



California ISO

# Maximum Import Capability Stabilization and Multi-Year Allocation Revised Straw Proposal

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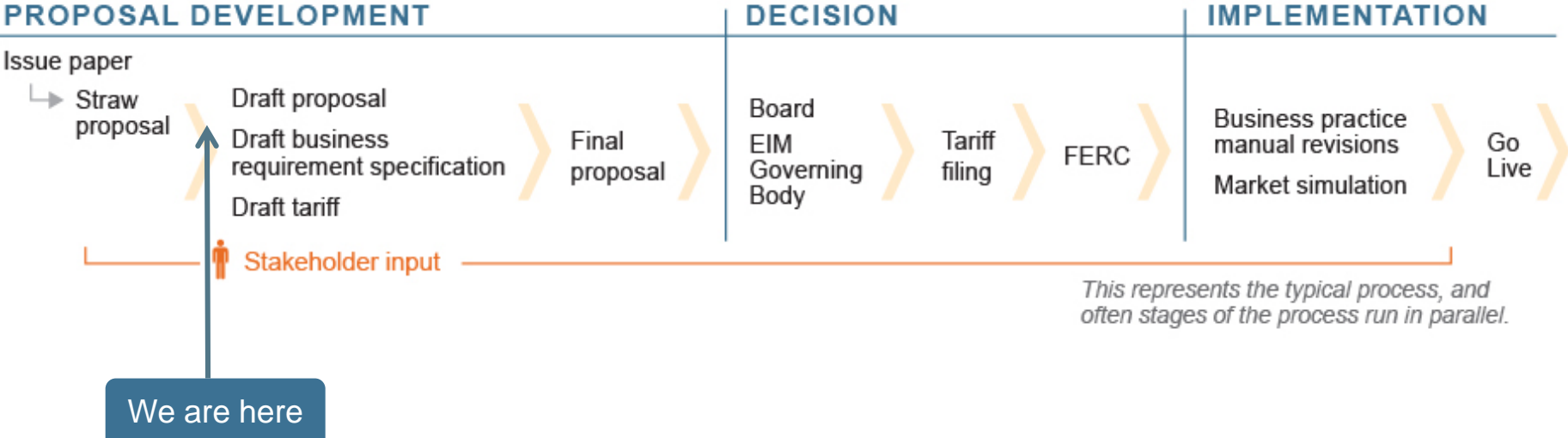
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Stakeholder Call

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ISO Public

# CAISO Policy Initiative Stakeholder Process



# Agenda

- Introduction
- Purpose of stakeholder initiative
- References
- Short-term - proposed stabilization of Maximum Import Capability
- Long-term - proposed multi-year allocation process
- Open Discussion
- Initiative schedule
- Next Steps

# Introduction

- Maximum Import Capability (MIC)
  - Represents a quantity in MWs determined by the CAISO to be simultaneously deliverable to the aggregate of load in the CAISO Balancing Authority Area (BAA).
  - CAISO tests both the deliverability of internal resources and the deliverability of imports, to ensure all Resource Adequacy (RA) resources are simultaneously deliverable.
  - Load Serving Entities (LSEs) RA import showings are limited to its share of MIC.
  - Calculated yearly by the CAISO.
  - Allocated yearly by the CAISO to LSEs.

## Purpose of stakeholder initiative

- Short-term - 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
- Long-term - 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

## References:

CAISO Tariff Section 40.4.6.2:

<http://www.caiso.com/Documents/Section40-ResourceAdequacyDemonstration-SCs-CAISOBAA-asof-Sep28-2019.pdf>

Reliability Requirements BPM section 6.1.3.5 & Exhibit A-3:

<https://bpmcm.caiso.com/BPM%20Document%20Library/Reliability%20Requirements/BPM%20for%20Reliability%20Requirements%20Version%2045.docx>

# RA Import Capability Allocation Process

<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

# Maximum Import Capability Calculation

- Historically based
  - Select two hours in each of the last two years, 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. MIC values are 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.
- Forward based
  - Assess Remaining Import Capability (RIC) after step 4 relative to target expanded MIC values determined by the TPP portfolios.
  - If insufficient – expand MIC to accommodate new TPP portfolio along with existing ETC, TOR and Pre-RA Import Commitments.



# MIC Calculation Variability

- Currently dry hydro years can negatively impact MIC – potentially up to 50% of the time since only the last two years are used.
- Increasing dry hydro years have been observed potentially influenced by climate change.
- Potential increase in generation retirements is expected in California and across the West due to age of resources and desires to achieve higher environmental and renewable goals.
- Temporary decreases in MIC can almost immediately be filled in by internal resources already in the queue and if MIC values return in an year or two there will be unintended consequences for both the internal resources and MIC since now they cannot be simultaneously deliverable.

# Maximum Import Capability Stabilization

- CAISO desires to have more stable MIC values
  - Currently actual values in any one year get no protection, however they do influence the calculation in two different years.
  - Comparatively actual values for internal resources get protection of deliverability for 3 years.
- CAISO would like to continue MIC protection for interties that are actually used by LSEs and does not envision a method that will not allow MIC to decrease at all for excessively long periods.
- In order to be implemented in the 2021 RA year it requires approved BPM changes by mid June 2020.

# Stakeholder input

- A majority of stakeholders agree that the CAISO proposal is an improvement to the current methodology.
- A number of stakeholders request exploration of a purely forward looking methodology to establish MIC, with two of the proposals requesting the use of the physical capability of the interties with or without accounting for exports.
- As the CAISO has expressed before, the total of physical capability of each intertie totals about 44,400 MW and the highest net import the CAISO has ever seen is around 12,500 MW.
- The CAISO believes that maintaining unused deliverability on interties would be to the detriment of new internal resources inside the CAISO (connected close to the same nodes where imports are scheduled) and will negatively impact all CAISO ratepayers and therefore the CAISO will not be moving forward with alternate proposals that solely rely on physical capability of interties.

## Draft Final proposal for MIC stabilization

*Use the average of four hours, with no more than one hour per day, two in each one of the two years with the highest actual imports (when load is at or above 90% of that year's peak) among the past five years as baseline calculation.*

*In order to come up with the actual MIC for the applicable (future) RA year, the base line calculation above is augmented by the future year available ETC, TOR and Pre-RA Import Commitments as well as TPP portfolio (in order to assure that state and federal policy goals are accomplished).*

*Increased values must pass a simultaneous deliverability test.*

## Ranking and benefits

- The years are ranked by the sum of their two highest actual import hours (when load is at or above 90% of that year's peak)
- Maintains average calculation – in order to mitigate impacts on branch group values related to accidental system “de-rates”.
- Does not maintain unused deliverability on the interties for excessively long periods.
- It is commensurate with the time deliverability is maintained for unavailable resources internal to the CAISO.
- The CAISO is willing to explore other viable alternatives through this on going stakeholder process however any new proposals will not be implementable for RA year 2021.

# Available Import Capability Allocation Process

- Available Import Capability represents the Maximum Import Capability of an Intertie into the CAISO Balancing Authority Area in MWs, deliverable to the CAISO Balancing Authority Area based on CAISO study criteria, minus the sum in MWs of all Existing Contracts and Transmission Ownership Rights over that Intertie held by load serving entities that do not serve Load within the CAISO Balancing Authority Area.
- The CAISO allocates 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 section 40.4.6.2.1.
- 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.

## Current MIC Annual Allocation

- Current annual allocation 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.
- Potential increase in retirement of generation is expected in California and across the West due to age of resources and desires to achieve higher environmental and renewable goals.
- Current process does not facilitate long-term contracts or building of new resources since they require multi-year contracts for financing.
- 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.

## Multi-Year Allocation Process

- CAISO intends to move forward with multi-year available import capability allocation process that could facilitate long-term contracting (minimum 3-years) and facilitates multi-year contracts for resources dedicated to LSEs that serve load inside the CAISO BAA, without unduly restricting entry of new LSEs in the future.
- In order to be implemented in the 2022 RA year it requires FERC approval of new Tariff along with BPM changes by mid June 2021.
- Import capability is allocated to CAISO LSEs because those LSEs and their customers pay for the transmission system and should receive the benefits from it and therefore have the ability to select which external resources are procured and relied upon as part of RA capacity portfolios.



# Stakeholder input

- A majority of stakeholders agree with two items in current CAISO proposal:
  - Transparency
  - Change to the Remaining Import Capability allocation methodology
- The stakeholder feedback on the multi-year allocation issue has been split mainly between two groups:
  - Signed contracts dictate MIC allocations and they cannot be reduced due to changes in load forecast.
  - Load share ratio is always be the driver of MIC allocations. LSEs signing long-term contracts to take “the risk” of having more RA import contracts than their future load share ratio.
- The CAISO will therefore be presenting two alternatives in this revised straw proposal and solicits further stakeholder input on both.

# Transparency

CAISO intends to make public for each branch group (scheduling point):

- LSE holder
- Locked up amounts
- Expiration year

# Changes to the Remaining Import Capability allocation methodology

Current methodology results in an uneven effective allocation among LSEs. Example:

TIC = 500	Load share ratio	Steps 3 & 4	Load share quantity	Load Share after step 4	RIC allocation	Actual allocation MW	Effective allocation
LSE 1	53	15	$500 \cdot .53 = 265$	$.53 / .98 = .54$	$300 \cdot .54 = 162$	177	$177 / 265 = .67$
LSE 2	40	75	$500 \cdot .40 = 200$	$.40 / .98 = .41$	$300 \cdot .41 = 123$	198	$198 / 200 = .99$
LSE 3	5	10	$500 \cdot .05 = 25$	$.05 / .98 = .05$	$300 \cdot .05 = 15$	25	$25 / 25 = 1$
LSE 4	2	100	$500 \cdot .02 = 10$	-	-	100	$100 / 10 = 10$

# New proposed methodology for RIC allocation

Follows steps 1-4 as done today.

Under step 5 calculate Gross Remaining Import Capability as:

$$\text{GRIC} = \text{TIC} - \sum(\text{MWs allocated to non-eligible LSEs})$$

- then calculate the load share ration share of GRIC to eligible LSEs.
- any LSE with Step 3 & 4 allocations > then their share of GRIC will also be excluded from further allocation
- Each remaining eligible LSE will have its RIC calculated as:

$$\text{RIC} = \text{LSE share of GRIC} - \sum(\text{MIC allocations in previous steps})$$

# New proposed methodology for RIC allocation

Example:

TIC = 500	Load share ratio	Steps 3 & 4	Load share quantity	Load Share after step 4	GRIC share	RIC allocation	Actual allocation MW	Effective allocation
LSE 1	53	15	$500 \cdot .53 = 265$	$.53 / .98 = .54$	$400 \cdot .54 = 216.3$	$216 - 15 = 201.3$	216.3	$216.3 / 265 = .82$
LSE 2	40	75	$500 \cdot .40 = 200$	$.40 / .98 = .41$	$400 \cdot .41 = 163.3$	$163.3 - 75 = 88.3$	163.3	$163.3 / 200 = .82$
LSE 3	5	10	$500 \cdot .05 = 25$	$.05 / .98 = .05$	$400 \cdot .05 = 20.4$	$20.4 - 10 = 10.4$	20.4	$20.4 / 25 = .82$
LSE 4	2	100	$500 \cdot .02 = 10$	-	-	-	100	$100 / 10 = 10$

# Alternative 1 – RA contracts always respected

Allocated to Load Serving Entities (LSE):

- 80% of total MIC – three years out
- 20% of total MIC – one year out

LSE may lock their allocations through RA contracts as follows:

- 60% of their total allocation – up to 20-years
- 20% of their total allocation – up to 3 years
- 20% of their allocation on yearly bases

Three year out allocation not locked up before the year ahead process will be reallocated to all the LSEs.

LSE by LSE three year out MIC allocation at the branch group level follows steps 8-12 as available today.

## Alternative 2 – Load share ratio always respected

Allocated to Load Serving Entities (LSE):

- 75% of total MIC – three years out
- 25% of total MIC – one year out

LSE may lock their allocations through RA contracts for an undetermined length of time, however if the individual LSEs year ahead allocation falls below the previous year(s) lock up amount, then the LSE will be limited to the current year ahead allocation

- LSEs to provide CAISO with contract priority curtailment order

Three year out allocation not locked up before the year ahead process will be reallocated to all the LSEs.

LSE by LSE three year out MIC allocation at the branch group level follows steps 8-12 as available today.

# Pros and Cons for each alternative

## Alternative 1

Pros: RA contracts always respected.

Cons: Does not address high deviations/changes in load share ratio or formation of new LSEs (load migration).

## Alternative 2

Pros: Directly addresses high deviations/changes in load share ratio or formation of new LSEs (load migration).

Cons: LSEs signing multi-year contracts need to self-manage their risk of changes in load share ratio or formation of new LSEs by either being willing to sell part of their current RA portfolio or being willing to purchase additional MIC allocations from other LSEs.



## New contracts used to lock MIC allocation

- CAISO agrees with stakeholder comments that the CAISO should develop mechanisms that will ensure capacity built outside California to support CAISO load will be available and accessible to California on the same basis as RA capacity in the CAISO balancing area is available to the CAISO
- Therefore the CA ISO is proposing that new contracts used to lock MIC allocations to branch group should be associated only with either pseudo tied resources, resource specific dynamically scheduled system resource or other re source specific system resource.



California ISO

# Open discussion

# Initiative Schedule

- Post issue paper – December 3, 2019
- Stakeholder call – December 10
- Issue paper comments deadline – December 24
- Post straw proposal – January 22, 2020
- Stakeholder meeting – January 29
- Straw proposal comments deadline – February 12
- Post revised straw proposal – March 12
- Stakeholder call – March 19
- Straw proposal comments deadline – April 2
- Start BPM process for short-term MIC stabilization – April 9
- Post draft final proposal – May 21
- Stakeholder call – May 28
- Draft final proposal comments deadline – June 11
- Board of Governors Meeting – September 2020
- FERC filing after Board approval – Exact date TBD

# Next Steps

- Stakeholder comments due by end of day April 2, 2020
  - Email comments to [regionaltransmission@caiso.com](mailto:regionaltransmission@caiso.com)
  - Stakeholder comments are to be submitted within two weeks after stakeholder meetings
  - ISO will post comments and responses on website

Thank you for your participation.