



Stakeholder Comments Template

Resource Adequacy Enhancements

This template has been created for submission of stakeholder comments on the Resource Adequacy Enhancements fifth revised straw proposal that was published on July 7, 2020. The proposal, stakeholder meeting presentation, and other information related to this initiative may be found on the initiative webpage at:

<http://www.caiso.com/StakeholderProcesses/Resource-Adequacy-Enhancements>

Upon completion of this template, please submit it to initiativecomments@caiso.com. Submissions are requested by close of business on **August 7, 2020**.

Submitted by	Organization	Date Submitted
<i>Steve Greenleaf (916) 802-5420</i>	<i>Brookfield Renewable Trading and Marketing LP</i>	<i>August 7, 2020</i>

Please provide your organization's overall position on the RA Enhancements fifth revised straw proposal:

- Support
- Support w/ caveats
- Oppose
- Oppose w/ caveats
- No position

Please provide your organization's comments on the following issues and questions.

1. System Resource Adequacy

Please provide your organization's feedback on the System Resource Adequacy topic as described in section 4.1. Please explain your rationale and include examples if applicable.

- a. Please provide your organization's feedback on the Determining System RA Requirements topic as described in section 4.1.1. Please explain your rationale and include examples if applicable.
- b. Please provide your organization's feedback on the Unforced Capacity Evaluations topic as described in section 4.1.2. Please explain your rationale and include examples if applicable.

Brookfield Renewable Trading and Marketing LP (Brookfield Renewable) continues to support the CAISO's proposal to transition to an unforced capacity RA regime and agrees that such a regime will support the procurement of reliable resources to provide RA and will permit the CAISO to eliminate, or reduce reliance on, the existing RA availability incentive mechanism (RAAIM) and the related complex resource substitution rules.

- i. Please provide your organization's feedback on whether the ISO should establish a dead band around a resource's UCAP value given the associated benefits and burdens, as described in section 4.1.2. Please explain your rationale and include examples if applicable.

Brookfield Renewable has no comments on this topic at this time.

- ii. Please provide your organization's feedback on Option 1 and Option 2 for calculating UCAP for new resources without three full years of operating history, as described in section 4.1.2. Please explain your rationale and include examples if applicable.

Brookfield Renewable has no comments on this topic at this time.

- iii. Please provide your organization's feedback on the ISO's approach to use the historical availability during the RAAIM hours for years prior to 2019 and the historical availability during the 20% tightest supply cushion hours in years 2019 and beyond for hydro resources, as described in section 4.1.2. Please explain whether this approach is necessary or preferred to the standard UCAP calculation to reflect hydro availability.

Brookfield Renewable is still in the process of assessing both the CAISO's standard UCAP methodology and its proposed hydro UCAP methodology. Brookfield Renewable plans to submit separate, more detailed, comments later in the process. Based on its very preliminary assessment, Brookfield Renewable believes that it may be appropriate to establish and/or permit application of different UCAP methodologies for hydro with storage and run-of-river hydro. Brookfield Renewable also notes that while, as acknowledged by the CAISO, the CPUC recently adopted a RA qualifying capacity methodology for hydro that utilizes a weighting of exceedance values in order to factor in years with low hydro production, use of that methodology is voluntary. Similarly, Brookfield Renewable recommends that the CAISO permit hydro resources to choose the methodology that best fits their historic availability. With respect to the CAISO's proposed hydro methodology, Brookfield Renewable believes that use of a resource's availability during the RAAIM hours for years prior to 2019 is a reasonable proxy for availability until the CAISO can develop a full data set based on the 20% tightest supply cushion hours.

- iv. Please provide your organization's feedback on the modifications for UCAP counting rules for storage resources as described in section 4.1.2. Please explain your rationale and include examples if applicable.

Brookfield Renewable has no comments on this topic at this time.

- c. Please provide your organization's feedback on the System RA Showing and Sufficiency Testing topic as described in section 4.1.3. Please explain your rationale and include examples if applicable.

Brookfield Renewable has no comments on this topic at this time.

- d. Please provide your organization's feedback on the Must Offer Obligation and Bid Insertion Modifications topic as described in section 4.1.4. Please explain your rationale and include examples if applicable.

Brookfield Renewable has no comments on this topic at this time.

- i. Please provide your organization's feedback on generally defining variations to the must offer obligations and bid insertion into the day-ahead market based on resources type, as described in Table 12 in section 4.1.4. Please explain your rationale and include examples if applicable.
- e. Please provide your organization's feedback on the Planned Outage Process Enhancements topic as described in section 4.1.5. Please explain your rationale and include examples if applicable.

Brookfield Renewable has no comments on this topic at this time.

- f. Please provide your organization's feedback on the RA Import Requirements topic as described in section 4.1.6. Please explain your rationale and include examples if applicable.

Brookfield Renewable opposes certain elements on the CAISO's import RA proposal. Brookfield Renewable recommends that any new import RA rules be balanced and not adversely – and unnecessarily – impact market liquidity. Brookfield Renewable recommends a blended approach where load-serving entities (LSEs) can continue to rely on a suite of products to satisfy their RA obligations while providing the CAISO with the confidence that supply will be available when needed. Specifically, Brookfield Renewable does not support the CAISO's proposal to prohibit firm energy contracts from counting as import RA resources and to require firm transmission from source to sink. Brookfield strongly supports the CAISO's option 2, which proposes that import RA suppliers only need demonstrate a firm transmission leg on the last leg into the CAISO BAA.

Use of Firm Energy Contracts

As previously stated, with respect to firm energy contracts, Brookfield Renewable recommends that Western System Power Pool (WSPP) Schedule C firm energy contracts – which are backed by operating reserves – continue to count as import RA resources (in contrast WSPP Schedule B contracts are resource-specific and thus unit contingent). WSPP Schedule C contracts are a reliable source of RA and are more reliable than buying RA from a single generator because they are firm and have liquidated damages provisions, which means that if the initial supply source of the firm energy goes offline, the seller must replace that capacity or face penalties.

In contrast, an RA contract with a single generator is less reliable because if the generator is forced out, it may be unwilling or unable to replace any related energy on an hourly basis. California LSEs and import RA suppliers have successfully used these contracts to satisfy their RA commitments and deliver firm supply to California. A strict prohibition on the use of these contracts to supply RA would reduce supply and liquidity in the market, which could unnecessarily increase import RA prices and costs and may exacerbate concerns about system-level market power. As with many aspects of the RA program (e.g., use of energy- or use-limited resources consistent with the maximum cumulative capacity (MCC) buckets), use of a diversified portfolio of resources is necessary and appropriate both to ensure reliability at reasonable prices. Energy contracts imported at the CAISO interties are an important element and, based on the CPUC's analysis, represent a significant amount of the existing import RA. At a minimum, firm energy contract should be allowed to satisfy a portion of an LSE's RA requirements so long as the energy is not sourced from within the CAISO and the source is identified in the day-ahead timeframe via an E-tag.

In addition, and once again as previously stated, today, LSEs and import RA suppliers use WSPP Schedule C firm energy contracts to satisfy both firm RA and renewable/low-carbon energy requirements. Prohibiting firm energy contracts from counting as RA will increase procurement costs, increase the contracting burden on parties, and will likely strand existing contract value (or necessitate a burdensome grandfathering regime). Relying on the very liquid market for these products (WSPP Schedule C) is not a risk and is a cost-effective approach to ensuring California has adequate access to firm supply. The CAISO and certain stakeholders have at times referred to the capacity market rules in place in the Eastern ISOs/RTOs. However, an important consideration is that these markets rely on centralized capacity markets wherein market participants – both load-serving entities and suppliers – have access to a fairly liquid source of capacity and the rules between regions are more easily coordinated. In contrast, the LSEs in California and import RA suppliers have traditionally – and successfully – relied upon an industry-standardized product that is traded across the CAISO and bilateral markets. Restricting use of that existing RA product would reduce import RA supply and while the CAISO states that LSEs could still use firm energy contracts for energy hedging purposes, unbundling the RA and energy attributes would unnecessarily increase costs.

Firm Transmission Requirement

Similar to the proposed prohibition on firm energy contracts counting as RA, Brookfield Renewable continues to believe that a source-to-sink firm transmission requirement is unnecessary and will limit the number of market participants able to provide import RA. Brookfield Renewable, as an import RA supplier that possesses certain firm transmission rights to the California border (NOB) is concerned that a full source-to-sink firm transmission requirement would unnecessarily restrict suppliers who have firm transmission rights to the California border from being eligible to sell import RA. It is Brookfield Renewable's experience that forward (T-45 or prior) procurement of firm transmission across the Pacific Northwest and Desert

Southwest transmission systems is challenging since much of the transmission capacity is only made available closer to the operating day, after native load requirements have been assessed and the capacity released. Moreover, in more highly meshed networks like the Bonneville Power Administration's (BPA's) transmission system, firm transmission is generally made available along multiple paths or flowgates closer to or in the operating timeframe (and thus is typically not a delivery constraint) whereas the direct paths to California are more subscribed. Thus, a full source-to-sink requirement in the T-45 or earlier timeframe is unnecessary and would limit participation in the import RA market.

Based on the above, Brookfield Renewable strongly supports the CAISO's consideration of an alternative framework whereby firm transmission service would, as stated by the CAISO, only be required on the "last line of interest" to the CAISO boundary, i.e. the last leg. Brookfield Renewable agrees with the CAISO that requiring firm transmission service only on the last line of interest would allow the northern part of BPA's network to remain flexible and open and where short-term firm and/or non-firm transmission service arrangements can be arranged. Brookfield Renewable believes that requiring firm transmission service on only the last line of interest to the CAISO BAA is feasible, will not adversely affect the dependability and reliability of RA imports, and is consistent with the way transmission service is procured and secured on the northern portions of the BPA system as well as on other transmission systems in the West. Brookfield Renewable supports up-front identification of these last lines of interest so that participants can have certainty with respect to any established firm transmission requirements. Brookfield Renewable also supports further examination and discussion by the CAISO and stakeholders of the various levels of FERC open access transmission tariff (OATT) based firm and non-firm transmission service and what should qualify to support import RA service.

Brookfield Renewable also supports the CAISO's consideration of no longer requiring that firm transmission service be procured on a month-ahead basis - so as not to constrain the market and restrict intra-month buying and selling opportunities - and to allow firm transmission service to be procured up until the day-ahead market, where the firm transmission service is demonstrated via an e-Tag in the day-ahead market, by no later than 3:00 PM Pacific Time, including a day-ahead transmission profile that demonstrates firm transmission on the last line of interest to the CAISO border.

- i. Please provide your organization's feedback on the issue of whether firm transmission service on the last line of interest to the CAISO BAA will ensure reliability and is feasible, or whether the CAISO should require point-to-point, source to sink firm transmission service as originally proposed, as described in section 4.1.6 page 68. Please explain your rationale and include examples if applicable.

See above comments.

- ii. Please provide your organization's feedback on other BAA's systems bordering the CAISO and whether such a "last line of interest" proposal

is feasible and would effectively support RA import capacity dependability and deliverability, as described in section 4.1.6 page 68. Please explain your rationale and include examples if applicable.

See above comments.

- iii. Please provide your organization's feedback on whether a non-compliance penalty or other enforcement actions are necessary if delivery is not made under firm transmission service, as described in section 4.1.6 page 69. Please explain your rationale and include examples if applicable.

Brookfield Renewable supports establishing clear ex ante tariff standards and requirements. Consistent with the CAISO's proposed UCAP construct, rather than imposing a non-compliance penalty or taking other enforcement actions if delivery is not made under firm transmission service and is curtailed, Brookfield Renewable supports consideration of a requirement for import RA suppliers to submit a forced outage, which would then impact their going-forward UCAP values.

- iv. Please provide your organization's feedback on how to convey the last line of interest, as described in section 4.1.6 page 69. Please explain your rationale and include examples if applicable.

Brookfield Renewable supports consideration as the "last lines of interest" those identified in the CAISO document, "Full Network model (FNM) Reference Document for Intertie Constraint (ITC) and Branch Group (BG) Information." Brookfield also suggests that the CAISO ensure that such last lines of interest align with those identified and used in the maximum import capability (MIC) allocation process. Brookfield Renewable suggests that the last line of interest be listed in supply plans provided by import RA suppliers.

- v. Please provide your organization's feedback on the options proposed in section 4.1.6 and any other potential mechanisms that would best ensure RA imports are dependable and deliverable if the CAISO were to adopt, as an alternative, a "last line of interest" firm transmission service requirement. Please explain your rationale and include examples if applicable.

See above comments.

- g. Please provide your organization's feedback on the Operationalizing Storage Resources topic as described in section 4.1.7. Please explain your rationale and include examples if applicable.

Brookfield Renewable has no comments on this topic at this time.

2. Flexible Resource Adequacy

Please provide your organization's feedback on the Flexible Resource Adequacy topic as described in section 4.2. Please explain your rationale and include examples if applicable.

Brookfield Renewable has no comments on this topic at this time. Brookfield Renewable understands that it is the CAISO's intent to align the flexible RA requirements and product with those developed in its day-ahead markets enhancements initiative.

3. Local Resource Adequacy

Please provide your organization's feedback on the Local Resource Adequacy topic as described in section 4.3. Please explain your rationale and include examples if applicable.

Brookfield Renewable has no comments on this topic at this time.

- a. Please provide your organization's feedback on the UCAP in Local RA Studies topic as described in section 4.3.1. Please explain your rationale and include examples if applicable.

4. Backstop Capacity Procurement Provisions

Please provide your organization's feedback on the Backstop Capacity Procurement Provisions topic as described in section 4.4. Please explain your rationale and include examples if applicable.

Brookfield Renewable has no comments on this topic at this time.

- a. Please provide your organization's feedback on the Capacity Procurement Mechanism Modifications topic as described in section 4.4.2. Please explain your rationale and include examples if applicable.
 - b. Please provide your organization's feedback on the Making UCAP Designations topic as described in section 4.4.3. Please explain your rationale and include examples if applicable.
 - c. Please provide your organization's feedback on the Reliability Must-Run Modifications topic as described in section 4.4.4. Please explain your rationale and include examples if applicable.
 - i. Please provide your organization's feedback on an appropriate availability incentive design to apply to RMR resources after the removal of the RAIM tool, as described in section 4.4.4. Please explain your rationale and include examples if applicable.
 - d. Please provide your organization's feedback on the UCAP Deficiency Tool topic as described in section 4.4.5. Please explain your rationale and include examples if applicable.
5. Please provide your organization's feedback on the implementation plan, including the proposed phases, the order these policies must roll out, and the feasibility of the proposed implementation schedule, as described in section 5. Please explain your rationale and include examples if applicable.

Brookfield Renewable has no comments on this topic at this time.

6. Please provide your organization's feedback on the proposed decisional classification for this initiative as described in section 6. Please explain your rationale and include examples if applicable.

[Brookfield Renewable has no comments on this topic at this time.](#)

Additional comments

Please offer any other feedback your organization would like to provide on the Resource Adequacy Enhancements fifth revised straw proposal.

[Brookfield Renewable has no additional comments at this time.](#)