Stakeholder Comments Template

Subject: Regional Resource Adequacy Initiative – Working Group, July 21, 2016

Submitted by	Company	Date Submitted
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This template has been created for submission of stakeholder comments on Working Group for the Regional Resource Adequacy initiative that was held on July 21, 2016 and covered the topics of Maximum Import Capability, Imports for RA issues, and Uniform Counting Rules. Upon completion of this template, please submit it to initiativecomments@caiso.com. Submissions are requested by close of business on **July 29, 2016.**

Please provide feedback on the July 21 Regional RA Working Group:

1. Maximum Import Capability (MIC) calculation methodology proposal
    a. Do you support the ISO's proposal to modify the methodology for calculating the MIC values in an expanded BAA for use in limited circumstances to reflect situations where a PTO that joins the ISO has a need to serve its peak load that occurs non-simultaneously with the rest of the system and when there are no simultaneous constraints between certain areas of an expanded ISO BAA? If not, why not?
    b. Do you support a transition period or transitionary mechanism for this MIC calculation proposal?
    c. Please provide any further details or positions on the ISO's proposal to modify the methodology for calculating the MIC values in an expanded BAA.

Calpine opposes any changes to MIC that would impact the deliverability of internal resources.

The impact of the CAISO's proposal could be mitigated by limiting reliance on resources imported over certain ties for RA compliance across the entire footprint of a regional market, e.g., if there is really a winter-peaking bubble in PacifiCorp's territory and PacifiCorp has relied historically on certain ties to meet the load in the bubble, import RA across those ties could be

used to meet RA requirements for load in the bubble, but not generally to satisfy system RA requirements across the CAISO footprint.

Alternatively, to the extent that a winter-peaking load pocket has relied on certain external resources historically, rather than changing the MIC methodology to accommodate this historical pattern, the specific resources could be pseudo-tied into the load pocket or load in the load pocket might be allocated something like an ETC that could not be transferred easily to other LSEs.

2. MIC allocation methodology proposal

    a. Do you support the ISO's proposal to modify the methodology for allocating the MIC to LSEs in an expanded BAA, in order to limit initial allocations of MIC capability to particular sub-regions of ISO that would be defined by the Regional TAC Options sub-regions? If not, why not?

    b. Do you agree that splitting of the initial MIC allocations among sub-regions, combined with the ability to bilaterally transfer MIC between the Regional TAC Options sub-regions and the final Step 13 ability to nominate any remaining MIC anywhere in the footprint will properly balance MIC allocation method needs for an expanded BAA? If not, why not?

    c. Do you support a transition period or transitionary mechanism for this MIC allocation proposal?

    d. Please provide any further details or positions on the ISO's proposal to modify the methodology for allocating MIC in an expanded BAA.

Calpine has not comments on the CAISO's MIC allocation proposals.

3. Substitution of internal Resource Adequacy resources with external resources

    a. Do you support the ISO's proposal to allow external resources to substitute for internal RA resources experiencing outage requiring substitution?

Calpine maintains concerns expressed previously about the fact that non-dynamic external resources can never completely substitute for internal resources because they are not dispatchable with the same granularity and are not generally capable of providing regulation.

    b. Do you believe that one of the conditions of allowing external resource to substitute for internal RA resources should be that the external resource has similar operating characteristics of the outage resource? If so, how would the ISO determine the external resource substitute has similar characteristics?

As far as Calpine is aware, most import RA is not resource-specific and hence does not have operating characteristics. The CAISO could limit substitution of internal resources with external resources only to Resource-Specific System Resources (RSSRs) with similar Master File values. To the extent that RSSRs are not dynamic, even if they have similar operating characteristics as internal resources, they may not provide the same functionality because they may not be 5-minute dispatchable or capable of providing regulation.

c. Please provide any further details or positions on substitution of internal Resource Adequacy (RA) resources with external resources.

4. Import resources that qualify for Resource Adequacy

a. Do you agree that the rules for import resources qualifying for RA should be clarified in order to remove ambiguity from the Tariff?

Yes, Calpine believes that it would be helpful to clarify what import resources count towards resource adequacy requirements.

b. Do you believe that there should be a role for bilateral spot market energy purchases or short-term firm market energy purchases procured outside of the ISO BAA to qualify for RA meet a portion of an LSE's requirements? If so, why? If not, why not?

i. If you believe that some types of energy-only transactions should qualify for RA purposes, should there be a limit or cap on the volume that individual LSEs could utilize those resources for RA purposes?

In comments on a previous version of this proposal, Calpine indicated some willingness to allow various non-resource specific imports to be used to hedge the must-offer obligation associated with providing import RA. Calpine's response reflected what it perceived as a CAISO proposal to count certain types of transactions towards RA requirements without any associated must-offer obligation. Calpine believes that every RA resource, internal or external, should satisfy a must-offer obligation. In addition, in light of the discussion at the July 20th Working Group, Calpine supports greater consideration of whether compliance with a must-offer obligation is sufficient for external resources to count towards RA requirements—particularly if the must-offer obligation only effectively applies to the day-ahead market and does not extend to real-time.

ii. How could the ISO actually analyze the reliability that would be provided with various levels of these energy transactions being used to meet RA requirements?

The CAISO may be able to glean some sense of the extent to which CAISO BAA can rely on imports in periods of system stress by performing a multi-area reliability analysis of the West using a tool such GE MARS or SERVM, i.e., tools that are typically used to perform LOLE and ELCC analyses. One output of such an analysis would be imports into the BAA under conditions when loss of load is expected. Such imports either would reflect transmission limits in cases in which resources are available outside of the BAA or the limited availability of external resources due to adjacent or nearby systems experiencing extreme conditions simultaneously.[1]

c. Please provide any further details or positions on import resources qualifying for RA purposes.

It might be helpful for the CAISO to consider how imports are treated for resource adequacy in other markets. For example, PJM does not generally allow import RA that is not resource-

[1] The Energy Commission used to perform similar modeling. For example, see the section that begins at p. 47 of http://www.energy.ca.gov/reports/1999-07-23_HEAT_RPT.PDF

specific and the requirements for importing resource-specific RA capacity are relatively stringent.[2]

5. Uniform counting rules proposal

    a. Do you agree with the ISOs proposal to use the Pmax methodology for most thermal resources and participating hydro? If not please specify, why not? Are there elements of this methodology that require additional detail prior to a policy filing?

    b. Do you agree with the ISOs proposal to use ELCC to establish the capacity values for wind and solar resources? If not, please specify why not. Are there elements that require additional detail prior to a policy filing?

Calpine strongly supports the CAISO's proposal to use ELCC as its uniform counting methodology for wind and solar. As wind and solar constitute a greater fraction of the resource mix in California and the rest of the West, it is important to measure their contributions to reliability accurately, which ELCC does.

    c. Are there any element of an ELCC methodology that must be established prior to the ISOs policy filing?

Calpine does not believe that it is necessary to pin down details of the ELCC methodology before a policy filing. Nevertheless, Calpine offers the following feedback on some of the specific ELCC-related issues that were raised in the CAISO's July 20th presentation.

With respect to calculating monthly ELCC values, in light of the structure of the RA program, which targets the same planning reserve across all twelve months, Calpine believes that it would be appropriate to target the level of reliability consistent with a constant planning reserve margin in each month of a monthly ELCC analysis. A constant planning reserve margin may yield different levels of reliability in different months. For example, a 15% planning reserve margin applied to July and August may yield close to a typical annual LOLE target (e.g., 2.5 hours) in those months alone while the same planning reserve margin applied to other months may yield lower LOLE.

With respect to the level of reliability that should be targeted in each month, something like 1-in-10 may be appropriate, but Calpine notes that the choice might not matter very much and need not be consistent with the level of reliability to which LSEs are ultimately required to procure. ELCC analyses are typically performed by removing a resource from a system and then calculating how much "perfect" replacement capacity is necessary to return the system to its original level or reliability. In this context, the target LOLE is merely a benchmark. In fact, different LOLE targets may yield roughly similar ELCCs. (Very low target LOLEs may yield imprecise estimates of ELCC because starting with a system that is very reliable, it may be difficult to discern any impact on reliability of removing a resource from a system and hence it may be difficult to determine what level of replacement capacity return the system to its original level of reliability.)

[2] See section 4.2.2 of https://www.pjm.com/~/media/documents/manuals/m18.ashx

d. Do you agree with the ISOs proposal to use the historical methodology for run-of-the-river hydro, and Qualifying Facilities including Combined Heat and Power? If not please specify, why not? Are there elements of this methodology that require additional detail prior to a policy filing?

e. Do you agree with the ISOs proposal to use the registered capacity value methodology for load based capacity products such as PDR, RDRR, and Participating Load? If not please specify, why not? Are there elements of this methodology that require additional detail prior to a policy filing?

f. Do you agree with the ISOs proposal to use the registered capacity value methodology for Non-Generator Resources (NGR) and pumped hydro? If not please specify, why not? Are there elements of this methodology that require additional detail prior to a policy filing?

g. Are there any additional uniform counting rules that should be developed prior to the ISOs policy filing?