



## Stakeholder Comments Template

### Resource Adequacy Enhancements

This template has been created for submission of stakeholder comments on the Resource Adequacy Enhancements third revised straw proposal that was published on December 20, 2019. 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](mailto:initiativecomments@caiso.com). Submissions are requested by close of business on **January 27, 2020**.

Submitted by	Organization	Date Submitted
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**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 5.1. Please explain your rationale and include examples if applicable.

##### **Six Cities' Comments:**

The System Resource Adequacy ("System RA") topic incorporates more than two-thirds of the Third Revised Straw Proposal (in terms of discussion pages) and includes many specific proposals that are likely to have a substantial impact on RA requirements and costs. The Six Cities provide comments below on overall concerns with the proposed System RA framework and on sub-topics that appear likely to have the most significant impact on requirements and costs, generally in the order discussed in the Third Revised Straw Proposal.

Overall Concerns with the System RA Framework - - The Six Cities share the CAISO's commitment to maintaining system reliability and support the CAISO's objective of ensuring that RA capacity is sufficient in terms of both quantity and quality to assure reliability. However, on an overall basis, the CAISO's proposed RA framework as set forth in the Third Revised Straw Proposal not only is likely to increase RA capacity requirements (which the Cities acknowledge may be appropriate) but also to significantly restrict the types of resources that would be eligible to provide RA capacity. Considering all of the various features of the CAISO's proposal in combination, the resulting RA requirements will be unnecessarily costly and potentially unattainable.

In previous rounds of comments in this initiative, the Six Cities have urged the CAISO to include as a guiding principle for reformation of the RA framework an objective of enabling and encouraging provision of RA capacity by a wide variety of resources and optimizing the use of capacity attributes of all available resources. The Six Cities understand the CAISO's interest in encouraging procurement of high quality resources. But that objective must be balanced by recognition that substantial amounts of the capacity resources available to serve load in the CAISO BAA do not have all of the attributes the CAISO considers most desirable. The Six Cities have experienced increasing difficulty in procuring RA capacity. Overly restrictive eligibility requirements and/or unnecessarily stringent availability standards will limit the pool of resources able and willing to provide RA capacity. In light of the apparently tightening supply conditions for RA capacity and the continuing transformation of the resource fleet, it would be counterproductive from the perspective of both reliability and cost to impose unnecessarily prescriptive or demanding eligibility or availability requirements that would have the practical effect of discouraging resources from offering RA capacity or disqualifying them altogether.

The overall RA framework embodied in the Third Revised Straw Proposal is inconsistent with the objective of maximizing the pool of resources eligible to provide RA capacity and optimizing the use of available capacity to support system reliability. The Six Cities support counting standards and availability requirements that recognize and reward resource attributes that are especially valuable in supporting system reliability, such as flexibility and sustained availability. But recognizing differences in value among resources and appropriately rewarding resource attributes that contribute the most to system reliability are not the same as, and do not require, excluding from eligibility to provide RA capacity or driving away capacity that does not have the most highly desired attributes but nevertheless can help to support system reliability. The RA framework described in the Third Revised Straw proposal is overly restrictive, may disqualify a significant number of resources currently counted for RA capacity, and is likely to impose unnecessary costs. Indeed, it seems possible that there may not be sufficient capacity resources available to the CAISO BAA to satisfy the proposed approach to RA requirements given the overly restrictive eligibility criteria and availability requirements the CAISO proposes, even if all eligible capacity resources are willing to enter into RA contracts.

At least in the near term, the capacity available to meet System RA requirements for the CAISO BAA is what it is. Establishing eligibility and availability requirements on

the basis of a wish list of attributes will not produce capacity that can satisfy the wish list if the capacity does not already exist. The Six Cities are concerned that the proposed System RA framework, overall, fails the reality test.

Proposal to Base System RA Requirements on UCAP and Determination of UCAP Values - - The Six Cities recognize the potential benefits of establishing UCAP values for resources in terms of distinguishing between higher quality and lower quality resources and encouraging procurement of resources that have valuable attributes and/or demonstrate high level performance. Adopting a UCAP-based valuation system, however, will only provide the anticipated benefits if the methodology for determining the UCAP values reasonably reflects resource performance. Based on discussion in the Third Revised Straw Proposal, the Six Cities are not convinced that the methodology for determining UCAP values contemplated by the CAISO will be consistent with the conceptual basis for the UCAP approach.

The Six Cities reiterate comments they submitted on the Second Revised Straw Proposal to which the CAISO has not responded and continue to oppose the CAISO's proposed definition of Forced Outage. As described at page 44 of the Third Revised Straw Proposal, the CAISO intends to continue classifying as a "Forced Outage" any outage that is requested seven or fewer days prior to the start of the Outage, regardless of the cause of the Outage, the purpose for the Outage, or the nature of any work to be performed during an Outage. At least for purposes of implementing a UCAP methodology, this definition inappropriately classifies as Forced Outages outages that are not caused by equipment failure, anticipated equipment failure, or operating emergency.

The CAISO's automatic classification of any outage requested seven or fewer days prior to the proposed start of the outage without regard to the cause of the outage is inconsistent with the definition of Forced Outage applied by NERC. NERC defines a "Forced Outage" as:

1. The removal from service availability of a generating unit, transmission line, or other facility for emergency reasons.
2. The condition in which the equipment is unavailable due to unanticipated failure.

Similarly, the PJM Tariff defines a Generator Forced Outage as:

an immediate reduction in output or capacity or removal from service, in whole or in part, of a generating unit by reason of an Emergency or threatened Emergency, unanticipated failure, or other cause beyond the control of the owner or operator of the facility...

The definition of Forced Outage reflected in the CAISO's currently effective tariff provisions is not appropriate for purposes of calculating UCAP values, because it would sweep in outages taken for planned maintenance and thereby potentially understate the UCAP value. If there is sufficient RA capacity available to the system to accommodate a request for an Outage to perform maintenance submitted seven

or fewer days prior to the proposed date to begin the Outage, or if the resource owner offers to provide Substitute Capacity during the Outage, the CAISO should approve the request. Further, any such Outage approved by the CAISO should not be defined as a Forced Outage and should not adversely affect the UCAP value for the resource. Conversely, if RA capacity expected to be available to the system at the time for which an Outage is requested is not sufficient to accommodate the Outage, then the CAISO should deny the Outage request. If the resource owner nevertheless proceeds with the Outage, then it should be classified as a Forced Outage and reflected as such in the calculation of UCAP for the resource.

In addition, the Cities object to the proposed treatment of various nature of work categories as set forth in Table 3 at pages 24-25 of the Third Revised Straw Proposal. It is not appropriate to reduce a resource's UCAP value based on availability limitations that are outside the control of the resource owner or operator, especially when non-availability results from limitations or deficiencies in the CAISO's modeling processes. For example, the CAISO proposes in Table 3 to reduce UCAP value based on non-availability due to exhaustion of several types of use limits. Exhaustion of use limits may be a result of inadequate opportunity cost allowances under the CAISO's opportunity cost modeling methodology. Such a circumstance should not result in reduction of the affected resource's UCAP value, because it can and should be addressed through better tuning of the opportunity cost calculation.

The CAISO should not attempt to simply adapt its existing classifications of outages to identify Forced Outages for purposes of UCAP valuations. Rather, to achieve consistency with the UCAP concept, the CAISO should look to the NERC definition of Forced Outage and to the criteria applied for considering outages for UCAP purposes by other ISOs/RTOs.

Subject to applying a definition of Forced Outage that is consistent with the NERC definition, the Six Cities support the development of weighted average availability factors during the tightest system supply cushion hours as described at pages 17-19 of the Third Revised Straw Proposal.

Elimination of Resource Adequacy Availability Incentive Mechanism ("RAAIM") and Forced Outage Substitution - - The Third Revised Straw Proposal at pages 26-28 presents evidence that the RAAIM penalties are not providing any meaningful incentive for resources to provide substitute capacity and, perversely, are discouraging LSEs from showing any RA resources that exceed minimum requirements. In light of the CAISO's analysis, the Six Cities agree that the RAAIM should be eliminated if a UCAP-based RA program is implemented.

System RA Showings and Sufficiency Testing - - The Six Cities generally support the CAISO's proposals (as discussed at pages 28-32 of the Third Revised Straw Proposal) (i) to evaluate the sufficiency of System RA showings on an individual basis, (ii) to evaluate the ability of the RA portfolio to serve anticipated load during all hours of the relevant test month, and (iii) to engage in backstop procurement to address only collective portfolio deficiencies and only after providing LSEs an

opportunity to cure any such deficiencies. The Cities provide comments on the CAISO's proposal for a UCAP deficiency tool in the separate sub-section below.

Must Offer Obligation and Bid Insertion Modifications - - The Six Cities oppose the Must Offer Obligation and Bid Insertion proposals included in the Third Revised Straw Proposal as unduly restrictive and likely to substantially limit the pool of resources eligible and willing to provide RA capacity. Specifically, the Six Cities oppose (i) application of a 24/7 MOO subject only to the limited exemptions identified in Table 5 of the Third Revised Straw Proposal, (ii) prohibiting self-schedules that exceed one hour, and (iii) the CAISO's proposed bid insertion principles.

The proposed standard 24/7 MOO (even with the exemptions in Table 5) would unnecessarily and unreasonably disqualify capacity resources that are reliable and available during hours when the CAISO reasonably could be expected to need them. For example, all of the Cities have entitlements to output from the Hoover Power Plant, which is a highly reliable resource but, due to operating limitations, could not comply with a 24/7 MOO. Hoover currently is eligible to provide RA capacity and is subject to a MOO generally corresponding to the evening ramp hours consistent with the concept of basing MOO on resource operational characteristics. The CAISO suggests at page 39 of the Third Revised Straw Proposal that resources that require operational characteristics to be modeled should register as resource-specific to enable modeling of resource characteristics in the Master File. However, the Six Cities have been unable to locate in the CAISO Business Practice Manuals any mechanism for registering resource-specific RA imports such that their operating characteristics will be respected. The Six Cities encourage the CAISO to adopt such provisions in the comments below on the Import RA sub-topic.

The Six Cities also do not agree with the bid insertion principles described at pages 36-37 of the Third Revised Straw Proposal. There are types of resources for which bid insertion would not be appropriate that are not defined as Use-Limited under the new definition of that term or otherwise covered by the exemptions described at pages 37-38. In addition, the CAISO does not explain how it will determine inserted bids for Non-Dynamic, Non-Resource Specific Imports as proposed at page 38.

At this time, the Six Cities do not oppose the CAISO's proposal to limit the MOO for RA resources to the day-ahead market, as discussed at pages 35-36 of the Third Revised Straw Proposal, subject to monitoring of the impacts of that limitation. The Six Cities, however, request clarification of the CAISO's statement at page 35 of the Third Revised Straw Proposal that "[a]lthough RA resources would not have a real-time must-offer obligation if they are not awarded in the day-ahead, **RA resources must still be available for exceptional dispatch after the day-ahead market whether or not they receive a day-ahead award.**" (Emphasis in original.) The scope of this obligation is unclear. Would an RA import resource that does not receive a day-ahead award be required to retain firm transmission rights for the following day, giving rise to potentially non-recoverable costs and contravening the CAISO's desire (noted at page 54 of the Third Revised Straw Proposal) to make transmission not required for delivery of day-ahead market schedules available for

delivery of more economic energy? The Six Cities agree, however, that there should be no CPM designation for an exceptional dispatch of any RA resource.

Planned Outage Process Modifications - - The Six Cities support the objectives and principles the CAISO lists at page 42 of the Third Revised Straw Proposal to guide the development of modifications to the planned outage provisions. However, the Option 1 and Option 2 proposals discussed at pages 44-47 of the Third Revised Straw Proposal generally will not satisfy the stated objectives; indeed, Option 2 flatly contradicts two of the stated objectives.

As the CAISO recognizes at pages 46-47 of the Third Revised Straw Proposal, the Option 1 process would result in additional complexity and create incentives for resource SCs to wait to submit planned outage requests until after RA showings are made. The discussion at the top of page 45 implies an obligation to provide substitute capacity for an outage requested in the “Planned outages” timeframe as defined on page 44 (*i.e.*, at least 45 days prior to the RA month), but does not identify a mechanism for recognizing the substitute capacity. Overall, the Option 1 process does not appear to offer any improvement over the existing system, as it remains complex, uncertain, and unduly rigid with respect to accommodating maintenance outages or requests to extend maintenance outages submitted close to the time for the outage or extension when system conditions permit.

Option 2, which would require substitute capacity for all planned outages, is plainly inconsistent with the stated objective to “[m]inimize the need to require substitute capacity to the greatest extent possible.” Moreover, as the CAISO acknowledges at page 47 of the Third Revised Straw Proposal, a requirement to provide substitute capacity for all planned outages will create increased incentives to withhold capacity from the bilateral market. It also will discourage any showings of RA capacity above required amounts, undercutting any benefits from the UCAP deficiency tool proposed at pages 85-88 of the Third Revised Straw Proposal.

With respect to both Option 1 and Option 2, the Six Cities continue to oppose automatically classifying as Forced (and reducing UCAP value based on such an automatic classification) any outage or outage extension requested less than eight days prior to the start date of the outage or extension. As discussed in detail above in the sub-section addressing UCAP valuation, the definition of Forced Outage, at least for UCAP purposes, should conform to the NERC definition rather than being based on the time that the request for the outage is submitted.

The Six Cities support the CAISO’s proposal to establish a calendar showing on a daily basis the potential availability of additional system RA headroom in excess of system RA requirements. Although it appears that identification of RA headroom would not be relevant if the CAISO imposes an automatic substitution requirement as suggested under the Option 2 approach, it would remain useful as a metric for identifying the extent to which an automatic substitution requirement would impose unnecessary costs.

The Six Cities also support the CAISO’s proposal to develop a bulletin board to assist with the identification of available substitute capacity.

RA Import Provisions - - The Six Cities support elements of the Third Revised Straw Proposal that seek to ensure RA imports are backed by physical capacity committed and deliverable to the CAISO BAA. However, other aspects of the proposed requirements for RA import resources are unreasonably restrictive and unnecessary to satisfy the objective of confirming that such resources represent physical capacity reasonably expected to be available to meet CAISO load.

Specifically, the Six Cities support the proposals to require Non-Resource Specific RA resources (“NRS-RA”) to specify the source BAA and to provide documentation that such resources are supported by a forward commitment of physical capacity with firm transmission delivery. However, the CAISO also should establish provisions allowing for the registration of resource specific RA import resources. Such resource specific RA imports should have the ability to register operating limitations (e.g., pmin, minimum run time or minimum down time requirements) that will be respected in CAISO dispatch and should not be required to be pseudo-tied or capable of dynamic scheduling. Consistent with recognition of internal generation resources that are unit contingent, resource specific RA imports should not be required to be supported by reserves supplied by an external BAA. However, there should be a requirement for certification that both NRS-RA imports and resource specific RA imports are committed to the CAISO BAA for RA purposes (i.e., not counted by any external BAA for resource adequacy purposes) and are deliverable to the CAISO BAA via firm transmission arrangements and a MIC allowance.

For the same reasons discussed above in the sub-section on Must Offer Obligations and bid insertion modifications, the Six Cities oppose imposition of a 24/7 MOO for all RA imports. The proposed MOO requirements and bid insertion rules are unnecessarily restrictive and will discourage or disqualify too many resources from providing RA capacity.

Operationalizing Storage Resources - - The Six Cities do not oppose the CAISO’s proposals related to operationalizing storage resources for purposes of providing RA capacity, including the proposal to establish a minimum state of charge requirement and the methodology for establishing the RA values for storage resources. As storage technologies are not yet widely deployed within the CAISO relative to other generation types, the Six Cities note that the CAISO’s initial approaches to storage will likely require refinement in the future as the CAISO, market participants, and local regulatory authorities gain experience with storage technologies and as these resources become more broadly relied upon for RA. For this reason, the Six Cities support the CAISO’s ongoing examination of storage-related issues in this and other initiatives, including the Energy Storage and Distributed Energy Resources stakeholder proceeding.

Please provide your organization’s position on the System Resource Adequacy topic as described in section 5.1. (Please indicate Support, Support with caveats, Oppose, or Oppose with caveats)

**Six Cities’ Position:** The phrase that best describes the Six Cities’ overall position on the System RA construct set forth in the Third Revised Straw Proposal is “oppose

with caveats.” As noted above with respect to several of the sub-topic areas, the Six Cities support many of the stated objectives of the CAISO’s RA proposals and a number of the specific elements proposed. But as a whole, the proposed framework for System RA rests on unduly restrictive eligibility and availability requirements that will discourage or disqualify too many resources from providing System RA. In an increasingly tight capacity market, it would be counterproductive to adopt provisions that narrow the pool of eligible resources.

## 2. Flexible Resource Adequacy

Please provide your organization’s feedback on the Flexible Resource Adequacy topic as described in section 5.2. Please explain your rationale and include examples if applicable.

**Six Cities’ Comments:** In contrast to the System RA framework discussed above, the Six Cities consider the proposals for Flexible RA to represent significant improvements over currently effective Flexible RA provisions. Specifically, subject to evaluation of any additional information that may become available, the Six Cities support the following elements of the Third Revised Straw Proposal:

- the CAISO’s conclusion that day-ahead market awards can account for ramps that can be forecasted, as discussed at pages 70-71,
- the proposal (at page 72) to establish a single flexible capacity requirement equal to the historical forecasted net load error between the IFM and FMM plus a growth factor to account for additional growth in uncertainty,
- the proposed criteria for Flexible RA requirements as set forth at pages 72-73,
- the proposal (at pages 73-74) to permit import resources to provide Flexible RA, and
- the proposed criteria for resource eligibility to provide Flexible RA set forth at page 74.

The Third Revised Straw Proposal at page 75 requests stakeholder input on whether the eligibility criteria to provide Flexible RA should include minimum start requirements. The Six Cities consider it unnecessary to require the ability for multiple starts within a day to provide Flexible RA capacity. In light of the CAISO’s plans to deploy Flexible RA resources to meet flexibility requirements through day-ahead awards, the optimization should be able to avoid day-ahead commitments that are inconsistent with resource operating characteristics. For example, if a resource limited to one start per day is committed to meet the morning ramp and is not scheduled to continue operating through the middle of that day, the optimization model should identify it as non-available for that day’s evening ramp (with no penalty or adverse impact on UCAP). There is no obvious reason why two resources, each limited to one start per day, cannot be deployed separately to meet both morning and evening ramps with the same level of reliability as a single resource allowed to start twice a day.



The Six Cities request clarification with respect to the proposed Must Offer Obligation for Flexible RA resources. At pages 77-78 of the Third Revised Straw Proposal, the CAISO states that resources providing Flexible RA must submit economic bids for energy, ancillary services, and imbalance reserves to the day-ahead market from 5:00 AM to 9:00 PM. Does the CAISO intend that resources shown only for Flexible RA would fully satisfy their MOO by submitting economic bids for that time interval? If a resource is shown both for Flexible RA and System RA, does the CAISO intend that it would be required to submit economic bids for the 5:00 AM to 9:00 PM window and self-schedules or economic bids for the intervals prior to 5:00 AM and after 9:00 PM? (As discussed above, the Six Cities oppose the proposal for a 24/7 MOO for System RA resources).

Please provide your organization's position on the Flexible Resource Adequacy topic as described in section 5.2. (Please indicate Support, Support with caveats, Oppose, or Oppose with caveats)

**Six Cities' Position:** With respect to the Flexible RA topic, the Six Cities support with caveats the CAISO's proposals, as described above.

### 3. Local Resource Adequacy

Please provide your organization's feedback on the Local Resource Adequacy topic as described in section 5.3. Please explain your rationale and include examples if applicable.

**Six Cities' Comments:** At this time, the Six Cities' only comment with respect to section 5.3 of the Third Revised Straw Proposal is a question regarding footnote 60 on page 80. In that footnote and the related discussion in the text, the CAISO indicates that LSEs responsible for paying the costs for CPM procurement to address Local Capacity deficiencies will receive capacity credit based on the UCAP value of the capacity procured. The footnote states that such LSEs may receive no credit if the resource has no qualifying UCAP value. The Cities request an explanation of the circumstances under which the CAISO would utilize the CPM to procure Local Capacity having no UCAP value.

Please provide your organization's position on the Local Resource Adequacy topic as described in section 5.3. (Please indicate Support, Support with caveats, Oppose, or Oppose with caveats)

**Six Cities' Position:** At this time the Six Cities have no separate position with respect to Local Resource RA. The Cities' numerous concerns with the System RA framework discussed above would also apply in the context of Local RA requirements.

#### 4. Backstop Capacity Procurement Provisions

Please provide your organization's feedback on the Backstop Capacity Procurement Provisions topic as described in section 5.4. Please explain your rationale and include examples if applicable.

**Six Cities' Comments:** With respect to sections 5.4.1 and 5.4.2 of the Third Revised Straw Proposal, it is not clear to the Six Cities whether the additional CPM authority proposed in section 5.4.1 really involves multiple new types of CPM authority or primarily represents a re-definition of the types listed as 1-4 on page 81. With respect to System RA, it is not clear why the CAISO would consider a CPM designation for NQC rather than UCAP. It does seem appropriate to include CPM authority to address portfolio deficiencies or deficiencies in the ability of Local RA resources to meet energy needs in the relevant local area or sub-area, in each case providing opportunity for LSEs to cure any such deficiencies prior to CPM procurement as the CAISO proposes at page 80 of the Third Revised Straw Proposal.

With respect to section 5.4.3, the Six Cities agree that development of a new performance incentive mechanism for Reliability Must Run resources will be necessary. To the extent that RMR compensation arrangements reflect resource-specific costs and performance expectations, the penalty for failure to satisfy the performance standards likewise should be tied to the RMR compensation.

With regard to the UCAP Deficiency Tool proposed in section 5.4.4, the Six Cities support the concept of compensating LSEs that show RA capacity in excess of their own requirements and collecting deficiency charges from LSEs that do not meet their requirements. The Cities agree that it is appropriate to base the deficiency charge on the CPM soft offer cap and that allocations of CPM procurement costs should not overlap or duplicate UCAP deficiency charges, as illustrated in Figure 20 at page 88 of the Third Revised Straw Proposal. The Six Cities, therefore, support implementation of the UCAP Deficiency Tool subject to review of its operation and impact following an initial implementation period.

Please provide your organization's position on the Backstop Capacity Procurement Provisions topic as described in section 5.4. (Please indicate Support, Support with caveats, Oppose, or Oppose with caveats)

**Six Cities' Position:** The Six Cities support with caveats the CAISO's Backstop Capacity Procurement proposals, as described above.

#### **Additional comments**

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

**Six Cities' Comments:** The Six Cities generally support the CAISO's plan for phasing implementation of modifications to the RA structure resulting from this initiative, as described in Section 6 of the Third Revised Straw Proposal, subject to the following comments and questions:

- The Cities agree with the CAISO's identification of topics for implementation in Phase One.
- With respect to Phase Two, would implementation of the Phase Two revisions be based on NQC and EFC, as opposed to UCAP, since the CAISO proposes to implement the UCAP counting rules and forced outage assessments in Phase Three?
- Does the CAISO plan to file proposed tariff provisions simultaneously with different effective dates for the three phases or to submit tariff revisions separately for each phase?