Coordinators can request a daily Wheeling Through Priority or daily ATC to support an import into the CAISO Balancing Authority Area by a CAISO LSE (LSE ATC), for any day or days in that request window to the extent ATC is calculated and

available, no sooner than seven (7) days in advance and no later than one (1) day prior to the effective date of the priority. The CAISO will hold the request window open for five (5) hours during the hours specified in the Business Practice Manual. At a minimum, Wheeling Through Priority requests in the Day-Ahead horizon must be supported by a firm power supply contract of at least four (4) hours for each day during the seven (7)-day horizon for which the Scheduling Coordinator seeks a Wheeling Through Priority or LSE ATC. The CAISO will make its determination regarding daily Wheeling Through Priority awards no later than two (2) hours after the daily request window closes and one (1) hour before the Day-Ahead Market runs. The CAISO will treat all requests for a Wheeling Through Priority or LSE ATC for a day submitted during the request window as having been submitted simultaneously. The CAISO will treat all requests for a daily priority during the request window as confidential during the request window and in accordance with Section 20 thereafter. The CAISO will award ATC to support Wheeling Through Priority or LSE ATC requests based on the total number of hours of the requested priority (which must be supported by a firm power supply contract for the priority request for those hours) over the entire seven (7)-day horizon. Thus, supported priority requests for more hours during the seven (7)-day period will be awarded ATC before requests for fewer hours. For example, a priority request supported by a six (6)-days-by-sixteen (16)-hours power supply contract for one (1) day will have priority over a request supported by a six (6)-days-by-eight (8)-hours power supply contract for the same day; a priority request supported by a six (6)-days-by-four (4)-hours power supply contract for five (5) days will have priority over a request supported by a six (6)-days-by-eight (8)-hours power supply contract for one (1) of those days. If there is a tie among requests and insufficient remaining ATC to accommodate all such priority requests for the day, the CAISO will allocate Wheeling Through Priorities on a pro rata MW basis, or grant a part of the request, to those Scheduling Coordinators that indicated they would accept a pro rata allocation or a partial award. Awards of Wheeling Through Priorities or LSE ATC coming out of a daily request window are unconditional and cannot be unwound by Wheeling Through Priority or LSE ATC awards in subsequent daily request windows. A Scheduling Coordinator for a Priority Wheeling Through does not lose an awarded scheduling priority if it does not schedule in the Day-Ahead Market.

Record Narrative Name:  
Tariff Record ID: 10127  
Tariff Record Collation Value: 506291309      Tariff Record Parent Identifier: 6379  
Proposed Date: 2023-11-01  
Priority Order: 500  
Record Change Type: NEW  
Record Content Type: 1  
Associated Filing Identifier:

### **23.6      [Not Used]**

Record Content Description, Tariff Record Title, Record Version Number, Option Code:  
23.7, Using ETC or TOR Capacity Support Wheeling Through Priority, 0.0.0, A  
Record Narrative Name:  
Tariff Record ID: 10128  
Tariff Record Collation Value: 506291809      Tariff Record Parent Identifier: 6379  
Proposed Date: 2023-11-01  
Priority Order: 500  
Record Change Type: NEW  
Record Content Type: 1  
Associated Filing Identifier:

### **23.7      Use of ETC or TOR Capacity to Support a Wheeling Through Priority**

A Scheduling Coordinator may use ETC or TOR capacity to support a Wheeling Through Priority. The Scheduling Coordinator may use ETC or TOR capacity for that portion of the Wheeling Through Priority from the import Scheduling Point to the export Scheduling Point that is covered by the ETC or TOR capacity the Scheduling Coordinator chooses to use. The Scheduling Coordinator must use transmission capacity on the CAISO Controlled Grid to support the balance of the Wheeling Through Priority. The Scheduling Coordinator will pay the applicable Wheeling Through Priority charges pursuant to Section 26.1.4.5 for the MW quantity of the Wheeling Through Priority.

Record Content Description, Tariff Record Title, Record Version Number, Option Code:  
23.8, Sale or Assignment of a Wheeling Through Priority, 0.0.0, A  
Record Narrative Name:  
Tariff Record ID: 10129  
Tariff Record Collation Value: 506292309      Tariff Record Parent Identifier: 6379  
Proposed Date: 2023-11-01  
Priority Order: 500  
Record Change Type: NEW  
Record Content Type: 1  
Associated Filing Identifier:

### **23.8      Sale or Assignment of a Wheeling Through Priority**

Record Content Description, Tariff Record Title, Record Version Number, Option Code:  
23.8.1, Procedures for Reselling a Monthly Wheeling Through Priority, 0.0.0, A  
Record Narrative Name:  
Tariff Record ID: 10130

Tariff Record Collation Value: 506292509      Tariff Record Parent Identifier: 10129  
Proposed Date: 2023-11-01  
Priority Order: 500  
Record Change Type: NEW  
Record Content Type: 1  
Associated Filing Identifier:

### **23.8.1 Procedures for Reselling a Monthly Wheeling Through Priority**

A Wheeling Through Priority Reseller Market Participant with a monthly Wheeling Through Priority may sell all or a portion of the MW quantity of its Wheeling Through Priority for the month, or remainder of the month or term, to another Market Participant (the assignee). The Wheeling Through Priority Reseller must notify the CAISO by the deadline specified in the Business Practice Manual, which will be before the effective date of any resale, and it cannot sell a priority MW amount for more MW or a longer term than it has. The Wheeling Through Priority Reseller must also attest to the CAISO its reason for reselling or assigning the priority. Any resale or assignment must be at the same import Scheduling Point as the original Wheeling Through Priority, but it may be at a different export Scheduling Point if the CAISO can accommodate such change and maintain the status of the Wheeling Through Priority. The compensation to Wheeling Through Priority Resellers for any sale of a Wheeling Through Priority will be at rates established by agreement between the Wheeling Through Priority Reseller and the assignee. The Scheduling Coordinator for the assignee will be subject to all applicable charges, terms, and conditions of the CAISO Tariff. The Scheduling Coordinator for the Assignee will receive the same priority as the Wheeling Through Priority Reseller at the same Scheduling Points of import into and export out of the CAISO Balancing Authority Area unless the CAISO has authorized a different export Scheduling Point to receive the Wheeling Through Priority. The CAISO will continue to charge the Wheeling Through Priority Reseller at the applicable Priority Wheeling Through rate for the term of its original Wheeling Through Priority. A Wheeling Through Priority Reseller will remain responsible for complying with all requirements of this Section 23. Resales of a Wheeling Through Priority only allow the transfer of a Wheeling Through Priority and do not convey to the assignee any other rights, and the assignee is not responsible to the CAISO for the Wheeling Through Priority Reseller's financial obligation to the CAISO for ultimate payment of the original Wheeling Through Priority, which obligation remains with the Wheeling Through Priority Reseller. A Wheeling Through Priority Reseller cannot resell or

assign a Wheeling Through Priority for the purpose of enabling avoidance of the firm power supply contract requirement of Section 23.2.1.

Record Content Description, Tariff Record Title, Record Version Number, Option Code:  
23.8.2, Info on Assignment or Transfer of Wheeling Through Priority, 0.0.0, A  
Record Narrative Name:  
Tariff Record ID: 10131  
Tariff Record Collation Value: 506292709      Tariff Record Parent Identifier: 10129  
Proposed Date: 2023-11-01  
Priority Order: 500  
Record Change Type: NEW  
Record Content Type: 1  
Associated Filing Identifier:

### **23.8.2 Information on Assignment or Transfer of a Wheeling Through Priority**

All sales or transfers of Wheeling Through priorities must be conducted or otherwise posted on the CAISO's OASIS on or before the date the reassigned priority commences. Wheeling Through Priority Resellers may also use the CAISO's OASIS to post priorities available for resale.

Record Content Description, Tariff Record Title, Record Version Number, Option Code:  
23.8.3, Resales or Transfers of Capacity by TOR & ETC Rights Holder, 0.0.0, A  
Record Narrative Name:  
Tariff Record ID: 10132  
Tariff Record Collation Value: 506292809      Tariff Record Parent Identifier: 10129  
Proposed Date: 2023-11-01  
Priority Order: 500  
Record Change Type: NEW  
Record Content Type: 1  
Associated Filing Identifier:

### **23.8.3 Resales or Transfers of Capacity Directly from a TOR and ETC Rights Holder to an Assignee**

An ETC or TOR rights holder can resell or transfer ETC or TOR capacity if it is permitted to do so in the underlying contract and such sale or transfer is supported by any applicable TRTC instructions. If a holder of a TOR or ETC sells or transfers capacity that can support a Wheeling Through transaction, the assignee of such capacity will have the same rights and obligations as the holder of the TOR or ETC with respect to such capacity, including the associated scheduling priority and perfect hedge. The assignee will be subject to all applicable terms and conditions of the CAISO Tariff, including having a Scheduling Coordinator with a Scheduling Coordinator Agreement. The holder of the TOR or ETC must notify the CAISO of the sale, assignment, or transfer by the deadline specified in the Business Practice Manual. The holder of the TOR or ETC cannot sell, assign, or transfer more MW of capacity than it owns. The



holder of the TOR or ETC must indicate the MW quantity sold, assigned, or transferred, the party to whom it sold, assigned, or transferred the capacity, and the start and end hours and dates of the transaction.

The compensation from an assignee to the holder of a TOR or ETC for the sale or transfer of TOR or ETC rights to the assignee will be at rates established by the agreement between the holder of the TOR or ETC and the assignee and will occur outside of the CAISO's settlements systems and processes. The assignee will be responsible for all applicable CAISO charges associated with its use of the assigned capacity.

Record Content Description, Tariff Record Title, Record Version Number, Option Code:

23.9, TOR Capacity Made Available to the CAISO, 0.0.0, A

Record Narrative Name:

Tariff Record ID: 10133

Tariff Record Collation Value: 506293309 Tariff Record Parent Identifier: 6379

Proposed Date: 2023-11-01

Priority Order: 500

Record Change Type: NEW

Record Content Type: 1

Associated Filing Identifier:

### **23.9 TOR Capacity Made Available to the CAISO**

To the extent the holder of a TOR makes some or all of its TOR capacity available to the CAISO pursuant to a contract, the CAISO will implement the release of TOR capacity under the contract and reflect any released capacity in its ATC calculations as being available for new firm use and priority requests under Sections 23.4 and 23.5.

Record Content Description, Tariff Record Title, Record Version Number, Option Code:

26.1.4, Wheeling, 4.0.0, A

Record Narrative Name:

Tariff Record ID: 6428

Tariff Record Collation Value: 548385664 Tariff Record Parent Identifier: 6424

Proposed Date: 2023-11-01

Priority Order: 500

Record Change Type: CHANGE

Record Content Type: 1

Associated Filing Identifier:

### **26.1.4 Wheeling**

Any Scheduling Coordinator or other such entity submitting a Bid or Self-Schedule for a Wheeling transaction shall pay to the CAISO the product of (i) the applicable Wheeling Access Charge, and (ii) the total hourly Schedules and awards of Wheeling in kilowatt-hours for each month at each Scheduling Point associated with that transaction, except as provided in Section 4.1 of Appendix I (Station Power Protocol).

Schedules and awards that include Wheeling transactions shall be subject to any charges resulting from the CAISO Markets in accordance with Section 27.

#### **26.1.4.1 Wheeling Access Charge**

The Wheeling Access Charge shall be determined by the transmission ownership or Entitlement, less all Encumbrances, associated with the Scheduling Point at which the Energy exits the CAISO Controlled Grid. The Wheeling Access Charge for Scheduling Points that are not joint facilities shall be equal to the Regional Access Charge in accordance with Schedule 3 of Appendix F plus the applicable Local Access Charge if the Scheduling Point is on a Local Transmission Facility. Wheeling Access Charges shall not apply for Wheeling under a bundled non-economy Energy coordination agreement of a Participating TO executed prior to July 9, 1996.

#### **26.1.4.2 Wheeling Over Joint Facilities**

To the extent that more than one Participating TO owns or has Entitlement to transmission capacity, less all Encumbrances, exiting the CAISO Controlled Grid at a Scheduling Point, the Scheduling Coordinator shall pay the CAISO each month a rate for Wheeling at that Scheduling Point which reflects an average of the Wheeling Access Charge applicable to those Participating TOs, weighted by the relative share of such ownership or Entitlement to transmission capacity, less all Encumbrances, at such Scheduling Point. If the Scheduling Point is located at Regional Transmission Facilities, the Wheeling Access Charge will consist of a Regional Wheeling Access Charge component. Additionally, if the Scheduling Point is located at Local Transmission Facilities, the applicable Local Wheeling Access Charge component will be added to the Wheeling Access Charge. The methodology for developing the weighted average rate for Wheeling at each Scheduling Point is set forth in Appendix F, Schedule 3, Section 14.4.

#### **26.1.4.3 Disbursement of Wheeling Revenues**

The CAISO shall collect and pay to Participating TOs and other entities as provided in Section 24.14.3 all Wheeling revenues at the same time as other CAISO charges and payments are settled. For Wheeling revenues associated with CRRs allocated to Load Serving Entities outside the CAISO Balancing Authority Area, the CAISO shall pay to the Participating TOs and other entities as provided in Section 24.10.3 any excess prepayment amounts within thirty (30) days of the end of the term of the CRR Allocation. The CAISO shall provide to the applicable Participating TO and other entities as provided in Section 24.14.3 a

statement of the aggregate amount of Energy delivered to each Scheduling Coordinator using such Participating TO's Scheduling Point to allow for calculation of Wheeling revenue and auditing of disbursements. Wheeling revenues shall be disbursed by the CAISO based on the following:

**26.1.4.3.1 Scheduling Point with All Participating TOs in the Same TAC Area**

With respect to revenues received for the payment of Regional Wheeling Access Charges for Wheeling to a Scheduling Point at which all of the facilities and Entitlements, less all Encumbrances, are owned by Participating TOs in the same TAC Area, Wheeling revenues shall be disbursed to each such Participating TO based on the ratio of each Participating TO's Regional Transmission Revenue Requirement to the sum of all such Participating TOs' Regional Transmission Revenue Requirements. If the Scheduling Point is located at a Local Transmission Facility, revenues received with respect to Local Wheeling Access Charges for Wheeling to that Scheduling Point shall be disbursed to the Participating TOs that own facilities and Entitlements making up the Scheduling Point in proportion to their Local Transmission Revenue Requirements. Additionally, if a Participating TO has a transmission upgrade or addition that was funded by a Project Sponsor, the Wheeling revenue allocated to such Participating TO shall be disbursed as provided in Section 24.14.3.

**26.1.4.3.2 Scheduling Point without All Participating TOs in the Same TAC Area**

With respect to revenues received for the payment of Wheeling Access Charges for Wheeling to a Scheduling Point at which the facilities and Entitlements, less all Encumbrances, are owned by Participating TOs in different TAC Areas, Wheeling revenues shall be disbursed to such Participating TOs as follows. First, the revenues shall be allocated between such TAC Areas in proportion to the ownership and Entitlements of transmission capacity, less all Encumbrances, at the Scheduling Point of the Participating TOs in each such TAC Area. Second, the revenues thus allocated to each TAC Area shall be disbursed among the Participating TOs in the TAC Area in accordance with Section 26.1.4.3.1.

**26.1.4.4 Information Required from Scheduling Coordinators**

Scheduling Coordinators for Wheeling Out or Wheeling Through transactions to a Bulk Supply Point, or other point of interconnection between the CAISO Controlled Grid and the transmission system of a Non-Participating TO, that are located within the CAISO Balancing Authority Area, shall provide the CAISO, by eight (8) Business Days after the Trading Day (T+8B), details of such transactions (other than

transactions submitted as Self-Schedules pursuant to Existing Contracts) sorted by Bulk Supply Point or point of interconnection for each Settlement Period (including kWh for each transaction). The CAISO shall use such information, which may be subject to review by the CAISO, to settle Wheeling Access Charges and payments. The CAISO shall publish a list of the Bulk Supply Points or interconnection points to which this Section 26.1.4.4 applies together with details of the electronic form and procedure to be used by Scheduling Coordinators to submit the required information on the CAISO Website.

#### **26.1.4.5 Charges for Wheeling Through Priorities**

Scheduling Coordinators for customers with a monthly or daily Wheeling Through Priority awarded under Section 23 will pay the applicable Wheeling Access Charge, as illustrated in the Business Practice Manual, based on the MW amount and total hours of the priority for the applicable period of the Wheeling Through Priority. For example, a Scheduling Coordinator with a monthly Wheeling Through Priority based on a (six) 6-day-by-sixteen (16)-hours power supply contract would pay Wheeling Access Charges on a six (6)-day-by-sixteen (16)-hour basis for all applicable days during the entire month of the Wheeling Through Priority regardless of the Scheduling Coordinator's actual scheduled Priority Wheeling Throughs during that period. A Scheduling Coordinator with a one (1)-day Wheeling Through Priority based on an eight (8)-hour power supply contract would pay Wheeling Access Charges for eight (8) hours regardless of the Scheduling Coordinator's actual scheduled Wheeling Throughs during that day. To the extent a Scheduling Coordinator with a Wheeling Through Priority schedules a Wheeling Through transaction in excess of its Wheeling Through Priority quantity or outside of the hours associated with its Wheeling Through Priority, such volumes are not covered by the Wheeling Through Priority and will be separately charged at the applicable Wheeling Access Charge based on the amount of scheduled energy delivered.

Record Content Description, Tariff Record Title, Record Version Number, Option Code:

30.5.1, General Bidding Rules, 22.0.0, A

Record Narrative Name:

Tariff Record ID: 6487

Tariff Record Collation Value: 599661056 Tariff Record Parent Identifier: 6486

Proposed Date: 2024-06-01

Priority Order: 4000

Record Change Type: CHANGE

Record Content Type: 1

Associated Filing Identifier: 1033

#### **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;
- (b) Bid prices submitted by a Scheduling Coordinator for Energy accepted and cleared in the IFM and scheduled in the Day-Ahead Schedule may be increased or decreased in the RTM. Bid prices for Energy submitted but not scheduled in the Day-Ahead Schedule may be increased or decreased in the RTM. Incremental Bid prices for Energy associated with Day-Ahead AS or RUC Awards in Bids submitted to the RTM may be revised. A Scheduling Coordinator may submit in the Real-Time Market new daily Bids for Start-Up Costs, Minimum Load Costs, and Transition Costs for resources and MSG Configurations for which the Scheduling Coordinator previously submitted such Bids in the Day-Ahead Market, except for: (1) Trading Hours in which a resource or MSG Configuration has received a Day-Ahead Schedule or has received a Start-Up Instruction in RUC; and (2) Trading Hours that span the Minimum Run Time of the resource or MSG Configuration after the CAISO has committed the resource or the Scheduling Coordinator has self-committed the resource in the RTM. Scheduling Coordinators may revise ETC Self-Schedules for Supply in the RTM to the extent such a change is consistent with TRTC Instructions provided to the CAISO by the Participating TO in accordance with Section 16. Scheduling Coordinators may revise TOR Self-Schedules for Supply only in

the HASP to the extent such a change is consistent with TRTC Instructions provided to the CAISO by the Non-Participating TO in accordance with Section 17. Energy associated with awarded Ancillary Services capacity cannot be offered in the Real-Time Market separate and apart from the awarded Ancillary Services capacity;

- (c) Scheduling Coordinators may submit Energy, AS and RUC Bids in the DAM that are different for each Trading Hour of the Trading Day;
- (d) Bids for Energy or capacity that are submitted to one CAISO Market, but are not accepted in that market are no longer a binding commitment and Scheduling Coordinators may submit Bids in a subsequent CAISO Market at a different price;
- (h) The CAISO shall be entitled to take all reasonable measures to verify that Scheduling Coordinators meet the technical and financial criteria set forth in Section 4.5.1 and the accuracy of information submitted to the CAISO pursuant to this Section 30.
- (i) In order to retain the priorities specified in Section 31.4 and 34.12 for scheduled amounts in the Day-Ahead Schedule associated with ETC and TOR Self-Schedules or Self-Schedules associated with Regulatory Must-Take Generation, a Scheduling Coordinator must submit to the Real-Time Market ETC or TOR Self-Schedules, or Self-Schedules associated with Regulatory Must-Take Generation, at or below the Day-Ahead Schedule quantities associated with the scheduled ETC, TOR, or Regulatory Must-Take Generation Self-Schedules. If the Scheduling Coordinator fails to submit such Real-Time Market ETC, TOR, or Regulatory Must-Take Generation Self-Schedules, the defined scheduling priorities of the ETC, TOR, or Regulatory Must-Take Generation Day-Ahead Schedule quantities may be subject to adjustment in the HASP and the Real-Time Market as further provided in Sections 31.4 and 34.12 in order to meet operating conditions.
- (j) For Multi-Stage Generating Resources that receive a Day-Ahead Schedule, are awarded a RUC Schedule, or receive an Ancillary Services Award the Scheduling Coordinator must submit an Energy Bid in the Real-Time Market for the same Trading Hour(s). If the Scheduling Coordinator submits an Economic Bid for such Trading Hour(s), the

Economic Bid must be for either: the same MSG Configuration scheduled or awarded in the Integrated Forward Market, or the MSG Configuration committed in RUC. If the Scheduling Coordinator submits a Self-Schedule in the Real-Time Market for such Trading Hour(s), then the Energy Self-Schedule may be submitted in any registered MSG Configuration, including the MSG Configuration awarded in the Day-Ahead Market, that can support the awarded Ancillary Services (as further required by Section 8).

- (k) Scheduling Coordinators for Multi-Stage Generating Resources may submit into the Real-Time Market bids from up to six (6) MSG Configurations in addition to the MSG Configuration scheduled or awarded in the Integrated Forward Market and Residual Unit Commitment, provided that the MSG Transitions between the MSG Configurations bid into the Real-Time Market are feasible and the transition from the previous Trading Hour are also feasible.
- (l) For the Trading Hours that Multi-Stage Generating Resources do not have a CAISO Schedule or award from a prior CAISO Market run, the Scheduling Coordinator can submit up to six (6) MSG Configurations into the RTM.
- (m) A Scheduling Coordinator cannot submit a Bid to the CAISO Markets for a MSG Configuration into which the Multi-Stage Generating Resource cannot transition due to lack of Bids for the specific Multi-Stage Generating Resource in other MSG Configurations that are required for the requisite MSG Transition.
- (n) In order for Multi-Stage Generating Resource to meet any Resource Adequacy must-offer obligations, the responsible Scheduling Coordinator must submit either an Economic Bid or Self-Schedule for at least one MSG Configuration into the Day-Ahead Market and Real-Time Market that is capable of fulfilling that Resource Adequacy obligation, as feasible. The Economic Bid shall cover the entire capacity range between the maximum bid-in Energy MW and the higher of Self-Scheduled Energy MW and the Multi-Stage Generating Resource plant-level PMin as registered in the Master File.
- (o) For any given Trading Hour, a Scheduling Coordinator may submit Self-Schedules and/or Submissions to Self-Provide Ancillary Services in only one MSG Configuration for each

Generating Unit.

- (p) In any given Trading Hour in which a Scheduling Coordinator has submitted a Self-Schedule for a Multi-Stage Generating Resource, the Scheduling Coordinator may also submit Bids for other MSG Configurations provided that they concurrently submit Bids that enable the applicable CAISO Market to transition the Multi-Stage Generating Resource to other MSG Configurations.
- (q) If in any given Trading Hour the Multi-Stage Generating Resource was awarded Regulation or Operating Reserves in the IFM, any Self-Schedules or Submissions to Self-Provide Ancillary Services the Scheduling Coordinator submits for that Multi-Stage Generating Resource in the RTM must be for the same MSG Configuration for which Regulation or Operating Reserve is Awarded in IFM for that Multi-Stage Generating Resource in that given Trading Hour.
- (r) If a Multi-Stage Generating Resource has received a binding RUC Start-Up Instruction as provided in Section 31, any Self-Schedule or Submission to Self-Provide Ancillary Services in the RTM must be in the same MSG Configuration committed in RUC.
- (s) If in any given Trading Hour the Multi-Stage Generating Resource is scheduled for Energy in the IFM, any Self-Schedules the Scheduling Coordinator submits for that Multi-Stage Generating Resource in the RTM must be for the same MSG Configuration for which Energy is scheduled in IFM for that Multi-Stage Generating Resource in that given Trading Hour.
- (t) For a Multi-Stage Generating Resource, the Bid(s) submitted for the resource's configuration(s) shall collectively cover the entire capacity range between the maximum bid-in Energy MW and the higher of the Self-Scheduled Energy MW and the Multi-Stage Generating Resource plant-level PMin as registered in the Master File. This rule shall apply separately to the Day-Ahead Market and the Real-Time Market.
- (u) A Scheduling Coordinator may submit a Self-Schedule Hourly Block for the RTM as an import to or an export from the CAISO Balancing Authority Area and may also submit Self-Scheduled Hourly Blocks for Ancillary Services imports. Such a Bid shall be for the



same MWh quantity for each of the four

(4) fifteen (15)-minute intervals that make up the applicable Trading Hour.

- (v) A Scheduling Coordinator may submit a Variable Energy Resource Self-Schedule for the RTM can be submitted from a Variable Energy Resource. A Scheduling Coordinator can use either the CAISO forecast for Expected Energy in the RTM or can provide its own forecast for Expected Energy pursuant to the requirements specified in Section 4.8.2. The Scheduling Coordinator must indicate in the Master File whether it is using its own forecast or the CAISO forecast for its resource in support of the Variable Energy Self-Schedule. The Scheduling Coordinator is not required to include the same MWh quantity for each of the four (4) fifteen (15)-minute intervals that make up the applicable Trading Hour for the Variable Energy Resource Self-Schedule include. If an external Variable Energy Resource that is not using a forecast of its output provided by the CAISO submits a Variable Energy Resource Self-Schedule and the Expected Energy is not delivered in the FMM, the Scheduling Coordinator for the Variable Energy Resource will be subject to the Under/Over Delivery Charge as described in Section 11.31. Scheduling Coordinators for Dynamically Scheduled Variable Energy Resources that provide the CAISO with a two (2)-hour rolling forecast with five (5)-minute granularity can submit Variable Energy Resource Self-Schedules.
- (w) Scheduling Coordinators can submit Economic Hourly Block Bids to be considered in the HASP and to be accepted as binding Schedules with the same MWh award for each of the four (4) FMM intervals. Scheduling Coordinator can also submit Economic Hourly Block Bids for Ancillary Services. As specified in Section 11, a cleared Economic Hourly Block Bid is not eligible for Bid Cost Recovery.
- (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) [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 in the applicable hour for which a bid has been submitted, based on the most recent forecast for that hour, 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 of exports at Scheduling Points explicitly sourced by non-Resource Adequacy. The transaction is properly scheduled as a Wheeling Through transaction as described in section 30.5.4.

Record Content Description, Tariff Record Title, Record Version Number, Option Code:

31.4, CAISO Market Adjustments To Non-Priced Quantities In The IFM, 11.0.0, A

Record Narrative Name:

Tariff Record ID: 6513

Tariff Record Collation Value: 622256960      Tariff Record Parent Identifier: 6504

Proposed Date: 2024-06-01

Priority Order: 2500

Record Change Type: CHANGE

Record Content Type: 1

Associated Filing Identifier: 1033

### **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:

<b>Scheduling Run Priority</b>	<b>Scheduling Run Parameters Under Soft Energy Bid Cap (27.4.3.2)</b>	<b>Scheduling Run Parameters Under Hard Energy Bid Cap (27.4.3.3)</b>
Reliability Must Run (RMR) Generation pre-dispatch reduction	-\$6000	-\$12000
Day-Ahead TOR Self-Schedules reduction (balanced demand and supply reduction)	\$5,900 (demand)/ - \$5,900 (supply)	\$11800 (demand)/ - \$11800 (supply)
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	\$5100 to \$5900 (demand)/ - \$5100 to - \$5900 (supply)	\$10200 to \$11800 (demand)/ - \$10200 to - \$11800 (supply)
Internal Transmission Constraint relaxation for the IFM pursuant to Section 27.4.3.1	\$5000	\$10000
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	\$1800	\$3600
Self-Schedules of exports at Scheduling Points not explicitly sourced by non-Resource Adequacy Capacity, except those exports explicitly identified	\$1050	\$2100

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									
Day-Ahead Regulatory Must-Run Generation and Regulatory Must-Take Generation reduction		-\$1350	-\$2700						
Other Self-Schedules of Supply reduction, and the import Self-Schedule of a Priority Wheeling Through		-\$1100	-\$2200						
The import Self-Schedule of a noRecord Content Description, Tariff Record Title, Record Version Number, Option Code: 34.12.1, Increasing Supply, 7.0.0, A Record Narrative Name: Tariff Record ID: 9492 Tariff Record Collation Value: 667883360      Tariff Record Parent Identifier: 6565 Proposed Date: 2024-06-01 Priority Order: 2500 Record Change Type: CHANGE Record Content Type: 1 Associated Filing Identifier: 1033  <b>34.12.1            Increasing Supply</b>  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:		\$0	\$0						
<table><tr><th>Scheduling Run Priority</th><th>Scheduling Under Soft B (27.4.3.2)</th></tr><tr><td>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 backed by Generation from non-Resource Adequacy Capacity or from non-RUC Capacity</td><td>\$1450</td></tr><tr><td>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</td><td>\$1250</td></tr></table>		Scheduling Run Priority	Scheduling Under Soft B (27.4.3.2)	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 backed by Generation from non-Resource Adequacy Capacity or from non-RUC Capacity	\$1450	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	\$1250		
Scheduling Run Priority	Scheduling Under Soft B (27.4.3.2)								
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 backed by Generation from non-Resource Adequacy Capacity or from non-RUC Capacity	\$1450								
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	\$1250								

Self-Schedules of non-Priority Wheeling Throughs								
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	\$1150		\$2300					
Contingency Only Operating Reserve if activated by Operator to provide Energy (as indicated by the Contingency Flag and the Contingency condition Record Content Description, Tariff Record Title, Record Version Number, Option Code: 34.12.2, Decreasing Supply, 9.0.0, A Record Narrative Name: Tariff Record ID: 9493 Tariff Record Collation Value: 668100624 Tariff Record Parent Identifier: 6565 Proposed Date: 2024-06-01 Priority Order: 2500 Record Change Type: CHANGE Record Content Type: 1 Associated Filing Identifier: 1033  <b>34.12.2 Decreasing Supply</b>  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:	\$1000		\$2000					
<table><tr><td><b>Scheduling Run Priority</b></td></tr><tr><td>Non-Participating Load increase</td></tr><tr><td>Reliability Must Run (RMR) Scheduling manual pre-dispatch or Manual R or Dispatches that are flagged as Dispatches following the MPM, for Units and Exceptional Dispatch for Resources process)</td></tr><tr><td>Transmission Ownership Right (T Self-Schedule</td></tr></table>	<b>Scheduling Run Priority</b>	Non-Participating Load increase	Reliability Must Run (RMR) Scheduling manual pre-dispatch or Manual R or Dispatches that are flagged as Dispatches following the MPM, for Units and Exceptional Dispatch for Resources process)	Transmission Ownership Right (T Self-Schedule				
<b>Scheduling Run Priority</b>								
Non-Participating Load increase								
Reliability Must Run (RMR) Scheduling manual pre-dispatch or Manual R or Dispatches that are flagged as Dispatches following the MPM, for Units and Exceptional Dispatch for Resources process)								
Transmission Ownership Right (T Self-Schedule								

Existing Rights (ETC) Self-Schedule		-\$5100 to -\$5900		-\$10200 to -\$11800
Regulatory Must-Run and Regulatory Must-Take (RMT) Self-Schedule;		-\$1400		-\$2800
Participating Load increase		Not Applicable		Not Applicable
Day-Ahead Supply Schedule		-\$1200		-\$2400
Self-Schedule Hourly Block		-\$1100		-\$2200
Import Self-Schedule of a non-Priority Wheeling Through		\$0		\$0
<p>These dispatch priorities as defined in the RTM optimization may be superseded by operator actions and procedures as nRecord Content Description, Tariff Record Title, Record Version Number, Option Code:  34.12.3, Post-HASP Process, 3.0.0, A  Record Narrative Name:  Tariff Record ID: 10067  Tariff Record Collation Value: 668209256      Tariff Record Parent Identifier: 6565  Proposed Date: 2024-06-01  Priority Order: 1500  Record Change Type: CHANGE  Record Content Type: 1  Associated Filing Identifier: 1033</p> <p><b>34.12.3                  Post-HASP Process</b></p> <p>In the event there is a transmission limitation on an Intertie in the import direction and 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</p>				

<p>Demand and Priority Wheeling</p> <p>Through transactions, as described in the Business Practice Manual. The CAISO Demand pro rata share will be based on the lower of (1) the sum of the Real-Time Bid quantities of applicable Resource Adequacy Resources, shown non-Resource Adequacy Resources under contract, CPM imports with ATC or supported by TRM, resources supported by ATC awarded in the daily request window process, and imports supported by TRM or (2) the sum of shown Resource Adequacy Capacity and non-Resource Adequacy Capacity under contract that are supported by ATC, including resources supported by capacity awarded ATC in the daily request window process, CPM import capacity awarded ATC or supported by TRM, plus the remaining TRM quantity. The Priority Wheeling Through pro rata share for each</p>				
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<p>Self-Schedule will be based on the lower of (1) the submitted Real-Time Market Self-Schedules of the Priority Wheeling Through transactions, or (2) the Priority Wheeling Through quantity awarded ATC under Section 23. The ATC for CAISO Demand and Priority Wheeling Throughs cannot exceed the Total Transfer Capability (TTC) of an Intertie. The amount of capacity considered for pro rata allocation in the post-HASP Process cannot exceed the TTC of the Intertie. 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. In no event, will the CAISO reduce Priority Wheeling Through transactions solely in the event of a CAISO supply shortfall that triggers a power balance</p>				
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<p>infeasibility. Energy scheduled via the post-HASP process will be settled as Exceptional Dispatch Energy pursuant to Section 11.5.6.1, as applicable.</p> <p>Record Content Description, Tariff Record Title, Record Version Number, Option Code: 36.9.2, Prepayment Of Wheeling Access Charges, 1.0.0, A Record Narrative Name: Tariff Record ID: 6634 Tariff Record Collation Value: 727414912 Tariff Record Parent Identifier: 6632 Proposed Date: 2023-11-01 Priority Order: 500 Record Change Type: CHANGE Record Content Type: 1 Associated Filing Identifier:</p> <p><b>36.9.2.1 Prepayment of Wheeling Access Charges for Allocated CRRs</b></p> <p>An OBAALSE will be required to prepay relevant Wheeling Access Charges, to be calculated as described in this section and further specified in the Business Practice Manual, for the full term of the Monthly CRRs, Seasonal CRRs and Long Term CRRs it intends to nominate in order to participate in the CRR Allocation processes and be allocated CRRs. To be eligible for the</p>				
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<p>allocation of Seasonal CRRs or Monthly CRRs the OBAALSE must submit the full required prepayment and have it accepted by the CAISO prior to the OBAALSE's submission of nominations for the relevant annual or monthly CRR Allocation, except as provided below in Section 36.9.2.2. To be eligible for nominations of Long Term CRRs, the OBAALSE must submit the full prepayment and have it accepted by the CAISO prior to the OBAALSE's submission of nominations of Long Term CRRs in Tier LT, except as provided below in Section 36.9.2.2. For each MW of Monthly CRR, Seasonal CRR or Long Term CRR to be nominated the nominating OBAALSE must prepay one MW of the relevant Wheeling Access Charge, which equals the per-MWh WAC that is associated with the Scheduling Point the OBAALSE intends to nominate</p>				
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<p>as a CRR Sink and that is expected at the time the CRR Allocation process is conducted to be applicable for the period of the CRR nominated, times the number of hours comprising the period of the CRR nominated as further specified in the applicable Business Practice Manual. The CAISO will credit any monthly payment obligation for Wheeling Access Charges by an OBAALSE for a monthly Wheeling Through Priority obtained under Section 23.4, toward the OBAALSE's prepayment obligation in this section 36.9.2.1. Such OBAALSE must prepay the difference in accordance with the applicable prepayment timeline herein. The OBAALSE with a Wheeling Through Priority must prepay the difference in accordance with the applicable prepayment timeline. Any applicable credit check would be done based on the full value</p>				
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<p>owed, including both the prepayment amount and the amount to be credited.</p> <p><b>36.9.2.2 Eligibility for Prepayment of WAC on an Annual or Monthly Basis</b></p> <p>An OBAALSE deemed creditworthy pursuant to the requirements of Section 12 may elect to prepay the determined WAC responsibility on a monthly basis for the Seasonal CRRs or Long Term CRRs that it seeks to be allocated, provided that such OBAALSE has demonstrated a commitment to pay the required WAC for the entire term of the CRRs sought by submitting to the CAISO a written sworn statement by an executive that can bind the entity. In order to be eligible for this option, the OBAALSE must submit and the CAISO must accept this sworn statement prior to the applicable CRR Allocation process in which the OBAALSE intends to nominate a CRR. An OBAALSE</p>				
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<p>choosing to pay on a monthly basis shall make its monthly payments on a schedule specified in the applicable Business Practice Manual. An OBAALSE deemed creditworthy pursuant to the requirements of Section 12 may also elect to prepay its determined WAC responsibility associated with an allocated Long Term CRR on an annual basis, provided that such OBAALSE has demonstrated a commitment to pay for the entire term of the Long Term CRRs sought by submitting to the CAISO and the CAISO accepting a written sworn statement by an executive that can bind the entity. An OBAALSE choosing to pay such WAC obligation on an annual basis shall make its payment each year on a schedule specified in the applicable Business Practice Manual.</p> <p><b>36.9.2.3 Refund of Prepaid WAC for Unallocated CRRs</b></p>				
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<p>To the extent that an OBAALSE prepays a quantity of the WAC and is not allocated the full amount of CRRs nominated, WAC prepayment for CRRs not allocated will be refunded by the CAISO within thirty (30) days following the completion of the relevant CRR Allocation process.</p> <p>Record Content Description, Tariff Record Title, Record Version Number, Option Code: -, Priority Wheeling Through, 3.0.0, A Record Narrative Name: Tariff Record ID: 10065 Tariff Record Collation Value: 1537891872 Tariff Record Parent Identifier: 6859 Proposed Date: 2024-06-01 Priority Order: 2000 Record Change Type: CHANGE Record Content Type: 1 Associated Filing Identifier: 1033</p> <p><b>- Priority Wheeling Through</b></p> <p>A Wheeling Through</p> <p>Self-Schedule that has obtained a priority under Section 23.</p> <p>Record Content Description, Tariff Record Title, Record Version Number, Option Code: -, Wheeling Through Priority, 0.0.0, A Record Narrative Name: Tariff Record ID: 10134 Tariff Record Collation Value: 1855973024 Tariff Record Parent Identifier: 6859 Proposed Date: 2023-11-01 Priority Order: 500 Record Change Type: NEW Record Content Type: 1 Associated Filing Identifier:</p> <p><b>- Wheeling Through Priority</b></p>				
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<p>A Wheeling Through Priority allows a Scheduling Coordinator to self-schedule Priority Wheeling Throughs during the term and hours of the priority up to the MW quantity of the priority and at the import and export Scheduling Points authorized under the priority.</p> <p>Record Content Description, Tariff Record Title, Record Version Number, Option Code: - , Wheeling Through Priority Reseller, 0.0.0, A Record Narrative Name: Tariff Record ID: 10135 Tariff Record Collation Value: 1856157520 Tariff Record Parent Identifier: 6859 Proposed Date: 2023-11-01 Priority Order: 500 Record Change Type: NEW Record Content Type: 1 Associated Filing Identifier:</p> <p><b>- Wheeling Through Priority Reseller</b></p> <p>An entity that resells, assigns, or otherwise transfers a monthly or long-term Wheeling Through Priority. A Wheeling Through Priority Reseller can be the original priority rights holder or an assignee of a monthly Wheeling Through Priority.</p>				
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<div>Record Content Description, Tariff Record Title, Record Version Number, Option Code: Appendix L, [Not Used], 12.0.0, A Record Narrative Name: Tariff Record ID: 7978 Tariff Record Collation Value: 1894631376 Tariff Record Parent Identifier: 0 Proposed Date: 2024-06-01 Priority Order: 500 Record Change Type: CHANGE Record Content Type: 1 Associated Filing Identifier:  <div><b>[Not Used]</b></div>  <div>Record Content Description, Tariff Record Title, Record Version Number, Option Code: Appendix L-1, Method to Assess Available Transfer Capability, 0.0.0, A Record Narrative Name: Tariff Record ID: 10136 Tariff Record Collation Value: 1894656376 Tariff Record Parent Identifier: 0 Proposed Date: 2023-11-01 Priority Order: 500 Record Change Type: NEW Record Content Type: 1 Associated Filing Identifier:  <div><b>Appendix L-1</b></div> <div>The provisions of this Appendix L-1 apply to the calculation of ATC to establish Wheeling Through Priorities that will be effective beginning June 1, 2024 and thereafter.</div> <div><b>Appendix L-1 Method to Assess Available Transfer Capability</b></div> <div><b>L.1 Description of Terms</b> The following descriptions augment existing definitions found in Appendix A “Master Definitions Supplement.”</div> <div><b>L.1.1 Available Transfer Capability (ATC) is a</b></div></div></div>				
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<p>measure of the transfer capability in the physical transmission network resulting from system conditions and that remains available for further commercial activity over and above already committed uses.</p> <p>For purposes of determining ATC in the market optimization, ATC is defined as the Total Transfer Capability (TTC) less the Transmission Reliability Margin (TRM), less the sum of any unused existing transmission commitments (ETComm), less the Capacity Benefit Margin (CBM) (which value is set at zero), less the Scheduled Net Energy from Imports/Exports, less Ancillary Service capacity from Imports.</p> <p><b>L.1.2 Total Transfer Capability (TTC)</b> is defined as the amount of electric power that can be moved or transferred reliably from one area to another area of the interconnected transmission system by way of all transmission lines (or paths) between those areas, under specified system conditions. In collaboration with owners of rated paths, the CAISO utilizes rated system path methodology to establish the TTC of CAISO Transmission Interfaces.</p> <p><b>L.1.3 Existing Transmission Commitments (ETComm)</b> include (1) transmission capacity for</p>				
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<p>Existing Contracts (ETC) and Transmission Ownership Rights (TOR), (2) transmission capacity for Wheeling Through Priorities, and (3) Native Load needs determined in accordance with this Appendix L-1, including Native Load growth in the applicable horizon and ATC Load Serving Entities acquire in the daily request window.</p> <p><b>L.1.3.1 Transmission Capacity for ETC and TOR</b> – The CAISO uses the ETC Reservations Calculator (see Section L.1.3.1.1) to reserve transmission capacity for each ETC and TOR based on TRTC Instructions the responsible Participating Transmission Owner or Non-Participating Transmission Owner submits to the CAISO as to the amount of firm transmission capacity that should be reserved on each Transmission Interface for each hour of the Trading Day in accordance with Sections 16 and 17 of the CAISO Tariff. The types of TRTC Instructions the CAISO receives generally fall into three basic categories:</p> <ul style="list-style-type: none"><li>• The ETC or TOR reservation is a fixed percentage of the TTC on a line, which decreases as the TTC is derated (ex. TTC = 300 MW, ETC fixed percentage = 2%, ETC = 6 MWs, TTC</li></ul>				
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<p>derated to 200 MWs, ETC = 4 MWs);</p> <ul style="list-style-type: none"><li>• The ETC or TOR reservation is a fixed amount of capacity, which decreases if the line's TTC is derated below the reservation level (ex. ETC = 80 MWs, TTC declines to 60 MW, ETC = TTC or 60 MWs; or</li><li>• The ETC or TOR reservation is determined by an algorithm that changes at various levels of TTC for the line (ex. Intertie TTC = 3,000 MWs, when line is operating greater than 2,000 MWs to full capacity ETC = 400 MWs, when capacity is below 2000 MWs ETC = <math>TTC/2000^*</math> ETC).</li></ul> <p>Existing Contract capacity reservations remain reserved during the Day-Ahead Market and through the FMM. To the extent that the reservations are unused after the FMM has been run for a given fifteen-minute interval, then the capacity reservations are released for the three RTD intervals within that fifteen-minute interval.</p> <p>Transmissions</p>				
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<p>Ownership Rights capacity reservations remain reserved during the Day-Ahead Market and Real-Time Market. This capacity is under the control of the Non-Participating Transmission Owner and is not released to the CAISO for use in the markets</p> <p><b>L.1.3.1.1 ETC Reservations Calculator (ETCC).</b> The ETCC calculates the amount of firm transmission capacity reserved (in MW) for each ETC or TOR on each Transmission Interface for each hour of the Trading Day.</p> <ul style="list-style-type: none"><li>• <b>CAISO Updates to ETCC Reservations Table.</b> The CAISO updates the ETC and TOR reservations table (if required) prior to Market Close of the DAM and prior to Market Close of the RTM. The amount of transmission capacity reservation for ETC and TOR rights is determined based on the TTC of each Transmission Interface and in accordance with the curtailment procedures stipulated in the existing agreements and</li></ul>				
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<p>provided to the CAISO by the responsible Participating Transmission Owner or Non-Participating Transmission Owner.</p> <ul style="list-style-type: none"><li>• <b>Market Notification.</b> ETC and TOR allocation (MW) information is published for all Scheduling Coordinators which have ETC or TOR scheduling responsibility in advance of the Day-Ahead Market and the Real-Time Market. This information is posted on the Open Access Same-Time Information System (OASIS).</li><li>• For further information, see CAISO Operating Procedure M-423, Scheduling of Existing Transmission Contract and Transmission Ownership Rights, which is publicly available on the CAISO Website.</li></ul> <p><b>L.1.3.2 Wheeling Through Priorities</b> – ETComm include transmission capacity for Wheeling</p>				
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<p>Through Priorities pursuant to Sections 23.4, 23.5, and 23.6 of the CAISO Tariff.</p> <p>The ATC for Wheeling Through Priorities is calculated based on the following formula which distinguishes it from ATC in the market optimization:</p> $\text{ATC} = \text{TTC} - \text{ETComm} - \text{TRM}$				
<p><b>L.1.3.3 Native Load Needs –</b> ETComm include transmission capacity at the Interties that is set aside to meet Native Load needs. The amount of such transmission capacity (apart from the amount of transmission capacity to serve expected Native Load growth as described below) at each Intertie for each calendar month equals the highest MW quantity of total Resource Adequacy and non-Resource Adequacy import supply under contract to Load Serving Entities (LSEs) dedicated to serving their load as demonstrated by Resource Adequacy showings, and non-Resource Adequacy contract showings under Section 23.3 at the Intertie for that same calendar month during the previous two (2) years, as may be adjusted under Sections L.1.3.3.2 and L.1.3.3.3.</p>				
<p><b>L.1.3.3.1 Native Load Growth –</b> Transmission capacity at the Interties</p>				

<p>that is set aside in ETCComm to meet Native Load needs also includes transmission capacity to serve expected Native Load growth in the rolling thirteen (13)-month horizon. The amount of such transmission capacity at each Intertie set aside in ETCComm to meet Native Load growth will be calculated by comparing the CEC load forecast for the applicable future period to the forecasts used to set CAISO Resource Adequacy requirements applicable to that period for the previous two (2) years to determine an overall Native Load growth amount and then assigning a portion of this expected Native Load growth amount to each Intertie using the highest ratio of Resource Adequacy imports shown for that calendar month to total Resource Adequacy capacity shown for that calendar month during the previous two (2) years.</p> <p><b>L.1.3.3.2 Adjustments to Native Load Needs Based on New Contract Information</b> – The CAISO will use applicable contract information provided in accordance with, and meeting the requirements of, Section 23.3 of the CAISO Tariff to update the historical RA import supply or non-RA import supply data described in this Section L.1.3.3 to improve the accuracy of the calculation of Native</p>				
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<p>Load needs calculated thirteen (13) months before the applicable calendar month.</p> <p><b>L.1.3.3.3 Monthly Update of Native Load Needs –</b> Following the RA and non-RA import contract showings at the end of the Resource Adequacy cure period under Section 40 of the CAISO Tariff, the CAISO will update or “true up” the amount of transmission capacity set aside in ETComm to meet Native Load needs at each Intertie to include the sum of the most recent actual showings of (i) Resource Adequacy import supply contained in monthly Resource Adequacy Plans and (ii) non-RA import supply to be delivered at the Intertie reported to the CAISO for that same calendar month. The CAISO will also use the updated ATC values for native load following the month-ahead Resource Adequacy and non-Resource Adequacy contract showings to calculate daily ATC for Native Load during the applicable month, while also accounting for any applicable CPM designations that utilize ATC. Any contract that is not shown to the CAISO by the end of the Resource Adequacy cure period under Section 40 cannot count for purposes of setting aside Native Load capacity for the applicable month.</p> <p>If the amount of transmission capacity set</p>				
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<p>aside at an Intertie to meet Native Load needs for a calendar month based on RA and non-RA import showings for that month under Sections L.1.1.1 and L.1.3.3.2 (and including transmission capacity to serve expected Native Load growth under Section L.1.3.3.1) is greater than the most recent actual showings of Resource Adequacy import supply contained in monthly Resource Adequacy Plans and non-Resource Adequacy import supply to be delivered at the Intertie for that same month, the resulting excess transmission capacity will be released as ATC and will be available for awarding as monthly Priority Wheeling Throughs pursuant to the monthly request window process in Section 23.4 of the CAISO Tariff. If the amount of transmission capacity set aside at an Intertie to meet Native Load needs for a calendar month based on Resource Adequacy and non-Resource Adequacy import showings for that month under Sections L.1.1.1 and L.1.3.3.2 (and including transmission capacity to serve expected Native Load growth under Section L.1.3.3.1) plus the amount of TRM set aside to account for uncertainty associated with actual monthly Resource Adequacy and non-Resource Adequacy showings, is less than the most recent actual</p>				
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<p>showings of Resource Adequacy import supply contained in monthly Resource Adequacy Plans and non-Resource Adequacy import supply to be delivered at the Intertie for that same month, the ATC at the Intertie that has not been awarded in a prior monthly request window, will be reduced to account for the additional Resource Adequacy and non-Resource Adequacy import showings at the Intertie that are unrelated to any change in the planning reserve margin. If no ATC remains at an Intertie because it has been awarded in prior months' request windows pursuant to Section 23.4 of the CAISO Tariff, and the TRM cannot accommodate all native load needs, then the amount of transmission capacity set aside at the Intertie to meet Native Load needs for a calendar month, including transmission capacity to serve expected Native Load growth, will remain as originally calculated by the CAISO even if the actual Resource Adequacy and non-Resource Adequacy import contract showings for the month exceed the amount of ATC the CAISO has set aside for Native Load in accordance with Sections L.1.3.3, L.1.3.3.1, and L.1.3.3.2. Under these circumstances, the CAISO will continue to honor the scheduling priority of the Wheeling</p>				
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<p>Through transactions for which ATC has been awarded. The examples below in this Section L.1.3.3.3 illustrate the aforementioned processes.</p> <p>For example, if the Native Load set-aside value under Sections L.1.3.3, L.1.3.3.1, and L.1.3.3.2 for a particular Intertie for the month of May is 1,000 MW, and only 900 MW of Resource Adequacy and non-Resource Adequacy import capacity is actually shown on that Intertie in the monthly showing process for the month of May, the CAISO will release an additional 100 MW of ATC on that Intertie that can be awarded a monthly Wheeling Through Priority for May through the request window that closed at the same time as the monthly Resource Adequacy and non-Resource Adequacy import showing deadline for May.</p> <p>Also, for example, assume the following: the Native Load set-aside value under Sections L.1.3.3, L.1.3.3.1, and L.1.3.3.2 for the month of May is 1,000 MW; the amount set aside for Native Load based on historical showings is 10 MW at the Intertie; at the start of the monthly request window for May, there is 100 MW of ATC for the month of May that has not been awarded to Wheeling Throughs in</p>				
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<p>prior months' request windows; and 1,100 MW of Resource Adequacy and non-Resource Adequacy import capacity is actually shown on the Intertie in the monthly showing process for the month of May. Under these circumstances, the CAISO will reduce the ATC on the Intertie by 100 MW assuming the 100 MW are not associated with an increase in the planning reserve margin for which an amount has been set aside in the load forecast uncertainty component of the TRM. If the 100 MW were associated with an increase in the planning reserve margin and not simply a difference between historic values and the monthly Resource Adequacy and non-Resource Adequacy contract values and assuming the CAISO had set aside 90 MW in the TRM load forecast uncertainty component to account for changes in the planning reserve margin, then ten (10) MW of the excess monthly showings will be supported by the TRM component, and 10 MW of ATC will be available for awarding as monthly Priority Wheeling Throughs for May.</p> <p>Finally, assume the circumstances in the prior example except there is zero MW of ATC available prior to the Resource Adequacy and non-Resource Adequacy showing deadline and the start of the request</p>				
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<p>window for ATC for the month of May. The CAISO will continue to honor all of the ATC that has been previously awarded to Priority Wheeling Throughs in prior monthly request windows, and no additional ATC will be available for the actual Resource Adequacy and non-Resource Adequacy showings above the historic values used to set ATC. If the excess Resource Adequacy and non-Resource Adequacy showings were associated with an increase in the planning reserve margin, 90 MW of the excess monthly showings will be supported by the TRM component that accounts for such load forecast uncertainty.</p>				
<p><b>L.1.4 [Not Used]</b></p>				
<p><b>L.1.5 Transmission Reliability Margin (TRM)</b> is an amount of transmission transfer capability reserved at a CAISO Intertie point that is necessary to provide reasonable assurance that the interconnected transmission network will be secure. TRM accounts for the inherent uncertainty in system conditions and the need for operating flexibility to ensure reliable system operation as system conditions change.</p> <p>The CAISO uses TRM at Intertie points to account for NERC-approved components of uncertainty as described</p>				

<p>in the Transmission Reliability Margin Implementation Document (TRM Document), including:</p> <ul style="list-style-type: none"><li>• Forecast uncertainty in transmission system topology, including forced or unplanned outages or maintenance outages.</li><li>• Allowances for parallel path (loop flow) impacts, including unscheduled loop flow.</li><li>• Allowances for simultaneous path interactions.</li><li>• Aggregate load forecast uncertainty.</li><li>• Variations in generation dispatch (including, but not limited to, forced or unplanned Outages, maintenance Outages, and future resource conditions).</li></ul> <p>The CAISO will establish TRM in all applicable horizons, including monthly and daily, and may change (increase or decrease) TRM values across all such horizons, including prior to Market Close of the DAM and RTM. To the extent</p>				
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<p>TRM values are decreased in a given horizon, additional ATC would become available in that horizon.</p> <p>The methodology the CAISO uses to establish each component of uncertainty is as follows:</p> <p>The CAISO uses the transmission system topology component of uncertainty to address a potential ATC path limit reduction at an Intertie resulting from an emerging event, such as an approaching wildfire, that is expected to cause a derate of one or more transmission facilities comprising the ATC path. When the CAISO, based on existing circumstances, forecasts that such a derate is expected to occur, the CAISO may establish a TRM value for the affected ATC path in an amount up to, but no greater than, the amount of the expected derate. The CAISO will set the transmission system topology component of uncertainty as a percentage of TTC pursuant to the CAISO TRM Implementation Document, throughout the rolling thirteen (13)-month horizon set forth in Section L.3, on Interties where the CAISO has historically relied upon import supply to serve load. The CAISO can change the TRM for any applicable horizon as circumstances change.</p> <p>The CAISO uses the</p>				
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<p>parallel path component of uncertainty to address the impact of unscheduled flow (USF) over an ATC path that is expected, in the absence of the TRM, to result in curtailment of Intertie Schedules in Real Time as a result of the requirements established in WECC's applicable USF mitigation policies and procedures (WECC USF Policy). When the CAISO forecasts, based on currently observed USF conditions and projected scheduled flow for an upcoming Operating Hour(s), that in the absence of a TRM, scheduled flow will need to be curtailed in Real Time under the applicable WECC USF Policy, the CAISO may establish a TRM for the ATC path for the applicable hour(s) in an amount up to, but no greater than, the forecasted amount that is expected to be curtailed in Real Time pursuant to the WECC USF Policy.</p> <p>The CAISO uses the simultaneous path interactions component of uncertainty to address the impact that transmission flows on an ATC path located outside the CAISO's Balancing Authority Area may have on the transmission transfer capability of an ATC path located at an Intertie. In the event of such path interactions, the CAISO uses a TRM value to prevent the risk of a system operating limit violation in Real Time for the CAISO ATC</p>				
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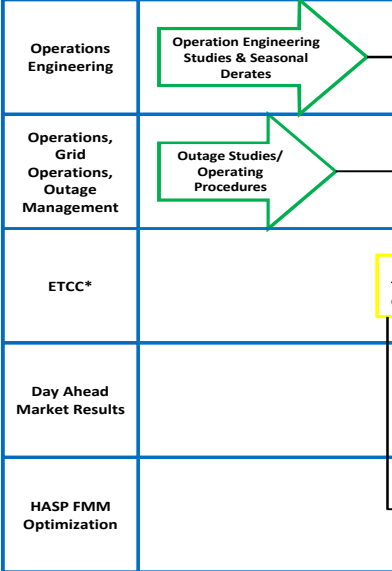
<p>path. The amount of the TRM value may be set at a level up to, but not greater than, the forecasted impact on the CAISO ATC path's capacity imposed by expected flow on the non-CAISO ATC path.</p> <p>The CAISO uses the aggregate load forecast component of uncertainty to address load forecast uncertainty at selected Interties. The CAISO will set this component of uncertainty as a percentage of TTC pursuant to the CAISO TRM Implementation Document, across the rolling thirteen (13)-month horizon and the rolling seven (7)-day horizon, on Interties where the CAISO has historically relied upon import supply to serve load. The load forecast component of the TRM may include sub-components to account for (1) changes ordered by Local Regulatory Authorities in planning reserve margins or resource procurement requirements for Load Serving Entities, and (2) load forecast changes.</p> <p>The CAISO uses the variations in generation dispatch component of uncertainty to address variations in generation dispatch driven by resource outages or other conditions to recognize that, in some circumstances, supply may have to be replaced or additional supply may have to be brought into the system to meet the</p>				
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<p>changing needs. For example, the TRM may account for the unavailability of solar energy during the net-peak load period, the unavailability of hydroelectric capacity during drought conditions, or wind capacity not performing at its Net Qualifying Capacity. The CAISO will set this component of uncertainty as a percentage of TTC pursuant to the CAISO TRM Implementation Document, across the rolling thirteen (13)-month horizon and the rolling seven (7)-day horizon, on Interties where the CAISO has historically relied upon import supply to serve load.</p> <p>The CAISO uses the following databases or information systems, or their successors, in connection with establishing TRM values: the CAISO's outage management system pursuant to Section 9, Existing Transmission Contract Calculator (ETCC), PI, EMS, and CAS.</p> <p><b>L.1.6 Capacity Benefit Margin (CBM)</b> is that amount of transmission transfer capability reserved for LSEs to ensure access to Generation from interconnected systems to meet generation reliability requirements. In the Day-Ahead Market, CBM may be used to provide reliable delivery of Energy to</p>				
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<p>CAISO Balancing Authority Area Loads and to meet CAISO responsibility for resource reliability requirements in Real-Time. The purpose of this DAM implementation is to avoid Real- Time Schedule curtailments and firm Load interruptions that would otherwise be necessary. CBM may be used to reestablish Operating Reserves. CBM is not available for non-firm transmission in the CAISO Balancing Authority Area. CBM may be used only after:</p> <ul style="list-style-type: none"><li>• all non-firm sales have been terminated,</li><li>• direct-control Load management has been implemented,</li><li>• customer interruptible Demands have been interrupted,</li><li>• if the LSE calling for its use is experiencing a Generation deficiency and its transmission service provider is also experiencing Transmission Constraints relative to imports of Energy on its transmission system.</li></ul>				
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<p>The level of CBM for each Transmission Interface is determined by the amount of estimated capacity needed to serve firm Load and provide Operating Reserves based on historical, scheduled, and/or forecast data using the following equation to set the maximum CBM:</p> $\text{CBM} = (\text{Demand} + \text{Reserves}) - \text{Resources}$ <p>Where:</p> <ul style="list-style-type: none"><li>• Demand = forecasted area Demand</li><li>• Reserves = reserve requirements</li><li>• Resources = internal area resources plus resources available on other Transmission Interfaces</li></ul> <p>The CAISO does not use CBMs. The CBM value is set at zero.</p> <p><b>L.2 ATC Algorithm for Market Optimization</b></p> <p>The ATC algorithm in the market is a calculation used to determine the transfer capability remaining in the physical transmission network and available for further commercial activity and optimization over and above already committed uses. The CAISO posts</p>				
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<p>the ATC values in megawatts (MW) to OASIS in conjunction with the Market Close for the Day-Ahead Market and Real-Time Market process.</p> <p>The following OASIS ATC algorithms are used to implement the CAISO ATC calculation for the ATC rated path (Transmission Interface):</p> <p>ATC Calculation For Imports:</p> <p>ATC = TTC - CBM - TRM - AS from Imports- Net Energy Flow - Hourly Unused TR Capacity.</p> <p>ATC Calculation For Exports:</p> <p>ATC = TTC - CBM - TRM - Net Energy Flow - Hourly Unused TR Capacity.</p> <p>The specific data points used in the ATC calculation are each described in the following table.</p>																
<table><tr><td>ATC</td><td>ATC</td></tr><tr><td>Hourly Unused TR Capacity</td><td>US</td></tr><tr><td>Scheduled Net Energy from Imports/Exports (Net Energy Flow)</td><td>ENE I</td></tr><tr><td>AS from Imports</td><td>AS IM</td></tr><tr><td>TTC</td><td>T</td></tr><tr><td>CBM</td><td>C</td></tr></table>	ATC	ATC	Hourly Unused TR Capacity	US	Scheduled Net Energy from Imports/Exports (Net Energy Flow)	ENE I	AS from Imports	AS IM	TTC	T	CBM	C				
ATC	ATC															
Hourly Unused TR Capacity	US															
Scheduled Net Energy from Imports/Exports (Net Energy Flow)	ENE I															
AS from Imports	AS IM															
TTC	T															
CBM	C															

TRM	TRM MW	Hourly Transmission Reliability Margin, in MW, for a specified Transmission Interface, per path direction.
<p>Actual ATC mathematical algorithms and other ATC calculation information are located in the CAISO's ATC Implementation Document (ATCID) posted to the CAISO Website.</p> <p><b>L.3 ATC Process Flowchart and Calculation Periods</b></p>  <p>The diagram shows a flowchart with five rows. The first two rows have green arrows pointing right. The first row is 'Operations Engineering' with 'Operation Engineering Studies &amp; Seasonal Derates'. The second row is 'Operations, Grid Operations, Outage Management' with 'Outage Studies/ Operating Procedures'. The third row is 'ETCC*' with a yellow box. The fourth row is 'Day Ahead Market Results'. The fifth row is 'HASP FMM Optimization'.</p> <p>*ETCC – Existing Transmission Contract Calculation  (1) – WECC rated path methodology  (2) – See TRMID posted on OASIS</p> <p>The CAISO will calculate ATC on the Interties each calendar month across a rolling thirteen (13)-month horizon. The CAISO will also calculate ATC on the Interties each day prior to the close of the Day-Ahead Market across a rolling seven (7)-day horizon, and will publish the resulting ATC values daily on OASIS.</p>		

<b>L.4</b>	<b>TTC Determination</b> All transfer capabilities are developed to ensure that power flows are within their respective operating limits, both pre-Contingency and post-Contingency. Operating limits are developed based on thermal, voltage and stability concerns according to industry reliability criteria (WECC/NERC) for transmission paths. The process for developing TTC also requires the inclusion or exclusion of operating Transmission Constraints based on system conditions being studied.				
<b>L.4.1</b>	Transfer capabilities for studied configurations may be used as a maximum transfer capability for similar conditions without conducting additional studies. Increased transfer capability for similar conditions must be supported by conducting appropriate studies.				
<b>L.4.1.2</b>	At the CAISO, studies for all major inter-area paths' (mostly 500 kV) TTC are governed by the California Operating Studies Subcommittee (OSS), which provides detailed criteria and methodology. For transmission system elements below 500 kV the methodology for calculating these flow limits is detailed in Section L.4.3 and is applicable to the operating horizon.				



<b>L.4.2</b>	<p>Transfer capability may be limited by the physical and electrical characteristics of the systems including any one or more of the following:</p> <ul style="list-style-type: none"><li>• <b>Thermal Limits</b> - Thermal limits establish the maximum amount of electric current that a transmission line or electrical facility can conduct over a specified time-period as established by the Transmission Owner.</li><li>• <b>Voltage Limits</b> - System voltages and changes in voltages must be maintained within the range of acceptable minimum and maximum limits to avoid a widespread collapse of system voltage.</li><li>• <b>Stability Limits</b> - The transmission network must be capable of surviving disturbances through the transient and dynamic time-periods (from milliseconds to several minutes, respectively) following the</li></ul>				
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<p>disturbance so as to avoid generator instability or uncontrolled, widespread interruption of electric supply to customers.</p>				
<p><b>L.4.3 Determination of transfer capability</b> is based on computer simulations of the operation of the interconnected transmission network under a specific set of assumed operating conditions. Each simulation represents a single "snapshot" of the operation of the interconnected network based on the projections of many factors. As such, they are viewed as reasonable indicators of network performance and may ultimately be used to determine Available Transfer Capability. The study is meant to capture the worst operating scenario based on experience and good engineering judgment.</p>				
<p><b>L.4.3.1 System Limits</b> – The transfer capability of the transmission network may be limited by the physical and electrical characteristics of the systems including thermal, voltage, and stability consideration. Once the critical Contingencies are identified, their impact on the network must be evaluated to determine the most restrictive of those limitations. Therefore, the TTC</p>				

<p>becomes:</p> <p>TTC = lesser of {Thermal Limit, Voltage Limit, Stability Limit} following contingencies consistent with requirements of the NERC Reliability Standards</p> <p><b>L.4.4</b> The CAISO may update the determination of TTC to be used in the calculation of daily ATC across a rolling seven (7)-day horizon to reflect current information on the anticipated transfer capability of the transmission network, including information on Outages affecting the transfer capability on Interties.</p> <p><b>L.5      Developing a Power Flow Base-Case</b></p> <p><b>L.5.1    Base-cases</b> will be selected to model reality to the greatest extent possible including attributes like area Generation, area Load, Intertie flows, etc. At other times (e.g., studying longer range horizons), it is prudent to stress a base-case by making one or more attributes (Load, Generation, line flows, path flows, etc.) of that base-case more extreme than would otherwise be expected.</p> <p><b>L.5.2    Update a Power Flow Base-Case</b> The selected base-case will be updated to represent the current grid conditions during the applicable season. The</p>				
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<p>following will be considered to update the base-cases:</p> <ul style="list-style-type: none"><li>• Recent transmission network changes and updates</li><li>• Overlapping scheduled and Forced Outages</li><li>• Area Load level</li><li>• Major path flows</li><li>• Generation level</li><li>• Voltage levels</li><li>• Operating requirements</li></ul> <p><b>L.5.2.1 Outage Consideration</b></p> <p>Unless detailed otherwise, the CAISO considers modeling Outages of:</p> <ul style="list-style-type: none"><li>• Transmission lines, 500 kV</li><li>• Transformers, 500/230 kV</li><li>• Large Generating Units</li><li>• Generating Units within the studied area</li><li>• Transmission elements within the studied area</li></ul> <p>At the judgment of the CAISO, only the necessary Outages will be modeled to avoid an unnecessarily burdensome and large</p>				
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number of base-cases.				
<b>L.5.2.2 Area Load Level</b>  Base-case Demand levels should be appropriate to the current studied system conditions and customer Demand levels under study and may be representative of peak, off-peak or shoulder, or light Demand conditions. The CAISO estimates the area Load levels to be utilized in the peak, partial-peak and/or off-peak base-cases. The CAISO will utilize the current CAISO Load forecasting program (e.g., ALFS), ProcessBook (PI) or other competent method to estimate Load level for the studied area. Once the appropriate Load levels are determined, the CAISO may scale the base-case Loads to the area studied, as appropriate.				
<b>L.5.2.3 Modify Path Flows</b>  The scheduled electric power transfers considered representative of the base system conditions under analysis and agreed upon by the parties involved will be used for modeling. As needed, the CAISO may estimate select path flows depending on the studied area. In the event that it is not possible to estimate path flows, the CAISO will make safe assumptions about the path flows. A				

<p>safe assumption is more extreme or less extreme (as conservative to the situation) than would otherwise be expected. If path flow forecasting is necessary, if possible the CAISO will trend path flows on previous similar days.</p> <p><b>L.5.2.4                      Generation Level</b></p> <p>Utility and non-utility Generating Units will be updated to keep the swing Generating Unit at a reasonable level. The actual unit-by-unit Dispatch in the studied area is more vital than in the un-studied areas. The CAISO will examine past performance of select Generating Units to estimate the Generation levels, focusing on the Generating Units within the studied area. In the judgment of the CAISO, large Generating Units outside the studied area will also be considered.</p> <p><b>L.5.2.5                      Voltage Levels</b></p> <p>Studies will maintain appropriate voltage levels, based on operation procedures for critical buses for the studied base-cases. The CAISO will verify that bus voltage for critical busses in within tolerance. If a bus voltage is outside the tolerance band, the CAISO will model the use of voltage control devices (e.g., synchronous condensers, shunt capacitors, shunt</p>				
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<p>reactors, series capacitors, generators).</p> <p><b>L.6 Contingency Analysis</b> Contingency analysis studies are performed in an effort to determine the limiting conditions, especially for scheduled Outages, including pre- and post-Contingency power flow analysis modeling pre- and post-Contingency conditions and measuring the respective line flows, and bus voltages.</p> <p>Other studies like reactive margin and stability may be performed as deemed appropriate.</p> <p><b>L.6.1 Operating Criteria and Study Standards</b> Using standards derived from NERC and WECC Reliability Standards and historical operating experience, the CAISO will perform Contingency analysis with the following operating criteria:</p> <p><b>Pre-Contingency</b></p> <ul style="list-style-type: none"><li>• All pre-Contingency line flows shall be at or below their normal ratings.</li><li>• All pre-Contingency bus voltages shall be within a pre-determined operating range.</li></ul> <p><b>Post-Contingency</b></p>				
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<ul style="list-style-type: none"><li>• All post-Contingency line flows shall be at or below their emergency ratings.</li><li>• All post-Contingency bus voltages shall be within a pre-determined operating range.</li></ul> <p>The CAISO simulates the appropriate Contingencies as required by applicable NERC and WECC Reliability Standards and criteria.</p> <p><b>L.6.2 Manual Contingency Analysis</b></p> <p>If manual Contingency analysis is used, the CAISO will perform pre-Contingency steady-state power flow analysis and determines if pre-Contingency operating criteria is violated. If pre-Contingency operating criteria cannot be preserved, the CAISO records the lines and buses that are not adhering to the criteria. If manual post-Contingency analysis is used the CAISO obtains one or more Contingencies in each of the base cases. For each Contingency resulting in a violation or potential violation in the operating criteria above, the CAISO records the critical post-Contingency facility loadings and bus voltages.</p> <p><b>L.6.3 Contingency Analysis</b></p>				
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<p><b>Utilizing a Contingency Processor</b></p> <p>For a large area, the CAISO may utilize a Contingency processor.</p> <p><b>L.6.4 Determination of Crucial Limitations</b></p> <p>After performing Contingency analysis studies, the CAISO analyzes the recorded information to determine limitations. The limitations are conditions where the pre-Contingency and/or post-Contingency operating criteria cannot be conserved and may include a manageable overload on the facilities, low post-Contingency bus voltage, etc. If no crucial limitations are determined, the CAISO determines if additional studies are necessary.</p> <p><b>L.7 Traditional Planning Methodology to Protect Against Violating Operating Limits</b></p> <p>After performing Contingency analysis studies, the CAISO next develops the transfer capability and develops procedures, Nomograms, RMR Generation requirements, or other Transmission Constraints to ensure that transfer capabilities respect operating limits.</p> <p><b>L.8 Limits for Contingency Limitations</b></p> <p>Transfer limits are developed when the post-Contingency loading on a transmission element may breach the</p>				
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<p>element's emergency rating. The type of limit utilized is dependent on the application and includes one of the following limits:</p> <ul style="list-style-type: none"><li>• Simple Flow Limit - best utilized when the derived limit is repeatable or where parallel transmission elements feed radial Load.</li><li>• RAS - existing Remedial Action Schemes (RAS) may impact the derivation of simple flow limits. When developing the limit, the CAISO determines if the RAS will be in-service during the Outage and factors the interrelationship between the RAS and the derived flow limit. The CAISO will update the transfer limits in recognition of the changing status and/or availability of the RAS.</li></ul> <p>necessary to ensure reliable operations.</p> <p>ion)</p>				
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