

**Comments of Powerex Corp. on  
Resource Adequacy Enhancements  
September 15 and 17 Working Group**

Submitted by	Company	Date Submitted
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Powerex appreciates the opportunity to submit comments on CAISO’s September 15 and 17, 2020 Resource Adequacy Enhancements Working Group (“Working Group”). Powerex continues to believe that the enhancements identified by the CAISO have the potential to achieve critical improvements to the Resource Adequacy program. In particular, the CAISO’s measures will help ensure that Import Resource Adequacy contracts result in the commitment of real physical resources that are deliverable to serve load in the CAISO balancing authority area (“BAA”).

The events of August 2020—when the CAISO BAA endured several days of emergency conditions and involuntary load curtailments—highlights the importance of implementing the CAISO’s proposed measures. ***In Powerex’s view, the single largest cause of the CAISO’s August reliability events was the vast capacity shortfall that is a direct result of the well-documented gaps in the Resource Adequacy program.*** These gaps not only result in too little capacity being procured, but also allow RA requirements to be met with contracts that are not backed by physical capacity that can be counted upon to deliver or perform when needed (*i.e.*, “paper capacity”).

Despite the self-evident urgency of addressing these issues, it is important to recognize that certain stakeholder groups—particularly California load-serving entities (“LSE”) and external marketers—benefit from a Resource Adequacy program that is primarily focused on allowing maximum participation as opposed to a program that ensures reliability through limiting that participation to real, physical supply that is reliably deliverable to the CAISO BAA. This reflects that:

- External marketers can economically benefit from participating in the program with supply that is not real and/or not deliverable (*i.e.* paper capacity), and
- California LSEs economically benefit from the lowest possible Resource Adequacy capacity prices, even if the supply they contract for through their Resource Adequacy arrangements does not perform since they are largely insulated from the reliability consequences of their forward procurement activities. For instance, if CAISO needs to shed firm load, it does so on a grid-wide basis rather than curtailing the customers of LSEs that fail to deliver energy from their RA resources. The result is that California LSEs are unsurprisingly focused on reducing the cost of complying with Resource Adequacy requirements, with the CAISO left with the responsibility of maintaining reliability.

As the entity responsible for the reliability of the CAISO grid, it is critical that CAISO ensure that the Resource Adequacy framework set out in the CAISO Tariff results in the forward commitment of real physical capacity that is sufficient to allow CAISO to operate its system reliably with a high degree of confidence. Implementing the CAISO’s proposals will be a significant step toward

achieving that objective. In particular, these proposals are crafted to maximize the participation of real physical resources in the Resource Adequacy program, while disqualifying supply that is not real, not deliverable, and/or otherwise not capable of performing when needed.

At the Working Group, two specific aspects of the CAISO's treatment of import Resource Adequacy ("Import RA") contracts were challenged, with stakeholders putting forward what Powerex believes are misinformed and/or misleading arguments. In particular, certain stakeholders continue to oppose CAISO's proposed requirements for (i) Import RA contracts to be resource-specific and (ii) Import RA to be deliverable on Firm transmission service. As discussed further below, these arguments seek to perpetuate a Resource Adequacy framework that enables external marketers to sell paper capacity contracts (and/or to double-sell capacity to multiple regions), leaving California ratepayers exposed to the types of supply disruptions that were experienced this past summer. CAISO should not be misled and, instead, should move forward with adopting robust requirements that ensure that Import RA contracts can be relied upon to meet California's reliability needs.

### **I. All Import RA Should Be Resource-Specific**

Powerex strongly supports requiring all Import RA to be resource-specific, and eliminating from the tariff any designation of Import RA from non-resource specific resources. Ultimately, Powerex believes that imposing a requirement that all Import RA contracts be backed by real, physical capacity is critical to achieving the objectives of the RA program.

At the working group meeting, a number of stakeholders propose alternatives that have the effect of "watering down" these requirements by allowing the seller of an Import RA contract to identify the resources supporting an Import RA contract as late as on a day-ahead basis. These stakeholders attempt to characterize such proposed alternatives as merely providing a mechanism under which suppliers can "substitute" a resource for the originally identified resource if it experiences an outage. While Powerex is not opposed to reasonable and well-crafted substitution rules to help address forced outages (in addition to the CAISO's unforced capacity approach), it is critical that substitution rules not be used as a vehicle to perpetuate the continued use of contracts that are not backed *by a forward commitment of real physical capacity* to meet Resource Adequacy requirements. Powerex is concerned that requests for additional flexibility to engage in substitution are more likely a guise to attempt to avoid the transparency and accountability that a forward resource-specific requirement is designed to achieve.

Powerex is also concerned by requests that CAISO modify its proposals to permit the aggregation of generation resources in different BAAs. To be clear, Powerex supports proposals to allow aggregations of resources that are part of a coordinated system in a single BAA to count as resource-specific. In practice, it would not be feasible to break generation facilities that are part of a coordinated system, such as a multi-unit hydroelectric system, into individual generation units or resources. These same considerations do not apply, however, in the case of resources that are located within separate BAAs and that are operated separately. Specifically, there is no reason why a marketer with physical resources in two different BAAs would need to aggregate such units for RA contracting purposes. Instead, the marketer could simply identify and register them as separate resource-specific RA resources. For instance, Powerex currently has resources registered with the CAISO reflecting the capability of the coordinated, multi-unit hydroelectric system owned by its parent company, BC Hydro; at the same time, Powerex also participates in

the CAISO markets with supply resources that are located in the United States that can be registered, and contracted for, separately under RA contracts.

Powerex believes that the call for virtually unfettered substitution and a broader aggregation framework would prevent this proceeding from achieving the objective of ensuring that CAISO has transparency into the specific supply arrangements backing Import RA contracts. Powerex believes that there are at least two reasons why entities may be making these arguments:

- First, to ensure that marketers continue to have the ability to sell Resource Adequacy capacity and forward energy to California LSEs in amounts that exceed the supply that they have secured on a forward basis. This could be achieved by, for instance, including spot market purchases in a portfolio under the guise of permissive substitution rules that would allow the source of Resource Adequacy supply to be nominated as late as the day prior to delivery. Such a rule would continue to allow marketers to enter Import RA contracts without making a forward commitment of real physical capacity, with the marketer instead counting on its ability to procure energy on a short-term basis to meet its commitments.
- Second, to ensure that marketers continue to have the ability to commit the same “portfolio of resources” to meet the resource adequacy requirements of multiple regions. For instance, there are multiple marketers that are known to sell Resource Adequacy capacity and/or forward firm energy to California LSEs, that also make forward firm energy commitments to utilities in the southwest. During the August heatwave, some of these marketers appear to have been reliant on day-ahead exports from the CAISO BAA to serve their forward (and day-ahead) firm energy commitments in the southwest. This strongly suggests that these entities did not have sufficient forward capacity committed to meet *both* their commitments to the CAISO BAA *and* their forward and day-ahead commitments to LSEs elsewhere in the west.

At the working group meeting, certain stakeholders tried to defend the call for broader substitution and aggregation rights by suggesting that these modifications would allow a marketer with two resources to effectively treat one resource as “backup” in case the resource supporting an Import RA contract is on outage. Powerex believes that this is a highly unrealistic scenario, as the marketer would effectively be setting aside twice the amount of capacity necessary to meet its commitment. A far more realistic scenario is that a marketer that has two 100 MW resources, for instance, will use this 200 MW to support 300 MW or 500 MW of forward commitments, effectively selling the same capacity multiple times to LSEs in the CAISO BAA and potentially also to LSEs in other BAAs. This is not substitution. To the contrary, it is an attempt to prevent CAISO from having transparency into the supply arrangements underlying Import RA contracts so that external marketers can continue to reap substantial profits by entering into Import RA contracts that are not backed by real physical supply.

## **II. Import RA Contracts Should Be Supported By Firm Transmission**

### **A. Requiring Firm Transmission From Source To Sink Is Fully Consistent With A Competitive Market For Resource Adequacy**

Powerex continues to strongly support adopting a requirement that Import RA contracts must be supported by firm transmission from “source to sink.” Allowing Import RA contracts to be backed

by non-firm transmission increases the risks that supply that is being counted on to maintain the reliability of the CAISO grid will not be available when it is most needed. This is particularly true during tight supply conditions when it is realistic to expect that key transmission paths to the CAISO will be heavily congested and only high-priority firm transmission will be assured of flowing.

Certain entities continue to claim that adopting a firm transmission requirement source to sink will impede competition. These arguments are completely without merit and should be rejected. As an initial matter, these claims are undermined by the fact that transmission rights on external systems are allocated under the Open Access Transmission Tariff (“OATT”) framework that was established by the Federal Energy Regulatory Commission over two decades ago. This framework has consistently been found to eliminate the opportunity to exercise market power through the ownership or control over transmission. Under this framework, transmission rights are allocated through an open, competitive, and non-discriminatory framework that ensures that all transmission customers have the opportunity to compete to obtain firm transmission. Transmission customers have an opportunity to compete to acquire firm transmission rights when a transmission provider first posts firm available transfer capability.

In addition, The OATT framework does not insulate transmission customers from future competition once they obtain firm transmission rights. Specifically, each time a transmission reservation expires, the OATT framework includes a process whereby other transmission customers can compete to secure firm transmission service over the path at issue, based on the duration of the commitment that they are willing to assume. To be clear, this is the case even where the existing rights holder has renewal rights, as the existing rights holder may only retain its firm rights if it commits to new service of an equal or longer duration than the next service request in the queue.

Arguments that a firm transmission requirement would undermine competition are further undermined by the fact that transmission rights are widely held on external transmission systems. For instance, as shown below, long-term firm transmission rights from John Day to COB and from Big Eddy to NOB are broadly held, with approximately 21 different entities holding firm transmission on these paths.



In short, there simply is no basis for arguing that requiring that Import RA contracts be backed by firm transmission from source to sink will impede the competitiveness of the market for resource adequacy capacity. With respect to the Bonneville primary network transmission necessary to deliver from the northwest region to John Day and Big Eddy, Powerex has previously identified that new firm transmission service has in fact been recently awarded, including 600 MW of new rights awarded in 2019. Powerex notes that customers willing to invest in firm transmission continue to be awarded new service, with Bonneville recently confirming a request for 100 MW of firm service to John Day and 125 MW of firm service to Big Eddy for a period of 5 years beginning in 2021.

**B. If CAISO Does Not Require Firm Transmission Source To Sink, Then CAISO Should Require At Least Non-Firm Monthly Transmission On Upstream Transmission Segments**

Powerex recognizes that CAISO currently is exploring whether it should modify its proposal to require firm transmission on the last transmission segment prior to delivery to the CAISO, but allow the use of monthly non-firm transmission on upstream transmission segments. If CAISO ultimately decides not to require firm transmission from source to sink, Powerex could potentially support the proposal to require firm transmission on the “last leg” and to require at least monthly non-firm (*i.e.*, 5-NM) on all other legs.

Unsurprisingly, those stakeholders that have opposed a firm transmission requirement are now raising similar concerns with CAISO’s alternative proposal to permit the use of monthly non-firm transmission service on upstream transmission segments. These entities now claim that such a

requirement would be unduly restrictive on the basis that they believe that non-firm transmission service across the Bonneville Power Administration (“BPA”) primary network is not available until the day-ahead timeline (if at all).

CAISO should not be misled by these claims, which are completely incorrect and bear no relationship to the actual availability of transmission. In reality, there is ample monthly non-firm transmission service available on a forward basis on BPA’s primary network that would be capable of supporting substantial additional Import RA commitments. For instance, on September 18, 2020, Powerex successfully purchased 25 MW of monthly non-firm BPA transmission from the Mid-C region to JohnDay for the months of November 2020 through September 2021, prior to the deadline for Annual RA showings. In fact, Powerex’s analysis indicates there is currently **well over 3,000 MW of monthly non-firm transmission available for immediate purchase from the Mid-C region to JohnDay or BigEddy during the summer months of 2021.**

Figure 1 below depict the quantity of non-firm transmission that was available from Mid-C to Big Eddy and John Day as of October 1, 2020.<sup>1</sup>

*Figure 1: Powerex Calculation of Availability of Monthly Non-Firm on BPA Primary Network*

Path	Nov-20	Dec-20	Jan-21	Feb-21	Mar-21	Apr-21	May-21	Jun-21	Jul-21	Aug-21	Sep-21
MidCRemote to BigEddy	3538	2231	3228	3222	5741	5932	6174	5592	3282	4071	4345
MidCRemote to JohnDay	3828	2387	3453	3447	7240	6169	6649	5703	3530	4378	4549

The plain reality is that there is ample monthly non-firm transmission that is available to support Import RA contracts. Those arguing against such a requirement are simply seeking to preserve their ability to extract additional profits from Resource Adequacy sales by making minimal investments in the physical capacity and transmission necessary to support delivery to the CAISO. In effect, these entities wish to continue to have the option of only seeking last minute, lower-priority transmission service for the specific hours that those entities have actually received an energy award in the day-ahead or real-time markets.

**C. Curtailments Associated With The Use Of Non-Firm Must Be Taken Into Account When Calculating Unforced Capacity Values**

Powerex agrees with CAISO that if non-firm transmission is permitted on some upstream segments, curtailments of non-firm transmission should be taken into account when determining the unforced capacity (“UCAP”) value for the relevant Scheduling Coordinator. The CAISO’s proposal to shift to the use of UCAP to determine the amount of capacity that a supplier can provide is critical to the objective of ensuring that the Resource Adequacy program results in the forward commitment of sufficient capacity to allow CAISO to reliably operate its system. More specifically, the use of UCAP will help ensure that suppliers are only permitted to sell Resource Adequacy in an amount that they can actually be counted upon to provide.

<sup>1</sup> Appendix A to these comments provides an overview of how the quantity of monthly non-firm transmission was calculated.

Powerex believes, however, that calculating the UCAP value for import RA based on average performance would be imprudent and would only serve to increase the reliability risks associated with reliance on non-firm transmission. It is important to recognize that curtailments to non-firm transmission—unlike forced outages—are not random events. To the contrary, curtailments to non-firm transmission are predictable and correlate with the need to move power. As a practical matter, this means that non-firm transmission is most likely to be curtailed during tight supply conditions when CAISO is most in need of this capacity and the risks of a reliability event are at their highest. When the supply associated with non-firm transmission fails to materialize during these periods, the result may be that CAISO is not able to reliably operate its system as was the case during this past summer.

In order to reduce the reliability risks associated with reliance on non-firm, Powerex believes that the UCAP value for Import RA suppliers should be de-rated based on the worst performance during peak periods. This will ensure that Import RA suppliers are not able to sell capacity in excess of the amount that can actually be counted on to be deliverable during peak periods. The objective of the resource adequacy program is to ensure that there is sufficient real physical capacity committed on a forward basis to allow CAISO to reliably operate in peak periods. Allowing marketers to sell Import RA in amounts that are more likely than not to be available during peak periods is fundamentally inconsistent with the objective of the resource adequacy program and would endanger the reliability of the CAISO grid.

## Appendix A

Powerex understands the Bonneville Power Administration (“BPA”) offers monthly point-to-point (“PTP”) transmission service for durations of up to 364 days. Bonneville evaluates monthly PTP requests by assessing the impact of the requested point of receipt/point of delivery (“POR/POD”) combination on its internal flow-based constraints (i.e., “flowgates”) based on a defined set of shift factors. As further described below, Powerex used a representative POR of “MIDCRemote” to assess the current availability to BigEddy and JohnDay as described in the steps below. Powerex believes that the availability from other source points in the Mid-C region is likely to be similar to the values below.

### **Step 1: Retrieve Shift Factors for MIDCRemote to JohnDay and BigEddy**

BPA’s transmission offerings for a particular POR/POD combination depend on the impact of that transmission path on its network flowgates. BPA provides an excel tool that allows a user to evaluate the power transfer distribution factors (i.e., shift factors) for a given POR/POD combination. Using this tool, Powerex evaluated the shift factors for a transmission request from MIDCREMOTE to both BigEddy and JohnDay:

*Figure 1: Shift Factors*

	MIDCREMOTE	MIDCREMOTE
	BIGEDDY	JOHNDAY
CROSS CASCADES NORTH E>W	16.85%	15.75%
NORTH OF HANFORD N>S	57.49%	58.57%
NORTH OF JOHN DAY N>S	74.02%	74.58%
PAUL TO ALLSTON N>S	13.79%	12.82%
RAVER TO PAUL N>S	10.46%	9.68%
SOUTH OF ALLSTON N>S	17.12%	15.92%
WEST OF JOHN DAY E>W	51.21%	0.00%
WEST OF SLATT E>W	18.18%	21.01%
WEST OF LOWER MONUMENTAL E>W	4.33%	4.48%
WEST OF MCNARY E>W	17.10%	18.53%

[https://www.bpa.gov/transmission/Reports/TransmissionAvailability/Documents/STPTDF\\_Calculator\\_Original.xlsx](https://www.bpa.gov/transmission/Reports/TransmissionAvailability/Documents/STPTDF_Calculator_Original.xlsx)



**Step 2: Determine Non-firm ATC on Relevant BPA Network Flowgates**

BPA publishes non-firm available transfer capability (“ATC”) for each of its network flowgates. As of the morning of October 1, 2020, Powerex retrieved the relevant ATC values from BPA’s OASIS:

*Figure 2: Non-firm ATC on key BPA Flowgates (retrieved Oct 1, 2020)*

Path	Nov-20	Dec-20	Jan-21	Feb-21	Mar-21	Apr-21	May-21	Jun-21	Jul-21	Aug-21	Sep-21
CROSS CASCADES NORTH E>W	603	376	544	543	2580	4170	4395	4928	4496	4618	4624
NORTH OF HANFORD N>S	7034	6816	6601	6601	5656	4755	4944	4833	4022	3870	3965
NORTH OF JOHN DAY N>S	6571	6338	6249	6250	5400	4601	4959	4254	3212	3562	3393
PAUL TO ALLSTON N>S	3375	3303	3331	3332	3049	2717	2778	2334	2047	4621	2126
RAVERTO PAUL N>S	1212	1277	1169	1169	1164	1193	1286	973	629	815	792
SOUTH OF ALLSTON N>S	1878	1782	1824	1823	1565	1338	1322	1080	562	697	744
WEST OF LOWER MONUMENTAL E>W	2684	2665	2636	2636	2634	2502	2603	2591	2134	2982	2740
WEST OF JOHN DAY E>W	2949	2868	2721	2698	2940	3038	3162	2864	2874	2533	2583
WEST OF MCNARY E>W	2982	2982	3014	3014	2791	2615	2632	2220	1983	2867	2609
WEST OF SLATT E>W	3181	3172	2897	2897	2647	2225	2376	1867	1574	2564	2353

<https://www.oasis.oati.com/bpat/index.html>

### **Step 3: Calculating Availability**

Using the non-firm ATC for each flowgate and the relevant shift factors, Powerex estimated the availability of monthly non-firm transmission on each path by:

- (a) Dividing the flowgate ATC by the relevant shift factor to determine the maximum request that each relevant flowgate could accommodate; and
- (b) Identifying the flowgate that is the most limiting (*i.e.*, the lowest) for each month.

*Powerex Calculation of Availability from MIDCRemote to BigEddy*

Path	Nov-20	Dec-20	Jan-21	Feb-21	Mar-21	Apr-21	May-21	Jun-21	Jul-21	Aug-21	Sep-21
CROSS CASCADES NORTH E>W	3578	2231	3228	3222	15311	24747	26083	29246	26682	27406	27442
NORTH OF HANFORD N>S	12235	11855	11481	11481	9838	8271	8599	8406	6995	6731	6896
NORTH OF JOHN DAY N>S	8877	8562	8442	8443	7295	6215	6699	5747	4339	4812	4583
PAUL TO ALLSTON N>S	24474	23952	24155	24162	22110	19702	20145	16925	14844	33509	15416
RAVERTO PAUL N>S	11586	12208	11175	11175	11128	11405	12294	9302	6013	7791	7571
SOUTH OF ALLSTON N>S	10969	10408	10654	10648	9141	7815	7721	6308	3282	4071	4345
WEST OF LOWER MONUMENTAL E>W	61986	61547	60877	60877	60831	57782	60115	59838	49284	68868	63279
WEST OF JOHN DAY E>W	5758	5600	5313	5268	5741	5932	6174	5592	5612	4946	5043
WEST OF MCNARY E>W	17438	17438	17625	17625	16321	15292	15391	12982	11596	16766	15257
WEST OF SLATT E>W	17497	17447	15935	15935	14559	12238	13069	10269	8657	14103	12942
<b>5-NM Availability MIDCREMOTE to BIGEDDY</b>	<b>3578</b>	<b>2231</b>	<b>3228</b>	<b>3222</b>	<b>5741</b>	<b>5932</b>	<b>6174</b>	<b>5592</b>	<b>3282</b>	<b>4071</b>	<b>4345</b>

*Powerex Calculation of Availability from MIDCRemote to JohnDay*

Path	Nov-20	Dec-20	Jan-21	Feb-21	Mar-21	Apr-21	May-21	Jun-21	Jul-21	Aug-21	Sep-21
CROSS CASCADES NORTHE>W	3828	2387	3453	3447	16380	26476	27904	31288	28546	29320	29358
NORTH OF HANFORD N>S	12009	11637	11270	11270	9656	8118	8441	8251	6866	6607	6769
NORTH OF JOHN DAY N>S	8810	8498	8378	8380	7240	6169	6649	5703	4306	4776	4549
PAUL TO ALLSTON N>S	26326	25764	25982	25990	23783	21193	21669	18205	15967	36045	16583
RAVERTO PAUL N>S	12520	13192	12076	12076	12024	12324	13285	10051	6497	8419	8181
SOUTH OF ALLSTON N>S	11796	11193	11457	11451	9830	8404	8304	6783	3530	4378	4673
WEST OF LOWER MONUMENTAL E>W	59910	59486	58839	58839	58794	55848	58102	57834	47633	66562	61160
WEST OF MCNARY E>W	16092	16092	16265	16265	15062	14112	14203	11980	10701	15472	14079
WEST OF SLATT E>W	15140	15097	13788	13788	12598	10590	11308	8886	7491	12203	11199
<b>5-NM Availability MIDCREMOTE to JOHNDAY</b>	<b>3828</b>	<b>2387</b>	<b>3453</b>	<b>3447</b>	<b>7240</b>	<b>6169</b>	<b>6649</b>	<b>5703</b>	<b>3530</b>	<b>4378</b>	<b>4549</b>