



# **Maximum Import Capability Stabilization and Multi-Year Allocation**

**Issue Paper**

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# Maximum Import Capability Stabilization and Multi-Year Allocation Issue Paper

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# 1. Introduction

The purpose of this initiative is twofold. In the short-term, the purpose is to update the methodology used in the calculation of the simultaneous Maximum Import Capability (MIC) including its description in the CAISO Reliability Requirements Business Practice Manual (BPM) in order to achieve a greater stability of MIC overall allocations. In the long-term, the purpose is to update the annual nature of the MIC allocation process, as described in Tariff section 40.4.6.2 Deliverability of Imports, into a multi-year allocation process to accomplish numerous important objectives, the primary of which is the facilitation of long-term procurement of import resources and multi-year system Resource Adequacy (RA) requirements, should they be established in the future. Enhanced multi-year MIC allocation similarly removes barriers to new resource development external to the CAISO Balancing Authority Area (BAA).

MIC represents the maximum simultaneous deliverability of all imports used in the RA process. The CAISO performs deliverability studies several times a year in its new Generation Interconnection Process (GIP) and in its Transmission Planning Process (TPP). These studies are conducted for the entire CAISO controlled grid, to test both the deliverability of internal resources and the deliverability of imports, to ensure all resources are simultaneously deliverable to the aggregate of load. Unlike the deliverability of internal resources, which is granted on an ongoing basis to the resource owner, the deliverability of imports is granted to Load Serving Entities (LSEs) on an annual basis through an assignment process.

Stakeholders have previously requested the CAISO review both the MIC calculation and allocation provisions. Some stakeholders have indicated that the CAISO should consider alternative calculation methods and asserted that there are numerous challenges presented by the current 13-step Import Capability Assignment process - in particular, the annual nature of the allocation. The CAISO had started a review of these aspects through the RA Enhancements policy initiative. However, due to the planned implementation timeframe for that effort, the CAISO has determined it is more appropriate to move consideration of these MIC-related provisions from the scope of that initiative and conduct this expedited policy initiative to address more immediate needs. The CAISO is therefore conducting this effort to enhance the MIC calculation methodology and allocation provisions.

## 1.1. Background

The CAISO assesses the deliverability for imports using the MIC calculation methodology. The CAISO calculates the MIC MW amount mainly based on a historic methodology that utilizes the actual schedules into the CAISO's BAA for highest imports obtained simultaneously during peak system load hours over the last two years. The CAISO examines the prior two years of historical import schedule data during high load periods. Sample hours are selected by choosing two hours in each year, and on different days within the same year, with the highest total import level when peak load was at least 90% of the annual system peak load. The CAISO then calculates the historically-based MIC values based on the scheduled net import values for each intertie, plus the unused Existing Transmission Contract (ETC) rights and Transmission Ownership Rights (TOR), averaged over the four selected historical hours. This concept is an important fundamental principle of the MIC framework, intended to ensure that existing ownership rights and pre-existing RA commitments and contracts should be recognized and respected.

MIC values for each intertie are calculated annually for a one-year term and a 13-step process is used to allocate MIC to LSEs. MIC allocations are not assigned directly to external resources, rather they are assigned to LSEs who choose the portfolio of imported resources they wish to elect for utilization of their MIC allocations. This is also an important principle underlying the MIC framework. MIC is allocated to LSEs because LSEs pay for the transmission system and, thus, they should receive the benefits from it and choose which external resources are ultimately selected for providing RA capacity that relies on the import capability. Once the allocation process is complete, LSEs can use their MIC allocations on each intertie to support their procurement of RA capacity of external resources. The 13-step import capability allocation process is detailed further below.

RA showings designating import MWs to meet RA obligations across interties using either Non-Resource-Specific System Resources, Pseudo-ties, or Dynamically Scheduled System Resources are required to be used in conjunction with a MIC allocation and are considered a firm monthly commitment to deliver those MWs to CAISO at the specified interconnection point with the CAISO system.

Reference for tariff and business practice manual (BPM) as follows:

1. ISO Tariff section 40.4.6.2: <http://www.caiso.com/Documents/Section40-ResourceAdequacyDemonstration-SCs-CAISOBAA-asof-Aug12-2019.pdf>
2. Reliability Requirements BPM sections 6.1.3.5, 6.1.3.6 and Exhibit A-3: <https://bpmcm.caiso.com/BPM%20Document%20Library/Reliability%20Requirements/BPM%20for%20Reliability%20Requirements%20Version%2044.docx>

## 2. Issue Paper: Maximum Import Capability Stabilization and Multi-year Assignment Process

The CAISO has identified two main issues related to the availability of intertie capacity for use in meeting resource adequacy needs, for review through this initiative. The first issue is the need to ensure the stability of MIC values. The CAISO has identified possible concerns related to the stability of MIC that may be mostly due to declining availability of resources across the Western interconnection due to age or environmental requirements mostly dictated by various state decisions. The second issue is the need to shift to longer term allocations to facilitate longer-term contracting with external resources. New resources built outside the CAISO footprint have been hindered from entering into long-term RA contracts with LSEs inside the CAISO due to the high uncertainty of Remaining Import Capacity that will be shared among ISO LSEs at a specific intertie for any foreseeable length of time (beyond one year). The need for addressing the ability to enable long-term contracting with external resources is also highlighted by retirements of older resources across the Western interconnection.

There are a number of specific details that are likely to need consideration as part of addressing these two main issues in order to achieve the objectives that the CAISO has identified. These related aspects are also identified as part of this issue paper under the relevant sections below.

## 2.1. Maximum Import Capability Stabilization

For most interties, the CAISO calculates MIC values based on historical usage of a given intertie. This historically-based MIC methodology establishes a baseline set of values for each intertie. As noted above, this calculation is based on the maximum amount of simultaneous energy schedules into CAISO BAA, during select CAISO coincident peak system load hours over last two years. The CAISO also performs a power flow deliverability study in the CAISO’s transmission planning process (TPP) to test MIC values to ensure each intertie’s MIC can accommodate all state and federal policy goals; if any intertie is found deficient, the CAISO establishes a forward looking MIC for that intertie and plans the system to accommodate this level of MIC in the TPP and the CPUC’s RA processes and CAISO supporting processes.

The data provided in Table 1, below, provides historic MIC values calculated over time using the current methodology.

**Table 1: Historic MIC data (MWs)**

<b>MIC RA Year</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>
<b>Maximum Import Capability</b>	17,486	16,228	15,755	15,221	14,852	15,208	15,524
ETC and TOR held by non-CAISO LSEs	4,090	4,090	4,090	4,211	4,511	5,015	5,015
Available Import Capability for CAISO Resource Adequacy purposes	13,396	12,138	11,665	11,310	10,341	10,193	10,753
Total Pre-RA Import Commitments and ETC	6,047	5,426	5,256	4,736	4,628	4,306	4,239
<b>Remaining Import Capability - less all ETC and TOR</b>	7,348	6,712	6,409	6,574	5,713	5,888	6,515

Some stakeholders have indicated the belief that the MIC calculation methodology should be modified to be a forward-looking approach for all branch groups, in contrast to the current approach. The CAISO’s initial review of the MIC calculation process appears to support the contrary view; that the current MIC allocation methodology to individual branch groups is still appropriate along with the generator interconnection and TPP deliverability studies themselves to provide a reasonable forward look at the import deliverability. The MIC calculation provides the total MIC quantity as well as a breakdown of MW quantities, intertie by intertie, that the technical deliverability study uses to stress

the transmission system to evaluate the simultaneous deliverability of the established level of import capability. This approach was established through stakeholder consensus in 2005 through a Federal Energy Regulatory Commission (FERC) technical conference. The CAISO is open to additional feedback on the MIC calculation methodology and seeks input on potential analysis or alternative calculation methodology proposals for further review.

The CAISO has observed recently declining values for MIC provided in Table 1. In addition, dry hydro years currently directly impact the calculation, potentially by up to 50% of the observed values since only the last two years are counted (regardless of hydrology or other external influences), which is also potentially influenced by climate change. Compounding the declining MIC problem are planned resource retirements in California and across the West due to age or desires to achieve environmental and renewable goals. As such, CAISO anticipates that Maximum Import Capability could be reduced further in coming years, even if only temporarily.

An immediate decrease of MIC due to the circumstances described above would make part of this existing deliverability available to internal resources in the ISO queue. As a consequence, going forward it would be unlikely that peak import observations would result in increased MIC calculations to values previously seen because additional deliverability may not exist, or it will result in unintended consequences for MIC and internal resources counting on that deliverability since now together they are becoming undeliverable to the aggregate of load without triggering the need for new transmission upgrades.

The CAISO intends to move forward with a MIC stabilization methodology and requests stakeholder input regarding changes needed to achieve this goal without maintaining unused deliverability on the interties for excessively long periods commensurate with the time deliverability is maintained for resources internal to the ISO. Currently actual maximum import values in any one year get no protection through the MIC calculation; however, they do influence the MIC calculation in two different years, whereas actual net qualifying capacity values for internal resources get protection for 3 years.

## 2.2. Available Import Capability Multi-year Assignment Process.

The CAISO assigns the total Available Import Capability on an annual basis for a one-year term to LSE SCs serving Load in CAISO's BAA through the 13-step allocation process detailed in the CAISO tariff.<sup>1</sup> This multi-step assignment process of import capability does not guarantee or result in any actual transmission service being assigned, and it is only used for determining the import capability that can be used by an LSE internal to the CAISO to count import system RA resources towards satisfying their total system RA requirements under CAISO tariff Section 40. Following the 13-step Available Import Capability allocation process, LSEs have the opportunity to trade their assigned Import Capability with other entities bilaterally. This trading opportunity is detailed in the CAISO tariff, Section 40.4.6.2.2, Bilateral Import Capability Transfers and Registration Process.

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<sup>1</sup> CAISO tariff, Section 40.4.6.2.1, Available Import Capability Assignment process.



As noted in the background above, import capability is not assigned directly to external resources, but instead to CAISO LSEs because those LSEs and their customers pay for the transmission system and should receive the benefits from it and have the ability to select which external resources are procured and relied upon as part of RA capacity portfolios. The CAISO does not believe this paradigm should be revisited through this initiative and considers this out of scope.

Table 2 lists the 13 steps of the Available Import Capability Assignment Process.<sup>2</sup>

**Table 2: Available Import Capability Assignment process overview**

<b>Step</b>	<b>Process description</b>
<b>Step 1</b>	Determine Maximum Import Capability (MIC)
	- Total ETC
	- Total ETC for non-ISO BAA Loads
<b>Step 2</b>	Available Import Capability
	- Total Import Capability to be shared
<b>Step 3</b>	Existing Contract Import Capability (ETC inside loads)
<b>Step 4</b>	Total Pre-RA Import Commitments & ETC
	- Remaining Import Capability after Step 4
<b>Step 5</b>	Allocate Remaining Import Capability by Load Share Ratio
<b>Step 6</b>	CAISO posts Assigned and Unassigned Capability per Steps 1-5
<b>Step 7</b>	CAISO notifies SCs of LSE Assignments
<b>Step 8</b>	Transfer [Trading] of Import Capability among LSEs or Market Participants
<b>Step 9</b>	Initial SC requests to ISO to Assign Remaining Import Capability by Intertie
<b>Step 10</b>	CAISO notifies SCs of LSE Assignments & posts unassigned Available Import Capability
<b>Step 11</b>	Secondary SC Request to ISO to Assign Remaining Import Capability by Intertie
<b>Step 12</b>	CAISO Notifies SCs of LSE Assignments & posts unassigned Available Import Capability
<b>Step 13</b>	SCs may submit requests for Balance of Year Unassigned Available Import Capability

The CAISO intends to move forward with multi-year available import capability assignment process that could facilitate long-term contracting (minimum 3-years) and encourage building of new resources

<sup>2</sup> See Section 40.4.6.2.1 of CAISO Tariff.

dedicated to LSEs that serve load inside the CAISO BAA, without unduly restricting entry of new LSEs in the future.

The current annual assignment process helps to facilitate the procurement of previously installed and available resources outside of the CAISO BAA elsewhere in WECC otherwise not committed to other BAAs. However, the current process does not encourage the building of new resources and may in fact be a barrier to the development of new external resources since new builds require multi-year contracts for financing. This potential barrier is the fact that the current annual process does not provide LSEs with certainty that they could retain the same amount of RA import allocation on any particular intertie year over year. This has not been a large concern in the past because of the availability of significant external resource and the stability in allocated import capacity that some larger LSEs, with high load share ratio at the ISO coincident peak, had experienced. The latter is being significantly impacted due to load migration associated with new Community Choice Aggregation (CCA) entities taking over a significant share of the load serving responsibility. This load migration is anticipated to continue to grow in coming years.

New LSEs are being created under the expanding CCA model and this presents an important issue to consider related to the MIC allocation process revisions being developed. If the CAISO develops multi-year MIC, allocation it will also need to determine how to reserve some MIC in future years for the potential that new LSE's are established.

#### **Incorporate an auction or other market based mechanism into the assignment process:**

Some stakeholders asked the CAISO to incorporate an auction or other market based mechanism into the Available Import Capability Assignment process. They assert that this will provide alternatives or additional opportunities for LSEs to procure import capability greater than their pro rata load ratio share of MIC on any given branch group/intertie to support a particular RA contract. Alternative mechanisms could allow for more efficient procurement of import capability by LSEs that place a greater value on the Import Capability for various reasons. The CAISO could allocate all, or only a portion of the remaining Available Import Capability through a mechanism similar to the current process, but the CAISO could retain all, or a portion of the remaining Available Import Capability, to be auctioned to or otherwise procured by LSEs. Additional auction revenues could potentially be used to reduce the TAC Transmission Revenue Requirement, or allocated back to LSEs on a pro rata load share basis.

The CAISO believes that a multi-year assignment process would be beneficial with or without the addition of an auction to the Available Import Capability assignment process. Given the significant challenges and requirements in creating such a market mechanism, and the purpose of this initiative to focus on more immediate concerns, the auction mechanism could result in unnecessary delay to mitigation of more pressing concerns.

As such, moving forward an auction or other market based mechanism into the Available Import Capability assignment process will be considered and evaluated separately later.

## **Enhance the provisions for reassignment, trading, or other forms of sales of Import Capability among LSEs:**

The CAISO remains open to changes that facilitate trading import capability. However, just like the auction mechanism it could provide additional benefits, it should not detract from the multi-year allocation process.

Modifying this aspect of the process may be necessary to better facilitate the transfer of Import Capability among LSEs and improve the efficient utilization of Import Capability and will be considered as augmentation to the two main issues mentioned above.

## **3. Straw Proposal: Maximum Import Capability Stabilization and Multi-year Assignment Process**

The CAISO intends to move forward with a MIC stabilization methodology and asks stakeholders for input regarding changes needed to achieve this goal without maintaining unused deliverability on the interties for longer periods than deliverability is maintained for resources internal to the ISO.

The CAISO intends to move forward with multi-year available import capability assignment process that could facilitate long-term contracting (minimum 3-years) and could allow for building of new resources dedicated to LSEs that serve load inside the ISO BAA, without unduly restricting entry of future new LSEs. The new process may or may not include a new auction mechanism, a new trading, or other forms of sales for the available import capability retained by LSEs.

## **4. Stakeholder Engagement and EIM Governing Body Role**

Stakeholder input is critical for developing both the short-term stabilization method and the long-term multi-year allocation process. The schedule proposed below allows opportunity for stakeholder involvement and feedback.

This initiative does not require briefing to EIM Governing Body, because the amount and/or allocation of RA import capability applies only to Load Serving Entities (LSEs) within the ISO Balancing Authority Area (BAA). The changes to the MIC calculation methodology requires changes to the Reliability Requirements Business Process Manual (RRBPM) whereas changes to the allocation process will need to be approved by the CAISO Board of Governors before changes to the ISO Tariff need to be approved by the Federal Energy Regulatory Commission (FERC).

## 4.1. Schedule

Table 3 lists the proposed schedule for the updates to the Maximum Import Capability stabilization and multi-year assignment process.

*Table 3: Schedule for Maximum Import Capability stabilization and multi-year assignment process*

<b>Item</b>	<b>Date</b>
<b>Post Issue Paper</b>	December 3, 2019
Stakeholder Call	December 10, 2019
Stakeholder Comments Due	December 24, 2019
<b>Post Straw Proposal</b>	January 23, 2020
Stakeholder Meeting	January 30, 2020
Stakeholder Comments Due	February 13, 2020
<b><i>Post Revised Straw Proposal (tentative)</i></b>	<i>March 12, 2020</i>
<i>Stakeholder Meeting (tentative)</i>	<i>March 19, 2020</i>
<i>Stakeholder Comments Due (tentative)</i>	<i>April 2, 2020</i>
<b>Post Draft Final Proposal</b>	April 30, 2020
Stakeholder Call	May 7, 2020
Stakeholder Comments Due	May 21, 2020
<b>CAISO Board of Governors Meeting</b>	July, 2020

The CAISO proposes to present its proposal to the CAISO Board of Governors on July 2020. The CAISO is committed to providing many opportunities for stakeholder input into its market design, policy development, and implementation activities. Stakeholders should submit written comments to [RegionalTransmission@caiso.com](mailto:RegionalTransmission@caiso.com).

## 4.2. Next Steps

The CAISO will discuss the Issue Paper during the stakeholder call on December 10, 2019. The CAISO requests stakeholders submit written comments in response to the Maximum Import Capability stabilization and multi-year assignment process issue paper and stakeholder call by December 24, 2019.