



## Stakeholder Comments Template

### RA Enhancements

This template has been created for submission of stakeholder comments on the straw proposal part two that was published on February 28. The paper, Stakeholder meeting presentation, and other information related to this initiative may be found on the initiative webpage at:

<http://www.caiso.com/informed/Pages/StakeholderProcesses/ResourceAdequacyEnhancements.aspx>

Upon completion of this template, please submit it to [initiativecomments@caiso.com](mailto:initiativecomments@caiso.com). Submissions are requested by close of business on March 20.

Submitted by	Organization	Date Submitted
<i>(submitter name and phone number)</i> John Sterling 602-414-9326	<i>(organization name)</i> First Solar, Inc.	<i>(date)</i> March 20, 2019

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

#### 1. Review of counting rules in other ISO/RTO's

Please provide your organization's feedback on this topic, described in Section 4.1. Please explain your rationale and include examples if applicable.

First Solar does not have a comment at this time.

#### 2. Capacity counting and availability best practices

Please provide your organization's feedback on this topic, described in section 4.2. Please explain your rationale and include examples if applicable.

First Solar does not have a comment at this time.

### 3. RA counting rules and assessment enhancements

Please provide your organization's feedback on the following sub-section topics, described in section 4.3.

Please indicate any analysis and data review that your organization believes would be helpful to review on the this topic. Please provide details and explain your rationale for the type of data and analysis that you suggest.

**a.** Calculating NQC, UCAP, and EFC values topic, described in section 4.3.1.

First Solar supports the contention that the CAISO should “incentiviz[e] upfront procurement of reliable resources rather than creating incentives to procure the cheapest RA capacity regardless of a resource’s operational reliability.” To that end, First Solar believes that this logic should be extended to the ability of each RA resource to dispatch in a flexible manner. Reliance upon units that are inflexible – be it in long lead times for commitment and de-commitment, high Pmins, and/or slow ramp rates – will allow the proverbial “duck curve” to persist as an unnecessary impediment to additional renewable penetration. While it will be important to differentiate a unit’s UCAP from its EFC, it may be necessary to strengthen that calculation. For example, important metrics to consider include:

- Percentage of resource NQC capable of ramping from an offline state in 3 hours
- Percentage of resource NQC capable of ramping from its Pmin in 1 and/or 3 hours

These or similar metrics could form the basis of a California-specific UCAP calculation that prioritizes flexibility in RA resources.

**b.** Determining System, Local, and Flexible RA requirements topic, described in section 4.3.2. Please explain your rationale and include examples if applicable.

With a goal of decarbonizing the California grid, it will be imperative to prioritize the addition of flexible RA first and foremost. However, First Solar believes that a simple focus on RA that can ramp over a 3 hour window, presumably associated with evening ramp needs, does not fully recognize the flexibility requirements of the grid. Specifically, what is needed are units capable of being committed more flexibly to begin with, and that have much wider operating ranges (from Pmin to NQC). Increased flexibility in the middle of the day would allow for more renewable resources to meet load. To achieve such increased flexibility, CAISO should transition towards requiring that all RA resources – including renewables – be capable of meeting minimum flexible dispatch criteria.

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- c. RA showings, supply plans, and assessments topic, described in section 4.3.3. Please explain your rationale and include examples if applicable.

First Solar does not have a comment at this time.

- d. Backstop capacity procurement topic, described in section 4.3.4. Please explain your rationale and include examples if applicable.

First Solar does not have a comment at this time.

**4. Review of RA import capability provisions**

Please provide your organization’s feedback on the following sub-section topics, described in section 4.4.

Please indicate any analysis and data review that your organization believes would be helpful to review on the this topic. Please provide details and explain your rationale for the type of data and analysis that you suggest.

- a. Maximum Import Capability Calculation review, described in section 4.4.1. Please explain your rationale and include examples if applicable.

First Solar does not have a comment at this time.

- b. Available Import Capability Allocation Rrocess review, described in section 4.4.2. Please explain your rationale and include examples if applicable.

First Solar does not have a comment at this time.

**Additional comments**

Please offer any other feedback your organization would like to provide on the RA Enhancements straw proposal – part two.

It is unclear at this time how a hybrid resource – e.g., PV solar and storage (“PVS”) coupled together as a single resource ID – would count towards RA capacity. It is our

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understanding that CAISO staff would prefer solar and storage at the same site to be treated as separate resources; however, developers are incentivized from a tax perspective to seek treatment as a single integrated resource. To capture the value of applicable tax incentives for CA ratepayers, the market should be designed to recognize the RA benefits of integrated solar and storage plants. The CAISO should endeavor to provide guidance on how to calculate the NQC of such an asset. Specifically, we would like to understand how the CAISO would calculate the RA value of a project that is capable of maintaining its point of interconnect capacity for 3 hours (between solar and storage dispatch).