Transmission Service and Market Scheduling Priorities – Phase 2

Draft Final Proposal

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California Independent System Operator

Table of Contents

1 Introduction 3
2 Executive Summary 4
3 Initiative Background 6
3.1 Interdependency with Existing Initiatives 7
3.2 Problem Statement 8
3.3 Current Scheduling Priorities Framework in the ISO Market 9
4 Design Principles 10
5 Design Changes from the Straw Proposal 10
6 Establishing Wheeling Through Scheduling Priority – Monthly and Daily Horizons . 11
6.1.1 Calculating the ATC – Monthly Horizon 12
6.1.1.1 ATC Methodology – Calculating Total Transfer Capability (TTC) 13
6.1.1.2 ATC Methodology - Calculating Existing Transmission Commitments (ETC) . 14
6.1.1.3 ATC Methodology – Transmission Reliability Margin (TRM) and Capacity Benefit Margin (CBM) 20
6.1.2 Calculating ATC – Daily Horizon 21
6.1.2.1 Daily ATC - Calculating Total Transfer Capability (TTC) 22
6.1.2.2 Daily ATC – Calculating Existing Transmission Commitments (ETC) 22
6.1.2.3 Daily ATC – TRM 23
6.1.3 Evaluating Internal Transmission Network Impacts 23
6.1.4 Accessing ATC to Establish Scheduling Priority 27
6.1.5 Applying the Scheduling Priorities in the Post-HASP Process 31
6.1.6 Requests for Establishing Long Term Scheduling Priority & Study Process .. 32
6.1.7 Compensation for Wheeling Through Scheduling Priority 36
7 WEIM Decisional Classification 39
8 Stakeholder Engagement 40
APPENDIX 41

1 Introduction

This draft final proposal presents a long-term, durable, framework to establish wheeling through scheduling priorities in the ISO markets. The straw proposal is 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 during the past two years. 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[1] 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 LSEs, and this is a key topic as the West considers different regional market designs. This draft 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 draft final proposal will be discussed with stakeholders at the December 16 stakeholder meeting and reviewing stakeholder written comments, which are due January 4.

[1] 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%2020201218.pdf

2 Executive Summary

This draft final proposal describes the design for establishing wheeling through market scheduling priority on the ISO grid while effectively accounting for transmission capacity needed to 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 (LSE) 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 its interties to derive an amount of transmission capacity that entities seeking to wheel through the ISO system can reserve 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 would be estimated based on historical volumes of import supply contracted by ISO LSEs as represented by historical resource adequacy (RA) imports and contracted import supply that may not have been shown on resource adequacy plans.
- *Accessing and Reserving ATC* – the proposal is that ATC on the interties be accessed through a request window process in which interested 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 available (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 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).[2] 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. This draft final proposal discusses various funding and crediting options for entities seeking to fund upgrades to support wheeling through priority transactions.
- *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 framework design described in this draft final proposal is consistent with practices of other ISOs/RTOs and transmission provider practices across the west, while recognizing unique aspects of the ISO's market design and service structure. The elements of the design framework are further described below in section 5 and the appendix.

[2] CAISO Business Practice Manual, *Generator Interconnection and Deliverability Allocation Procedures,* 2022.

3 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 to implement certain scheduling priorities for load, export, and wheeling through transactions in the day-ahead and real-time market optimization processes. In June 2021, FERC approved the proposed scheduling priorities on an interim basis through May 31, 2022.[3]

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.[4]

This draft final proposal sets forth a workable framework for establishing wheeling through market scheduling priority across the ISO system, while recognizing the ISO's unique market and service structure and ensuring native load is adequately protected. This draft final proposal is informed by the practices of other western transmission providers and ISOs/RTOs, as well as input received from stakeholders. From November 2021 through February 2022, the ISO hosted a series of stakeholder working groups where transmission providers across the west shared their practices regarding various aspects of calculating transmission service available for reservation, setting aside transmission capacity for native load needs, provisioning transmission service,

[3] *California Independent System Operator Corporation,* 175 FERC ¶61,245 (2021).

[4] *California Independent System Operator Corporation,* 178 FERC ¶61,182 (2022).

and a transmission system expansion process driven by requests.[5] Other stakeholders also made presentations.

In developing the framework described in this draft 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 straw proposal.

3.1 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 on transmission across EDAM balancing areas on transmission less than firm.

This draft 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

[5] Working group materials can be accessed on the *Transmission Service and Market Scheduling Priorities Phase 2 Initiative* webpage - https://stakeholdercenter.caiso.com/StakeholderInitiatives/Transmission-service-and-market-scheduling-priorities.

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.

The ISO will continue to monitor the interdependencies between the designs and seek to align these designs as appropriate.

3.2 Problem Statement

The ISO only has one category of transmission not associated with existing rights – new firm use.[6] 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 (DAM) or the real time market (RTM), 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.[7] 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 prices."[8] 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.[9]

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

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[6] 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."

[7] 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.

[8] 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.

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

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 draft 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.

3.3 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.

Day Ahead Market[10]	Real Time Market[11]
Priority wheel-through, PT exports, Load	Priority wheel-through, PT exports, Load
Non priority wheel-through, LPT exports	DAM LPT exports, DAM LPT wheels
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.[12] Entities can wheel through the ISO system without meeting the requirements above, but the

[10] ISO tariff section 31.4.

[11] ISO tariff section 34.12.

[12] ISO tariff section 30.5.4.

wheeling through transactions will have a lower scheduling priority as described in the table above.

4 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;
- 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 straw proposal is consistent with, and adheres to, the aforementioned principles.

5 Design Changes from the Straw Proposal

This draft final proposal introduces several design changes compared to the straw proposal that are highlighted here:

- *Calculating ATC in monthly and daily increments*: the proposal introduces a methodology for calculating native load needs based on historical contracted import volumes and a transmission reliability margin (TRM). Moreover, in response to stakeholder comments the proposal extends the daily ATC calculation horizon from 3 days to 7 days, allowing for calculation of ATC and access across this timeframe. Additionally, the proposal clarifies other areas as requested by stakeholders.
- *Accessing and Reserving ATC*: the draft final proposal retains the requirement that entities seeking to access ATC must demonstrate the existence of a firm supply contract, but it removes the requirement for pre-payment of wheeling access charges at the time of ATC reservation in response to stakeholder comments. Priority Wheeling Through customers can pay those charges (based on the hours of the underlying power supply contract supporting the wheeling through priority) under the applicable settlement and invoice timeframe. The design also introduces defined windows or periods during which requests can be submitted to access limited ATC in the monthly and daily horizons, and during those periods entities may need to compete for limited ATC (as they must compete under the OATT) based on the underlying duration of their supply contracts.
- *Transmission Study and Expansion Process*: although the general design remains similar to the straw proposal, the draft final proposal provides several clarifications including that requests or one year or longer (as opposed to "over" a year) are considered long term requests and can seek to be studied and may drive upgrades on the ISO system. Further, the draft final proposal describes and clarifies aspects of the GIDAP process that would be leveraged to administer the study and expansion process. The ISO remains open to evolving this design in the future based on the level of requests for upgrades across the system.

6 Establishing Wheeling Through Scheduling Priority – Monthly and Daily Horizons

The straw proposal introduced a design under which entities seeking to wheel through the ISO system can seek to establish wheeling through market scheduling priority equal to load in monthly increments (by calculating ATC across a 13-month horizon) and daily increments (ahead of the day ahead market close). As noted earlier, stakeholder comments generally supported an overall approach to deriving ATC similar to how

transmission providers calculate ATC today. Stakeholders had suggestions on discrete elements of the ATC calculation, which are addressed below in their respective sub-sections.

This section of the proposal describes the different components of the ATC calculation across the monthly and daily time horizons. The draft final proposal continues to propose calculating ATC that can be accessed to establish priority wheeling through transactions across the interties. The draft 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 its 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, it is consistent with the NERC standards, which establish a 13-month minimum time horizon for calculating monthly ATC increments. 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 market scheduling priority equal to load. Calculating the ATC and allowing entities to reserve this ATC 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 draft final proposal describes and discusses below the various components of the 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 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. The proposal is that in calculating ATC across the interties, 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.

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 ETC component of the ISO's ATC methodology consists of the following components:

- *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.

Calculating ETC – Native Load and Load Growth Set-Aside

ATC is calculated on a looking 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 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, and often the design is tailored based on unique aspects the transmission system, conditions in the region, and even the market design. 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 straw proposal introduced two primary approaches for deriving the amount of transmission capacity to set aside for native load needs. Approach 1 was based upon historical resource adequacy (RA) showings as representing forecasted native load needs at the interties. Approach 2 focused on historical import flows across the interties during peak periods. Stakeholders generally were divided on these two approaches. Some noted that the forecast of native load needs based solely on historical contracted RA capacity may not adequately represent the ISO's dependence on supply delivered across the interties to serve native load and the historic use of the ISO markets to access supply to meet native load needs. Also, some stakeholders indicated that the first approach fails to recognize that many LSEs also rely on contracted-for imports not shown as RA to meet their needs. Other stakeholders expressed concern with the second approach noting that historical import flows may not represent contracted supply, may represent economic supply, and may result in too much transmission capacity being set aside to meet native load needs. Yet other stakeholders expressed concern with the set aside of transmission capacity under either of the approaches being based on historical information rather than a forward looking approach. These stakeholders indicated preference for a set-aside for native load based on import supply delivered across specific interties and under contract at the time of the ATC calculation across the13-month horizon.

This draft final proposal is to set aside transmission capacity at the interties for native load needs across a 13-month rolling horizon based historical volumes of RA showings at individual interties and non-RA contracted supply. In particular, the methodology will:

- 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.

For example, if RA imports on a particular intertie for the month of June were 100 MW and 2000 MW the last two year, and the amount of non-RA contracted supply for that month was 20 MW and 10 MW during that same period, the ISO would set aside 220 MW for native load on that intertie. Also, as discussed below, as actual RA showings and showings of non-RA contracted for imports for an upcoming month become available, the ISO will use such actual values for the month, not historical values. 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.[13] 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 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 non-RA contracted imports for the last two years in order 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 in the 13-month horizon. For a given month, any non-RA

[13] 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.

contracted supply would have to be shown at the same time that final monthly RA plans are submitted.

Alternate approaches suggested by stakeholders 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 looking 13-month horizon for which ATC is calculated. The ISO will also have to account for the potential impact of load 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 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 of 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, this 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 a 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 that 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 reasonably can 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 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.

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 the 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 contracted for their import capability that they may have at individual interties.

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 supply on RA plans. Separately, individual LSEs subject to the jurisdiction of different local regulatory authorities, may have different 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 an load growth at an intertie is less than the contracted import supply (RA and non-RA), including the margins 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 proposal is to calculate a TRM and account for various types of uncertainty, consistent with NERC standards[14]:

- *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.
    - The proposal is that this amount 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.
    - The proposal is that this amount 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 for variations in generation dispatch, particularly associated with net peak load periods, when variable energy resources may be

[14] NERC MOD-008-1.

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.

- The proposal is that this amount be set at up to 2% of TTC on select interties where the ISO has historically relied upon import supply to serve load.

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 LSEs 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 calculate 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 draft final proposal now recommends 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 deriving 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, 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 Evaluating Internal Transmission Network Impacts

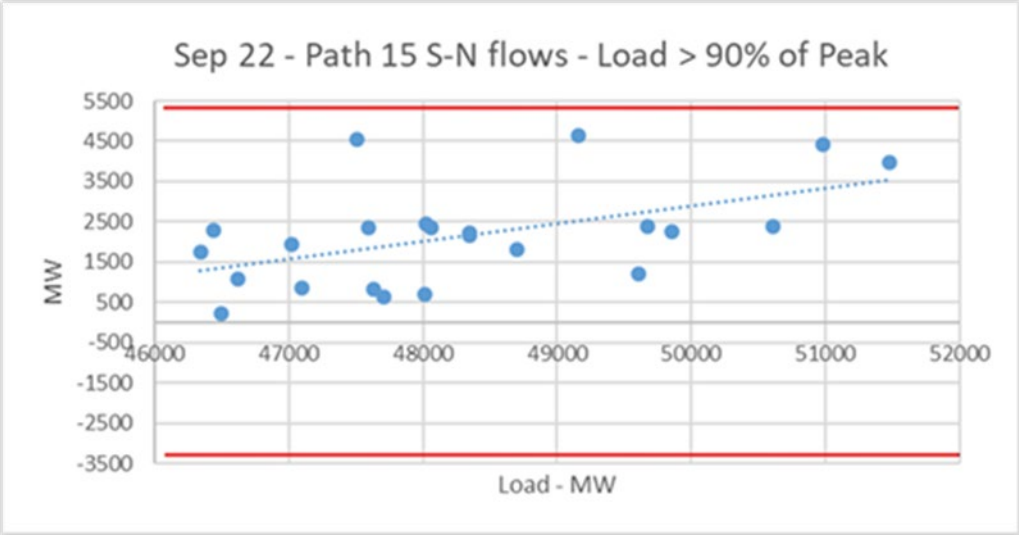
The design in this proposal focuses on the calculation of ATC across the interties to derive an amount of transmission capacity that can be made available for wheeling through customers to establish in advance a market scheduling priority equal to load. As part of that calculation of ATC, the ISO has proposed to set aside capacity on these interties to serve for native load. 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 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

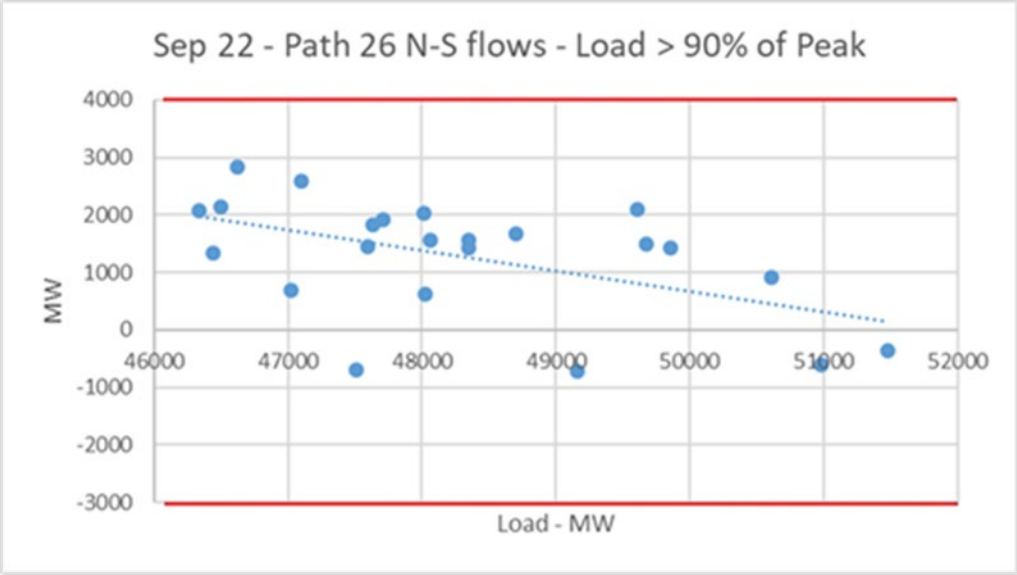
significant complexity as it is not done currently. Today, all the transmission capacity internal to the network is available to the market to support optimized unit commitment and dispatch, including transfers, exports and wheels through the system. As a result, under normal conditions, transmission 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 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.



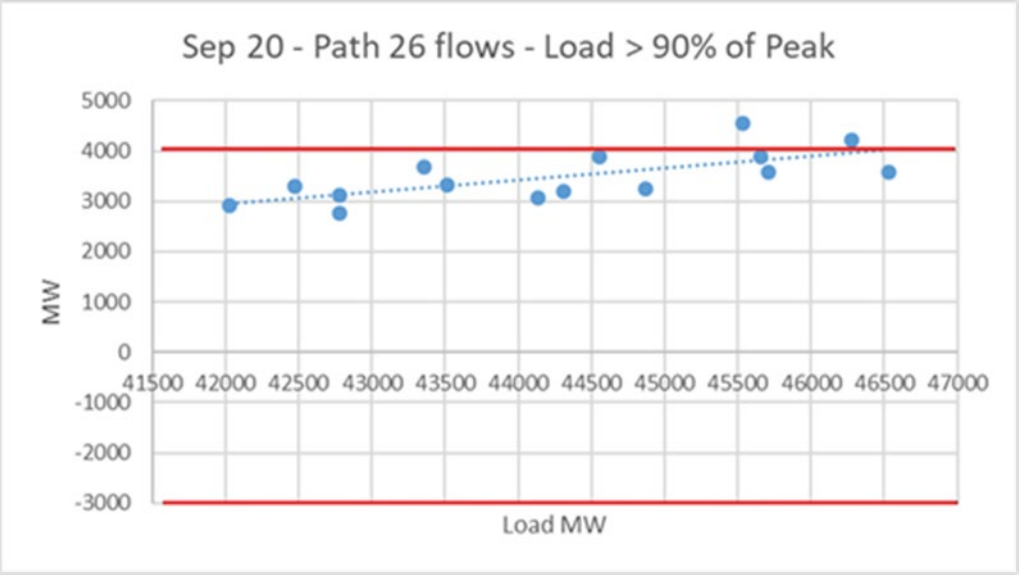
Graph 1: Path 15 loading levels during September 2022 periods when the load was above 90% of the peak.



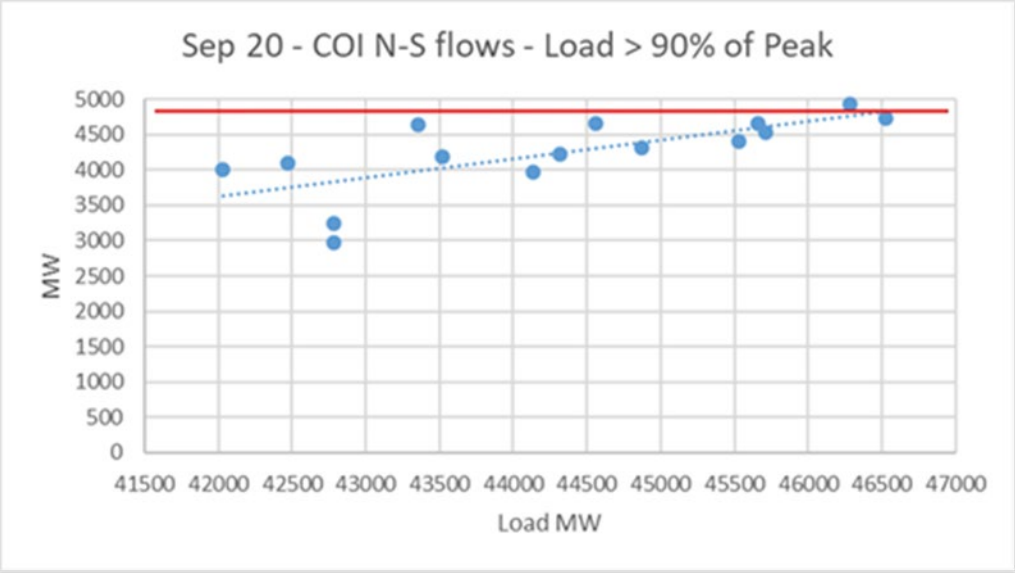
Graph 2: Path 26 loading levels during September 2022 periods when the load was above 90% of the peak.

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.



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.

6.1.4 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 today under the interim framework discussed previously. 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 straw proposed that entities seeking to access ATC had to meet certain requirements, namely demonstrating an executed firm power supply contract to serve external load and the pre-payment of wheeling access charges. Many stakeholders supported a power supply contract demonstration requirement, while some stakeholders opposed the need for a contract on the grounds is not required under the OATT. These stakeholders argued that anybody should be able to reserve the ATC regardless of whether they have a firm power supply contract. They suggested that, for example, such advance reservation of ATC could help suppliers bundle power products with a high scheduling priority across the ISO. Many stakeholders opposed the proposal to pre-pay transmission as a condition of accessing ATC because they saw it as burdensome, inconsistent with their current practices, and unnecessary given they already meet creditworthiness requirements under the ISO tariff. Stakeholders indicated a willingness to pay for transmission in regular settlement intervals as they do today.

This draft final proposal retains the requirement that entities accessing ATC must demonstrate ownership of the supply or an executed firm power supply contract. The proposal is to eliminate 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;

With regards to the previously proposed requirement to pre-pay for transmission when accessing ATC, this draft final proposal removes 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.

As discussed below, the proposal is to have 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 draft 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.

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 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 6 x 4 contract will have priority over a request for a priority during one of those months supported by a 6 x 16 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, 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 a.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 LSEs 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 LSE 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 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.

An entity with a monthly or daily wheeling through priority must notify the ISO immediately 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.

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.

6.1.5 Applying the Scheduling Priorities in the Post-HASP Process

As introduced by section 3.3 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 largely in more stressed system conditions, if intertie constraints trigger, an infeasibility in the market occurs and the market cannot accommodate all the schedules across the intertie. 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 3.3 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.[15] In those instances, 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.[16]

This draft final 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 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. Also, the ISO may designate import supply to meet reliability needs using its capacity procurement mechanism (CPM). CPM import volumes would also be included in the values for ISO load.

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[15] CAISO Tariff, section 34.12.3 (2022).

[16] *Id.*

6.1.6 Requests for Establishing Long Term Scheduling Priority & Study Process

The straw proposal introduced a process for studying long-term requests for establishing wheeling through (and wheeling-in) 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. However, stakeholders also sought clarification that requests that can seek this service are long-term requests that are 12-months or longer in duration, but these comments also opposed commingling between interconnection requests and requests for long-term wheeling through scheduling priority when studied, noting that studying requests for interconnection and for transmission service are separate studies and concepts and should not be commingled. 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.

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. 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 imperative that the impacts of priority long-term Wheeling priority requests on generation deliverability across the internal ISO network be evaluated and mitigated. 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[17]. The requesting entity will be subject to study costs and, if an 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).

[17] 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.

- 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)[18] and the transmission constraints requiring the upgrade. If no transmission constraints and no upgrades are 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.

[18] The operational deliverability study in the Phase II study from the preceding cluster will be utilized to study years (n + 1) and (n + 2).

- 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 allocation process.

Proceeding with a Transmission Upgrade & Funding an Upgrade

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.

The ISO is contemplating a framework whereby, after completion of the upgrade, the wheeling customer would pay for the upgrade over an agreed-to period of time (presumably the duration of the wheeling customer's priority request) through the payment of wheeling access charges 24/7 to the applicable transmission provider(s) and/or possibly other lump-sum payments. During that time the wheeling through

customer would have a priority. An alternative approach is for the wheeling through customer to upfront fund the upgrade and receive transmission credits until it recovers the amount it upfront funded (along with a wheeling priority). Under this approach, the wheeling through customer would not be charged for wheeling until it "recovers" the amount it up front funded to enable the upgrade. A further option is the prospective wheeling customer funding the upgrade up front and receiving CRRs (similar to merchant transmission) and a wheeling priority for the life of the project. The wheeling through customer funding the upgrade would be able to resell the wheeling through scheduling priority established through the upgrade. The ISO seeks stakeholder comments on these and any other viable approaches. The ISO request stakeholders to provide specific details regarding any framework they desire.

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.[19]

Some stakeholders questioned the proposal to utilize the GIDAP deliverability process to evaluate Wheeling priority requests, suggesting it was inappropriate to combine generator interconnection and wheeling priority requests in the same assessment. This draft 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.

6.1.7 ***Compensation for Wheeling Through Scheduling Priority***

One point of discussion in prior initiatives and 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

[19] 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.

through transactions. Under the current interim 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 for priority wheeling through transactions. Applying 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 obtains 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 proposal continues to be that high priority wheeling through transactions pay for transmission access based upon the underlying quantity and duration of the power 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 6 x 16 power supply contract, the customer will pay the WAC charges associated with using a 6 x 16 contract for the entire month. The wheeling through customer would have a scheduling priority only during the 6x16 period. The draft final proposal no longer proposes to require the wheeling through customer to pre-pay these charges, but the wheeling through customer must 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. 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. It also 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.[20] 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) though 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 for OBAALSEs seeking an allocation of monthly CRRs are set forth in

[20] Reference to MCC buckets - https://docs.cpuc.ca.gov/PublishedDocs/Efile/G000/M326/K933/326933860.PDF.

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.[21]

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

[21] Charter of EIM Governance § 2.2.1.

Entity balancing authority areas, in their capacity as participants in EIM." Instead, the proposed tariff rules would be applicable "only 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.[22] 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."[23] 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 proposed 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
1/11/2023	Final proposal posted
December — March 2023	Development of initial draft tariff language and business requirement specifications
February 2023	Joint ISO Board of Governors and WEIM Governing Body meeting

Table 1: Upcoming initiative milestones.

[22] *See* GRC Part II Draft Final Proposal, page 12.

[23] *Id.* at 13.

APPENDIX

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.

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
Remaining ATC	601 MW	149 MW	105 MW	0

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
Remaining ATC	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.

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.

	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

	BPA	IPC	SRP
	forecasted resources.[24]	forecasted resources.[25]	resource plans (ip to 30-years).[26]
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.

[24] BPA presentation during stakeholder working groups, available at - http://www.caiso.com/InitiativeDocuments/BPAPresentation-TransmissionService-MarketSchedulingPriorities-WorkingGroup1-Nov15-2021.pdf.

[25] Idaho Power presentation during stakeholder working groups, available at - http://www.caiso.com/InitiativeDocuments/IPCPresentation-TransmissionService-MarketSchedulingPriorities-WorkingGroup1-Nov15-2021.pdf.

[26] SRP presentation during stakeholder working groups, available at - http://www.caiso.com/InitiativeDocuments/SRPPresentation-TransmissionService-MarketSchedulingPriorities-WorkingGroup1-Nov19-2021.pdf.