



Stakeholder Comments Template

Resource Adequacy Enhancements

This template has been created for submission of stakeholder comments on the RA Enhancements stakeholder working group held on April 8 & 9. The 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. Submissions are requested by close of business on April 22.

Submitted by	Organization	Date Submitted
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Please provide your organization's comments on the following issues and questions.

1. **Unforced capacity concepts: Inclusion of forced outage rates in capacity counting/valuation**

Please provide your organization's feedback on the capacity counting and forced outage rate/unforced capacity topic. Please explain your rationale and include examples if applicable.

Middle River Power ("MRP") supports the CAISO including forced outage rates in the capacity counting and validation rules ***so long as the policy is part of a broader set of reforms that address the grid's reliability and market needs.***

MRP cannot support the UCAP requirement simply as a replacement for RAIM because there does not seem to be a need to move to the more complicated UCAP structure in isolation of broader reform. We note that the current RAIM paradigm appears to be working well. As one of the largest owners of merchant generation in the CAISO, MRP has extensive experience with RAIM. Currently, we find RAIM to be working from the perspective of incenting: contracted supply to offer into the market, the provision of additional capacity to the market during longer forced-outage events, and routine maintenance to avoid extensive forced outages. MRP's experience appears consistent with the CAISO's own studies which show availability increasing after the RAIM was

implemented and average actual availability maintaining above 92% after the first three months.¹

Therefore, MRP asks the CAISO to focus on changes to the RA program needed to ensure reliability during California's renewable transformation. As supply tightens due to retirements and the remaining supply is increasing made up of imports and availability-limited resources there are needed changes to both the CAISO's and CPUC's RA programs.

Additionally, if forced outages are going to be included in capacity counting rules and validation, the other aspects of the current RA market must be adjusted as well to ensure consistent and fair rules. Forced outages currently are accounted for within both the system Planning Reserve Margin ("PRM") and RA Availability Incentive Mechanism ("RAAIM") - which applies to system, flexible, and local resources. Ultimately, in order to shift from an ICAP to a UCAP counting rules, the CAISO must also establish:

- (1) CAISO-determined UCAP system RA requirement,
- (2) Local RA forced outage policy and counting rules,
- (3) Flexible RA forced outage policy and counting rules, and
- (3) Equivalent-in-reliability counting rules for imports and availability-limited resources.

Finally, MRP would like to confirm that the CAISO is proposing an "EFOR" UCAP counting rule (or perhaps a CAISO-defined "EFORd" counting rule). That is, the CAISO will measure all forced outages while the resource is shown as an RA resource and not only during periods when the RA resource is scheduled to operate. Given the low (and lowering) capacity factors of certain resources due to high renewable penetration, it would unduly prejudice the capacity value of combustion turbines and certain combined cycle resources, particularly in local areas where their primary use is back-up reliability. Additionally, MRP assumes the CAISO would not want to incent these resources to intentionally generate in the market more in order to influence their UCAP value because doing so may displace electricity generation renewable resources.

2. Flexible (and Local) RA concepts

- a. Please provide your organization's feedback on the Flexible RA topic. Please explain your rationale and include examples if applicable.

MRP believes that the CAISO should reevaluate the Flexible RA product requirement design based on multiple products and a three-hour ramp. MRP supports the CAISO's suggested way to approach flexible RA as described during the April 8 working group. The premise was to ask what achievable resource characteristics the CAISO would need on the grid to minimize overall curtailment. The CAISO has stated lowering the Pmin burden of the fleet is one goal, as is reducing renewable curtailment. Given the need to dispatch around renewable resources rather than curtailing wind and solar to meet a flexible RA requirement, MRP to believe that flexible RA should be eligible for only non-

¹ <http://www.caiso.com/Documents/2017RAAIMAnnualReport.pdf>

intermittent capacity and provide incentives for flexible resources with relatively high minimum load values to invest in technology to lower these values.

Additionally, MRP supports the creation of a flexible UCAP (and elimination of RAAIM) in order to maintain consistency with the system RA program. One potential way to eliminate RAAIM for flexible RA and maintain the incentive for these resources to economically offer into the market would be to count any self-schedules in the “forced outage” bucket for flexible RA. It is MRP’s understanding that this is similar to how RAAIM works currently for flexible resources. The flexible UCAP would then be determined over the daily 17 must-offer hours:

$UCAP_{flex} = ICAP_{flex} \times (1 - EFOR_{flex})$, where the Effective Forced Outage Rate would be measured as,

$EFOR_{flex} = [Flexible\ RA\ capacity * \min(\text{hours } \textit{economically} \text{ offered into DA, hours } \textit{economically} \text{ offered into RT})] / Flexible\ RA\ capacity$

Because CIRA and the settlement systems are already set up to evaluate RAAIM under these criteria, it seems like this may simplify the eventual flexible UCAP implementation effort as well.

Finally, MRP supports the CAISO’s proposal to specifically remove the ability of NGR REM to provide flexible RA as REM resources cannot provide flexible energy or participate in the flexible ramping product.

- b.** Please provide your organization’s feedback on the Local RA topic. Please explain your rationale and include examples if applicable.

MRP supports a Local RA UCAP framework where the system and local UCAP counting rules for resources are the same. Based on the CAISO’s description of the local capacity technical study, the study does not account for forced outages generally and instead may include the outage of a large resource in their N-1-1 study to determine the local area requirement. MRP does not believe this constitutes “double counting” if the CAISO uses the UCAP counting rules rather than continuing to use RAAIM.

MRP suspects that if the CAISO to continues to use RAAIM for local resources and UCAP for system resources, this would lead to over-procurement of system capacity as resources would need to substitute local capacity for RAAIM purposes, despite there being enough system capacity procured.

Therefore, MRP asks the CAISO to consider eliminating RAAIM completely across all three RA products or to maintain RAAIM construct and focus on improving the counting rules for those resource types the CAISO is most concerned with from a reliability perspective.

3. RA showings and assessments

Please provide your organization’s feedback on the RA showings and assessment topic. Please explain your rationale and include examples if applicable.

MRP supports the CAISO proposal for individual LSE assessments using the UCAP requirement and to continue to do an aggregate assessment on the NQC system RA

requirement. As noted by SCE during the April 8 and 9 working group, there is the possibility that if the UCAP assessment is done in aggregate, this could create an incentive for LSEs to procure the lowest-cost resources regardless of their UCAP value because they will be able to “lean” on other LSEs to ensure aggregate compliance.

a. Portfolio assessment

Please provide your organization’s feedback on the portfolio assessment sub-topic. Please explain your rationale and include examples if applicable.

It is MRP’s understanding that the CAISO’s description of the portfolio assessment during the working group was more illustrative than a specific-proposal. MRP supports the CAISO exploring the value to reliability and market of doing a portfolio assessment. Given that this will be done outside the market, using existing data, and may be “informational only” MRP asks that the CAISO provide a real-world example and conduct an assessment on an upcoming RA month to demonstrate the concept and benefits.

There are three aspects of the portfolio assessment that seem particularly important in the context of ensuring reliability:

- (1) The number of peak hours that occur after the sun has set relative to shown solar RA capacity. The latest LCR studies have indicated that due to BTM solar at times peak local RA requirements are occurring after the sun has set. (And solar is meeting some of these local RA requirements.) The portfolio assessment should determine whether the same conditions are occurring at the system level and if so, how the CAISO can ensure reliability of the grid.
- (2) Whether availability-limited RA capacity can meet operational requirements. The increasing amount of availability-limited resources on the grid that have differing limitations based on mechanics, weather, and/or other factors will likely complicate the portfolio assessment. That said, MRP believes this is one of key pieces of information the assessment will be able to provide. The model must be complex enough to demonstrate how likely availability-limited capacity is to be available when needed.
- (3) The probability of relying on non-RA capacity. If the CAISO shows that the RA fleet is continually insufficient to meet operational needs with a reasonable amount of certainty, MRP believes this would be a sign that the RA construct itself needs further revision rather than additional backstop assessments and procurement.

4. Planned Outage Substitution

Please provide your organization’s feedback on the Planned Outage Substitution topic. Please explain your rationale and include examples if applicable.

MRP believes that there are still nuanced planned outage substitution enhancements needed and recommends the CAISO initiate a specific planned outage review to clarify and if needed, change the planned outage process.

5. CPM and Backstop authority

Please provide your organization's feedback on the CPM and Backstop Authority topic. Please explain your rationale and include examples if applicable.

Backstop without enforcement cannot reasonably be called a requirement. The UCAP proposal adds significant complication to an already complicated RA program. Without an actual backstop *requirement*, MRP does not believe the additional complexity would lead to a meaningful increase in reliability. Therefore, MRP's support for the UCAP proposal is contingent upon the CAISO also implementing an LSE-specific UCAP backstop (in some manner) to prevent leaning or under-procurement of capacity.

6. Import RA provisions

Please provide your organization's feedback on the import RA provisions topic. Please explain your rationale and include examples if applicable.

The CAISO historically has allowed bilateral spot-market purchases to act as import RA. There have not been any requirements for an RA import to be backed by a contract, transmission, or specific-resource. The only requirement has solely been to ensure that the import *energy* was deliverable. MRP strongly supports moving to an RA paradigm where import RA *capacity* has the same obligations as internal RA capacity. This includes demonstrating during the RA showing that all RA import capacity is contractually backed by both firm transmission and a specific resource (or resources). MRP supports Powerex's recommendations² that:

- (1) Import RA suppliers identify, at the time that the RA contract is executed the source BA and the e-Tag generation source from which the RA capacity will be provided; and
- (2) Import RA suppliers submit e-Tags for every hour of the contract term identifying the same source BA and generation resource that was designated in the RA contract.

MRP also supports requiring an affidavit from import RA that the physical supply is not obligated to serve another BAA during emergency conditions.

7. Maximum Import Capability and Import Capability Allocation provisions

Please provide your organization's feedback on the Maximum Import Capability and Import Capability Allocation provisions topic. Please explain your rationale and include examples if applicable.

No comment.

8. Must Offer Obligations concepts

Please provide your organization's feedback on the Must Offer Obligation concepts topic. Please explain your rationale and include examples if applicable.

² <http://www.caiso.com/Documents/PowerexComments-ResourceAdequacyEnhancements-IssuePaper.pdf>, page 7.

MRP strongly supports maintaining the current NQC for must-offer obligations. As the CAISO notes in the Straw Proposal, Part 2, the premise of including forced outages within the UCAP model is that it assumes resources will be on outage some of the time. Therefore, LSEs will still need to contract with resources up to the offered NQC and a resource will still need to show the offered NQC on the RA plan to ensure reliability.

9. Local capacity assessments with availability-limited resources

Please provide your organization's feedback on the Local capacity assessments with availability-limited resources topic. Please explain your rationale and include examples if applicable.

MRP supports local capacity assessment and backstop with the consideration of availability-limited resources. Both of CAISO's suggestions to either set a maximum amount of four-hour resources or establish specific hourly MCC-style buckets seem reasonable.

10. Slow demand response

Please provide your organization's feedback on the slow demand response topic. Please explain your rationale and include examples if applicable.

No comment.

Additional comments

Please offer any other feedback your organization would like to provide on the April 8-9 RA Enhancements stakeholder working groups.