

**Comments of Powerex Corp. on
Resource Adequacy Enhancements
Fourth Revised Straw Proposal**

Submitted by	Company	Date Submitted
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Powerex appreciates the opportunity to submit comments on CAISO’s March 17, 2020 Resource Adequacy Enhancements Fourth Revised Straw Proposal (“Fourth Revised Straw Proposal”).

Powerex strongly supports CAISO’s clear-eyed identification and explanation of the critical issues related to Resource Adequacy (“RA”) on the CAISO grid, and in particular the role of imports in meeting California’s RA goals. As articulated in the Fourth Straw Proposal and associated stakeholder meeting, efforts to ensure the reliability of the CAISO grid must confront two inescapable realities:

1. Resources located internal to the CAISO balancing authority area (“BAA”) are insufficient, on their own, to meet CAISO demand during the peak hours of the year; and
2. Contracts with external sellers under the Resource Adequacy program jeopardize reliability if they do not result in the forward commitment of real physical supply that is deliverable to the CAISO grid.

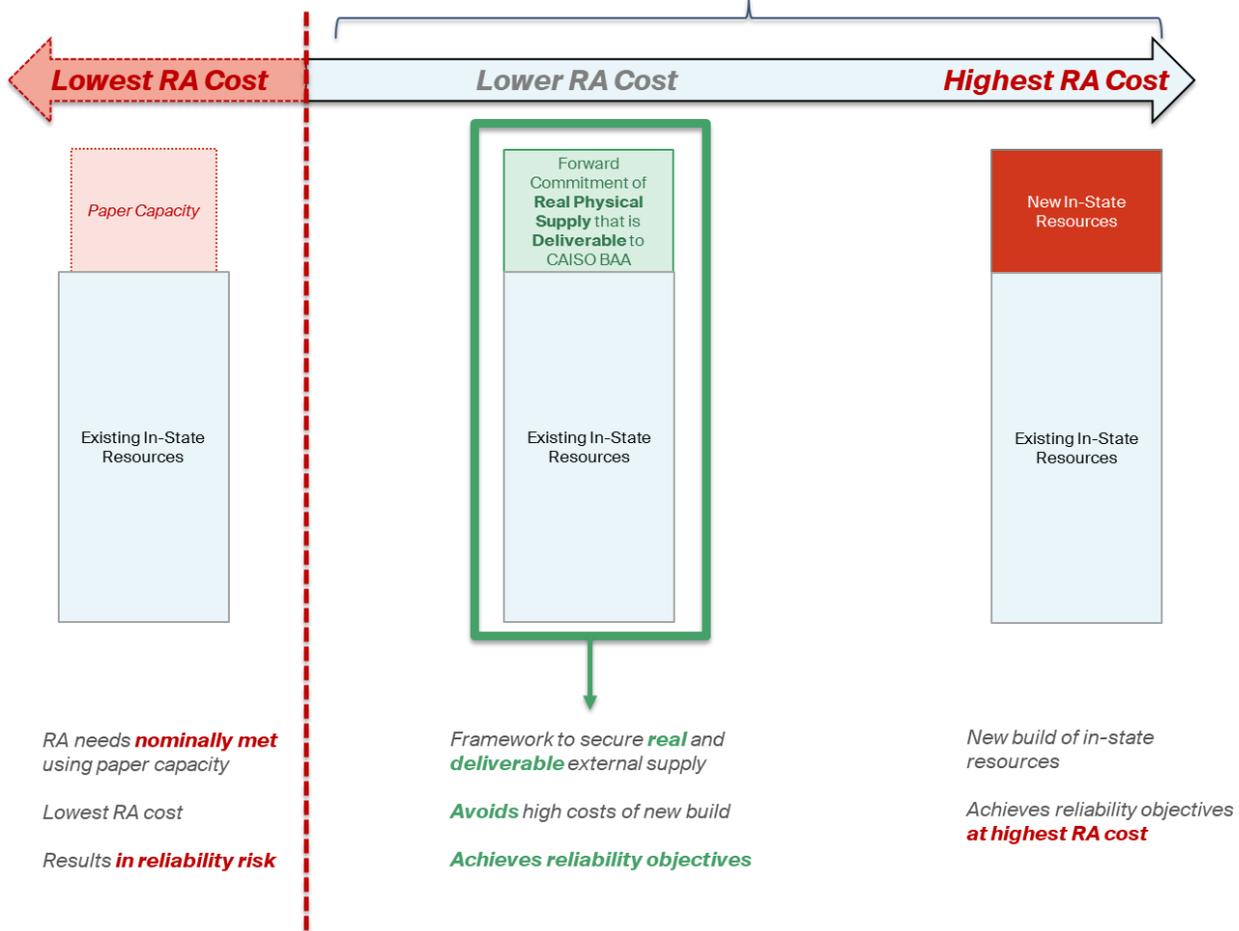
In recognition of these considerations, the CAISO in the Fourth Revised Straw Proposal has put forward robust requirements regarding RA imports. These include:

1. Required forward-looking representations and commitments at the time of the RA showing;
2. Verification of the actual availability and deliverability of committed resources in the operational timeframe; and
3. Obligations to participate in the CAISO day-ahead and real-time markets.

In this manner, the Fourth Revised Straw Proposal provides a framework for external resources to participate in meeting the CAISO’s RA needs that is highly comparable to the framework for internal resources. Powerex strongly supports these proposed measures.

Powerex anticipates that the import RA measures proposed by CAISO will continue to be opposed by certain entities, who will advance various rationales in their attempt to preserve the *status quo*. Indeed, such efforts are already underway. It will therefore be critical for the CAISO to continue to provide strong leadership and see these critical reforms through to implementation. Powerex believes it will be especially important for the CAISO to continue to articulate that implementing robust, workable requirements for RA imports will provide the greatest value to California ratepayers, as it is the only path forward that reduces the need to build costly new generation within California while not putting reliability at risk.

Effective Solutions To Reliability Challenges



It will also be important for CAISO to address the misconceptions and unfounded concerns that have been raised regarding the CAISO’s proposed measures. In particular, Powerex believes it is important to clarify two specific points, which it addresses in more detail below:

- The advanced identification of physical resources being committed under an RA contract and the requirement for Firm transmission do not limit the ability of the CAISO’s operational markets to access the most economic resources available, nor do they result in “stranding” of transmission service.
- Firm transmission service on external systems is available under FERC’s competitive, open access framework, with duration-based competition to acquire and renew reservations. Long-term Firm transmission service on the major paths from the Pacific Northwest to California is widely held by a large number of competing entities, and does not limit the ability of California LSEs to enter into RA contracts with external physical suppliers. Entities seeking Firm transmission service to support their import RA needs have numerous options available to them:
 - they can compete to acquire Firm service from an external transmission service provider (“TSP”), as existing rights come up for renewal at numerous times each year;

- they can acquire it through a bilateral purchase in the secondary transmission market; and/or
- they can enter into an RA contract with one of the many suppliers that already hold Firm transmission service.

Requiring specific resources to be identified at time of RA showing, and requiring Firm transmission, does not impede economic dispatch in CAISO’s day-ahead and real-time markets

At the March 24 workshop, some stakeholders expressed the view that requiring specific physical resources to be identified at the time of the RA showing would somehow prevent the CAISO day-ahead and/or real-time markets from dispatching the most economic resources available in each hour or interval. This claim is incorrect, and reflects a lack of understanding regarding how external TSPs determine the extent to which transmission rights are “used.”

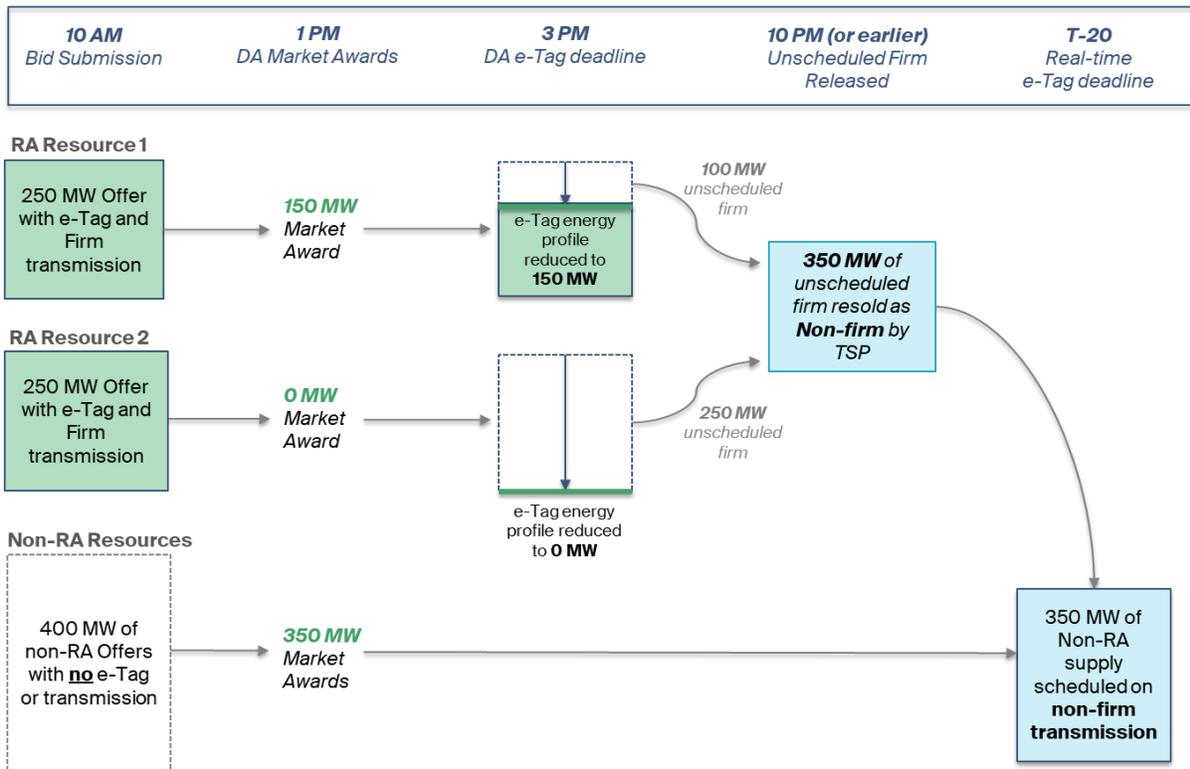
Under FERC’s open-access transmission framework, TSPs generally make available “primary” (*i.e.*, Firm and Conditional Firm) transmission rights on a particular path or segment based on the anticipated transfer capability of the pertinent transmission facilities. In addition, TSPs may sell “secondary” (*i.e.*, Non-Firm) transmission rights closer to each delivery day based on how much of the Firm rights have not actually been used. The ability to deliver energy using Non-Firm transmission rights continues to be contingent on the amount of unused Firm rights up until the scheduling deadline (*i.e.*, 20 minutes prior to the start of each delivery interval).

This leads to an important interdependency between (1) the resources that receive a market award in the CAISO day-ahead or real-time market; (2) whether or not Firm transmission rights are “used”; and (3) the quantity of Non-Firm transmission service that is made available by external TSPs. In other words, an RA resource that has arranged for Firm transmission to the CAISO boundary but does not receive a day-ahead award will not have a CAISO energy schedule that utilizes that Firm transmission. This unused Firm service will be released by the TSP as Non-Firm service, which can be purchased and used for delivery by other competing resources that *did* receive a CAISO day-ahead market award.

Consider a hypothetical scenario of a 500 MW intertie (“Intertie A”) between the CAISO and an external TSP (“TSP1”). Two generating resources have been committed under RA contracts based on the CAISO’s proposed requirements: 200 MW from resource “RA-1” and 300 MW from resource “RA-2”. On each day, prior to the day-ahead market, the RA resources must each submit an e-Tag from their generator to Intertie A, including Firm transmission on TSP1’s system. These two RA resources must also submit offers into the CAISO’s day-ahead market. Additionally, however, assume that 400 MW of offers from voluntary non-RA resources are submitted to the CAISO at Intertie A. Since these offers are not from RA resources, they do not need to identify the underlying generation resource or demonstrate transmission service at the time of submitting the offer.

Under this example, the CAISO day-ahead market would include a total of 900 MW of supply offers at Intertie A. The day-ahead market would enforce the 500 MW limit on total net imports at Intertie A. Critically, however, the day-ahead market would not need to distinguish between the offers of RA resources and the offers from non-RA resources when determining the optimal market solution or when determining market clearing prices. The illustration below shows how

the Firm transmission rights of RA resources that do not receive a day-ahead market energy award are released by TSP1 as Non-Firm service.



Note that the release of unscheduled Firm transmission reservations as Non-Firm service does not preclude the requirement for RA resources to remain available to the CAISO through the real-time market timeframe. This is because holders of Firm transmission retain their priority right to schedule energy all the way up to the e-Tag deadline. In the hypothetical example above, for instance, a non-RA seller may reduce its day-ahead award by 100 MW in the real-time market. The CAISO could then dispatch an additional 100 MW of imports from RA-1 and/or RA-2 and increase the energy profile on the previously-submitted e-Tags from these resources. Since these e-Tags included Firm transmission service, the CAISO could be confident that the additional real-time energy could actually be delivered to serve California load.

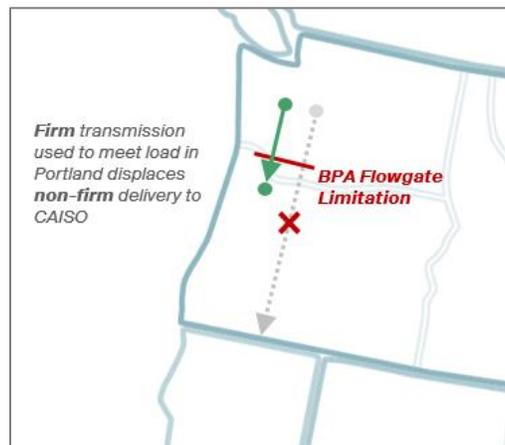
The above example highlights two key characteristics of the CAISO's proposed requirements for import RA resources:

1. The requirement to arrange delivery on Firm transmission gives the greatest possible assurance that the committed resources can actually be delivered to the CAISO grid; and
2. This requirement in no way prevents the CAISO day-ahead or real-time market from dispatching other voluntary non-RA supply offers that may be offered in the market.

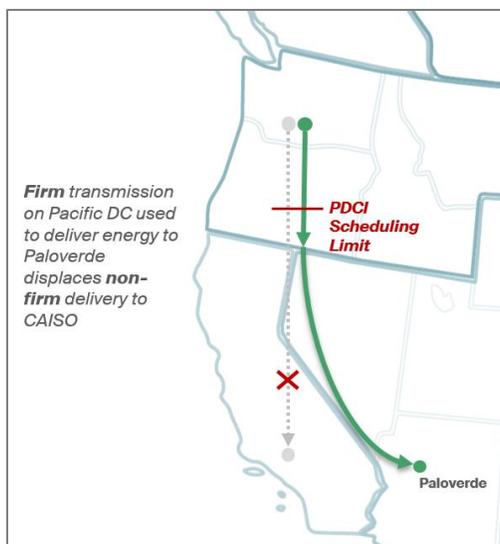
Powerex views these characteristics as highly desirable for any resource adequacy program, as they provide the CAISO the forward-looking assurance that real physical supply will be available and deliverable, but without in any way restricting or pre-determining the economic dispatch of all supply that is actually available in a given hour or day.

Finally, it is important to recognize that *not* requiring Firm transmission service for import RA contracts is to explicitly accept the consequences of deliveries on Non-Firm transmission service. The most significant consequence would be that deliveries from import RA resource can—and most certainly will—be curtailed or economically displaced when higher-priority Firm schedules are used to deliver energy to other BAAs and there is insufficient transfer capability to support all energy schedules. This can occur on *any* transmission segment that may be used either to deliver the output of RA resources to the CAISO or to deliver energy to other areas.

The illustration below shows an energy schedule to deliver the output of a Pacific Northwest RA resource to the CAISO BAA (dotted gray line) but using Non-Firm transmission service on Bonneville's primary network. A second energy schedule delivering energy to Portland (solid green line), is on Firm transmission service on Bonneville's primary network. Both schedules impact the same transmission constraint; and if total scheduled deliveries exceed that constraint, then schedules on Non-Firm service will be displaced or curtailed. In this case, the full output of the contracted RA resource in this example would not be able to be delivered to the CAISO BAA.



A second example is illustrated below. In this example, Non-Firm transmission service from Big Eddy to NOB on the PDCI is used to deliver the output of a Pacific Northwest RA resource to the CAISO BAA (dotted gray line). But this same limited transmission path is used for a delivery schedule to the Desert Southwest (solid green line) using Firm transmission service on the PDCI. If total energy schedules exceed the applicable limits of the PDCI, then schedules on Non-Firm service will be displaced or curtailed. This would result in the full contracted output of the RA resource not being able to be delivered to the CAISO BAA.



Requiring Firm transmission on external TSPs does not raise competition concerns

Certain stakeholders have argued that requiring Firm transmission on external TSP systems may reduce competition among potential sellers of RA. CAISO’s DMM commented in a concurrent CPUC proceeding on the RA program as follows:

*Firm transmission requirements for import RA resources could create competitive advantages in the RA market for holders of firm transmission service on major paths. Transparent vetting of the key features of transmission markets outside CAISO may be necessary to assess the extent to which **CAISO’s proposal would enable entities with market power in external transmission markets to exercise that market power in California’s resource adequacy capacity markets.***¹

Such arguments are misleading and baseless. The above statement presupposes, with absolutely no evidence, that there are “entities with market power in external transmission markets” in the first place. As an initial matter, external transmission service providers in the west predominantly operate under the competitive *pro forma* Open Access Transmission Tariff (“OATT”) initially put forward by FERC in Order No. 888, and modified in a series of subsequent orders. The very purpose of the OATT framework was to ensure that transmission service was provided in an open, competitive, and nondiscriminatory manner.² Even today, FERC continues to consider an affiliated transmission provider’s adoption of an OATT as evidence that a jurisdictional seller lacks market power in transmission.³

¹ Comments On Track 1 Proposals Of The Department Of Market Monitoring Of The California Independent System Operator Corporation, CPUC Rulemaking R.19-11-009 (March 6, 2020) at 6. (Emphasis added)

² *Promoting Wholesale Competition Through Open Access Non-discriminatory Transmission Services by Public Utilities: Recovery of Stranded Costs by Public Utilities and Transmitting Utilities*, Order No. 888, FERC Stats. & Regs. ¶ 31,036 at 61,636 (1996).

³ *Market-Based Rates for Wholesale Sales of Electric Energy, Capacity, and Ancillary Services by Public Utilities*, Order No. 697, 119 FERC ¶ 61,295 at P 400 (2007).

Claims of “market power in external transmission markets” are also debunked by the actual distribution of ownership of Long-Term Firm transmission reservations on the primary transmission paths between the Pacific Northwest and California. Even opponents of the CAISO’s Firm transmission requirement recognize that transmission service from John Day to COB and from Big Eddy to NOB are “generally accepted to be the constrained path[s] when moving energy south from PNW to California.”⁴ As shown below, however, Long-Term Firm transmission rights on these two constrained paths are broadly held, with approximately 21 different entities holding Long-Term Firm transmission reservations on the COI, and 9 different entities on the PDCI.



The Firm transmission reservations on external systems to both COB and NOB also significantly exceed the quantity of import RA contracts that can be accepted at those interties. As a result, there is currently ample widely-held Firm transmission service both John Day to COB and from Big Eddy to NOB to enable full utilization of CAISO’s RA Import Capability at each of those boundary points *even if the largest Firm rights-holder does not sell any RA capacity at all.*

The widely-held nature of Firm transmission service also aptly characterizes service further “upstream” of John Day to COB and Big Eddy to NOB. Transmission service to deliver energy to John Day and to Big Eddy is also provided under the FERC OATT framework, and Firm transmission rights on these upstream paths are also held by numerous entities. In addition, the upstream Firm transmission service that can support import RA contracts includes not only current Firm transmission rights specifically on the paths from Northwest supply locations to John Day or

⁴ Track 1 Proposal Of Morgan Stanley Capital Group Inc. Regarding The Scope, Schedule, And Administration Of R.19-11-009, CPUC Rulemaking R. 19-11.009 at 12 (February 28, 2020).

Big Eddy, but also Firm transmission rights on other paths on the Bonneville network that utilize the same “flow gate” transfer capability, since these rights can be “redirected” on a Firm basis to John Day and/or Big Eddy. Moreover, Bonneville continues to award new Long Term Firm service on the paths to John Day and Big Eddy, having awarded several hundred MWs of Long Term Firm service to Big Eddy as recently as late 2019.

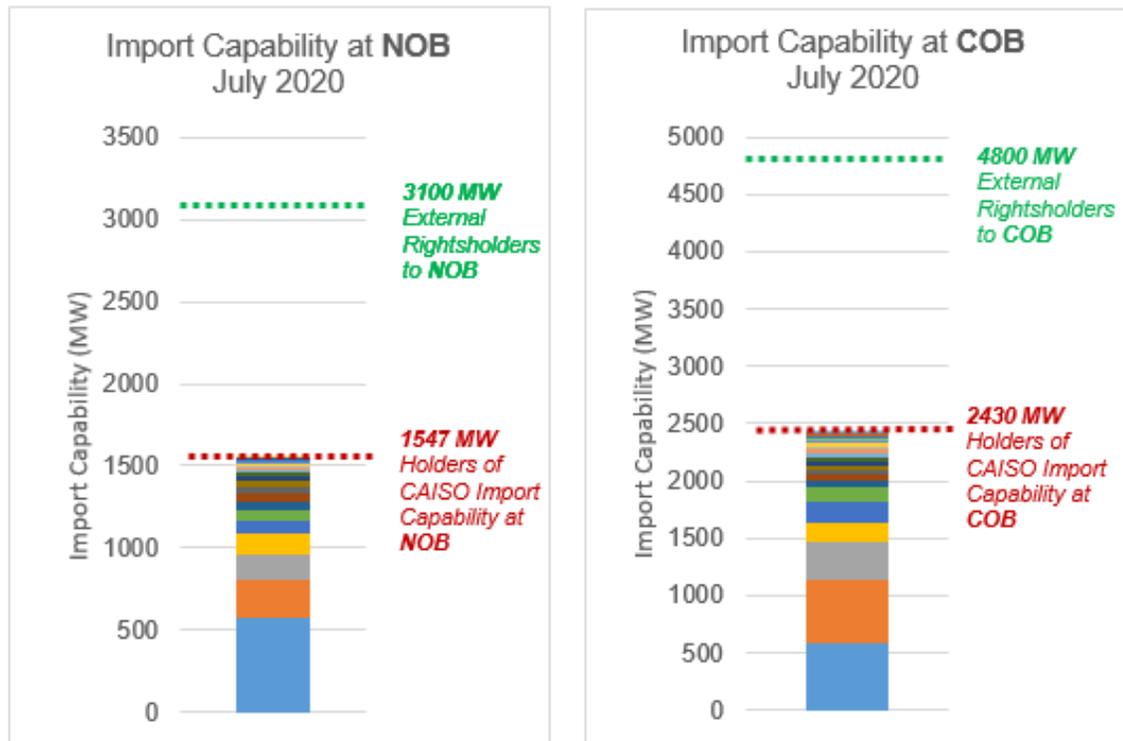
Finally, claims of market power in external transmission service ignore that acquiring Firm transmission service is subject to ongoing competition. When a TSP posts Firm available transfer capability (“ATC”), transmission customers have an opportunity to compete to acquire Firm rights, and generally do so on the basis of the duration of their commitment to pay the TSP’s rates. The sale of Long-Term Firm transmission service on sought-after transmission paths provides TSPs with certainty and stability of revenues to recover the large investments made in transmission facilities. Moreover, each time a transmission reservation expires, there is another opportunity for transmission customers to compete to secure service. This occurs even when a transmission customer has renewal rights, as these rights still require the renewing customer to commit to new service of an equal or longer duration than the next service request in the queue. The OATT therefore provides recurring opportunities for *any* transmission customer to submit a transmission request into the queue and compete to acquire transmission rights by committing to long-term service. In Powerex’s experience, renewals come up on the major paths between the Northwest and California numerous times throughout each year. There is thus ample opportunity for either a California LSE, or an external supplier, to enter the transmission queue for external transmission service and compete to acquire it.

These facts should fully allay any genuine concern regarding the competitiveness of transmission access in external systems, and expose assertions of market power in the external transmission market as devoid of credibility. Each of these facts also directly contradict the notion that a Firm transmission requirement could somehow be a “pinch point” that limits California LSEs’ options to meet their Resource Adequacy requirements,

To the contrary, the “pinch point” that actually prevents the efficient utilization of imports in the RA program is the highly inefficient, non-competitive, and exclusive allocation of the CAISO’s Resource Adequacy Maximum Import Capability (“IC”).⁵ Acquiring CAISO IC has been an absolute requirement for any import contract to be approved under California’s RA framework. But there is no competitive, open access process for entities that seek to obtain IC to support an import RA contract. Instead, the CAISO IC is allocated almost exclusively to California LSEs; it is not until the 12th step of the current 13-step process that IC can even be requested by an entity that is *not* a California LSE. Moreover, there is no effective competition between California LSEs that seek to obtain IC on the same intertie, as rationing occurs predominantly on the basis of load-ratio share. There is no requirement that a California LSE may only request IC to the extent it has already executed (or is about to execute) an import RA contract; there is also no requirement that LSEs receiving an allocation of IC actually use it, or that they release unused IC so that other entities might use it. And since IC is provided at no cost, there is no reason for a California LSE *not* to request an allocation of IC, even if they do not anticipate actually procuring import RA contracts.

⁵ The CAISO calculates the Maximum IC based on the highest historical simultaneous imports into the grid, and adjusting for transmission ownership rights.

The current IC framework provides California LSEs a free option to be the exclusive and non-bypassable purchaser of import RA contracts on the awarded share of an intertie. Each megawatt of IC that is assigned to a California LSE that does not actually use it to support an import RA contract results in a 1 MW reduction in the participation of external physical resources in California's RA program. Unlike Firm transmission under the OATT, a California LSE does not incur any cost for IC that it obtains but does not use. Unlike Firm transmission under the OATT, there is no opportunity for other LSEs that do seek to procure RA from external resources to compete to acquire additional IC.



It is worth noting that each year:

1. California's two largest LSEs receive the majority of the IC at both COB and NOB, through this non-competitive, non-open access, exclusive CAISO allocation process;
2. Substantial IC goes unused, including at COB and NOB, in both the annual and monthly RA procurement and showings processes;
3. Sales of IC to other LSEs have occurred at prices in excess of \$5/kW-month⁶, despite significant IC going unused, posing a formidable and inefficient cost barrier to more import RA; and
4. California LSEs with allocated IC are able to offer external resources RA contracts at below-market prices, without facing any competition from other LSEs seeking to acquire

⁶ 2020 Additional Bi-Lateral Transfers of Import Capability (showing PG&E sold approximately 139 MW of IC at COB for September 2020 at a price of \$5.17/kW-month). Available at: <http://www.caiso.com/Documents/2020AdditionalBi-LateralTransfersofImportCapability.pdf>.

import RA at that intertie since IC is not released and there is no effective competition to acquire it.

It is therefore the exclusive, discriminatory, non-competitive “carving up” of CAISO IC allocation—and not external Firm transmission service on external systems provided under FERC’s competitive *pro forma* OATT—that operates as a barrier to the efficient procurement of imports under California’s RA program.

Notably, several of the entities that oppose requiring Firm transmission on external transmission systems are entirely silent about the very real barriers posed by the IC requirement and allocation process. Some of these entities have even supported preserving and extending the current IC allocation framework, repeatedly opposing much-needed improvements.

These entities appear to seek a framework for import RA in which the forward commitment of transmission capability on the CAISO side—and *only* on the CAISO side—is relevant or necessary. Such a framework would render forward commitment of transmission service on external systems unnecessary, and would eliminate any RA-related business case for transmission customers to invest in procuring Firm transmission service over external systems. This would result in external transmission systems being relied upon to serve California load, but without California ratepayers making an equitable contribution to the recovery of the costs of those external facilities. Efforts to craft RA requirements so that California ratepayers can rely upon and benefit from transmission investments funded by ratepayers outside of California are a direct assault on the transmission business models and cost allocation framework of external transmission service providers operating under the FERC Open Access Transmission Tariff framework.