

The ISO received comments on the topics discussed at the May 30 stakeholder call from the following:

1. [Calpine Corporation \(Calpine\)](#)
2. [Southern California Edison \(SCE\)](#)
3. [Pacific Gas and Electric Company \(PG&E\)](#)
4. [Western Power Trading Forum \(WPTF\)](#)
5. [Middle River Power \(MRP\)](#)
6. [Bay Area Municipal Transmission group \(BAMx\)](#)

Copies of the comments submitted are located on the Local capacity requirements process webpage at:

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

The following are the ISO's responses to the comments.

1. Calpine Corporation (Calpine) Submitted by: Mark Smith		
No	Comment Submitted	CAISO Response
1a	<p>Calpine supports the ISO's suggestion that the Local Capacity Technical Criteria should match, without exception, the mandatory Transmission Planning (TP) standards. By using the same standards applied in TP, the CAISO appropriately will identify the total amount of local capacity needed to operate the grid.</p> <p>Calpine understands that the CAISO is obligated, by WECC and NERC, to comply with various mandatory reliability planning standards. Those standards, as identified in the Issue Paper, require reliability analysis under a broad spectrum of possible contingencies (i.e., single and multiple outages of transmission and/or generation facilities.) In the annual transmission planning process, the CAISO complies with the mandatory requirements of WECC and NERC -- as they have evolved over time. Where reliability shortcomings are identified through the application of the various outages or combinations of outages, the TPP solicits solutions – including transmission and alternatives¹ (potentially including storage, preferred resources and/or demand side solutions).</p> <p>The Local Capacity Technical (LCT) studies include many of the most common contingencies as required by mandatory standards but not the same comprehensive set as the TPP studies. In fact, as identified in Table 1 of the Issue Paper, there are nearly two dozen sets of contingencies which are “mandatory” for transmission planning, but excluded from the subsequent and derivative LCT analysis. As the Issue Paper confirms, the NERC/WECC mandatory contingency lists have emerged and evolved without similar modifications to LCT study assumptions.</p> <p>The modeling of contingencies is designed to simulate system conditions after outage(s) (“post-contingency”) and observe whether any elements of the system are threatened, given a set of physical thermal and stability limits. If facilities are overloaded, or voltage or stability concerns emerge, those effected elements are flagged for further study of possible mitigation measures.</p>	<p>Thank you for providing your support towards the full alignment of the Local Capacity Technical criteria with the mandatory standards. The ISO has considered these comments in the development of the straw proposal.</p>

¹ In some cases, NERC/WECC allows post-contingency “non-consequential load loss” for several multiple contingencies, in other words load dropping so long as there is no consequential risk of cascading outages.

No	Comment Submitted	CAISO Response
	<p>As a very simple example, consider two parallel lines serving load. If one of the lines has an outage, much of the flow may shift to the second line (or other lines if available), potentially overloading that facility. In this very simple example, there are two possible solutions to the potential overload – (1) re-conductor both lines (if feasible²) so that either line can carry the entire load if one line fails, or (2) redispatch generation (increase generation at the load location) so that the flows are always below the capacity of the most constrained line (pre-contingency dispatch). As one can imagine, the modeling becomes very complicated when one considers hundreds or thousands of possible outages occurring individually, simultaneously or sequentially. But what should be clear is that generally, as one tests more and more possible contingencies, the constraints on operating the system may grow.</p> <p>Local Capacity Technical Studies, in simplest terms and, as in the second option above, seek to identify how much pre-contingency dispatch of generation is required in a local area constrained by, and defined by transmission import limits. The LTC study simulates different sets of outages on the transmission and generation network and observes possible overloaded facilities. The most constraining of the tested contingencies establishes the minimum generation that is needed within the load pocket. This is in essence the Local Capacity Requirement (LCR).</p> <p>Calpine agrees with the CAISO proposal to match the LCT with the TPP mandatory contingencies in order to ensure reliability.</p> <p>First, applying a less stringent set of contingencies, as is the case today, will produce an LCR value that could be lower than the true reliability need. The total RA required may not³ represent a necessary or sufficient solution to avoid either consequential load shedding or ensure a secure system. As the ISO said in the TPP meetings⁴ last fall, “Limiting the number of contingencies (e.g.,</p>	

² Note that in the last TPP, the CAISO conducted a study of the feasibility of eliminating or reducing local area requirements with transmission reinforcements.

³ It should be noted that the inclusion of all mandatory requirements may not increase LCR values, particularly if the to-date untested contingencies produce local capacity requirements lower than other modeled contingencies.

⁴ See slide 31, of the October 2018 meeting materials.

No	Comment Submitted	CAISO Response
	<p>boundary elements) would contradict with real time operations where the ISO needs to maintain system reliability for all possible contingencies.”</p> <p>Second, the CAISO tariff observes the mandatory standards⁵, but the contingency list provided does not reflect the current categories or fully represent the contingencies identified in the planning standards. In fact, Calpine would suggest that the tariff be amended to clarify – either the congruence or incongruence -- of the mandatory planning standards and those contingencies applied by the LCT methodology. “In performing the Local Capacity Technical Study, the CAISO will apply those methods for resolving Contingencies considered appropriate for the performance level that corresponds to a particular studied Contingency, as provided in NERC Reliability Standards TPL-001-0, TPL-002-0, TPL-003-0, and TPL-004-0, as augmented by CAISO Reliability Criteria in accordance with the Transmission Control Agreement and Section 24.2.1.”</p> <p>Third, this potential reliability risk will only grow with time. In particular, the retirement of local resources (either by OTC compliance or other causes) will place more pressure on the accuracy of the LCR results. Resources that are needed based on the mandatory standards, but not required because of the application of an inferior subset of mandatory contingencies may not be available for Exceptional Dispatch. The use of other backstop mechanisms (CPM or RMR) would be inappropriate given that the reliability needs are identifiable and in some ways – already known to the CAISO as a result of TPP studies.</p> <p>Finally, as identified by the CAISO, applying the full and more stringent requirements only in the TPP will allow transmission and transmission-like solutions (e.g., storage as a transmission asset) to preferentially solve true reliability matters that are not surfaced in LCT studies.</p> <p>Calpine recommends that all P1 through P7 contingencies identified in the mandatory standards be a part of the LCT studies. Other extreme events should be handled on a case-by-case basis.</p>	

⁵ Tariff, Section 40.3.1.1

2. Southern California Edison (SCE) Submitted by: Wei Zhou and Antonio Velarde		
No	Comment Submitted	CAISO Response
2a	<p>SCE appreciates the opportunity to provide comments on the CAISO Updates to the Local Capacity Technical (LCT) Criteria Issue Paper dated May 23, 2019⁶.</p> <p>There should be a discussion on aligning the location of outages and location of identified problem for defining local area need. SCE also proposes that, to help improve the transparency and clarity of the LCT studies, the CAISO should provide the list of the next critical contingencies and amount of resource needs for large local areas (e.g. LA basin) in future LCT studies. This is important because when an issue is fixed and the contingency addressed for one area, it might affect the local requirements for neighboring areas if there is an inter-relationship. For example, in the last several LCT studies, SCE has observed that the CAISO used outages in non-SCE areas and resulting overloaded lines in those areas (e.g. San Diego) to define local requirements for SCE LA Basin. Without this information, it's difficult to evaluate the resulting impacts on local requirements for the local area even if the issue being fixed belongs to a different area.</p> <p>In addition, in the instance when outages in non-SCE areas (e.g. San Diego) impact the local requirements for SCE LA Basin, the CAISO should provide that information and quantify the impact (in MWs) due to those outages in non-SCE areas in the LCT studies.</p>	<p>These comments relate to the study methodology and documentation, not the LCT criteria itself, which is the subject of this stakeholder initiative. Notwithstanding, the following responses are provided to be helpful and provide context.</p> <p>For safe operation of the grid the ISO must be able to maintain local resources in order to mitigate any and all contingencies, regardless of their location. Please refer to page 31 in the: http://www.caiso.com/Documents/Presentation-2020LocalCapacityTechnicalStudyCriteriaMethodologyandAssumptions.pdf.</p> <p>The ISO provides many different effectiveness factors especially for larger local areas. Please refer to operating procedure 2210-Z. http://www.caiso.com/Documents/2210Z.pdf. Providing MW level requirements for the 2-nd, 3-rd, n-th contingency requires additional study time (delaying the study reports) and usually does not produce the intended benefit because the way the most limiting contingency is mitigated (more often than not through new transmission projects) will also change the requirements for the 2-nd, 3-rd, n-th constraint and could create new requirements not studied before (due to new transmission configuration).</p> <p>The limiting outages and respective MWs requirements have been provided in the LCR reports regardless of contingency or reliability problem location.</p>

⁶ Presentation, dated May 14, 2019, available at <http://www.caiso.com/Documents/IssuePaper-LocalCapacityTechnicalStudyCriteriaUpdate.pdf>

3. Pacific Gas and Electric Company (PG&E) Submitted by: Matt Lecar		
No	Comment Submitted	CAISO Response
3a	<p>PG&E provides the following comments on the Issue Paper published May 23, 2019, and discussed in the stakeholder call on May 30, 2019.</p> <p>While PG&E supports the CAISO opening this initiative to update and review the Local Capacity Technical Study criteria, we urge CAISO to use this initiative take on a broader scope and consider necessary changes to the local capacity planning process to support the evolving RA framework in California, the changing resource mix, and the evolving needs of the system over the coming years. The CPUC also appears to support undertaking such a holistic review of local RA and PG&E would advocate close coordination.⁷</p> <p>PG&E recommends the CAISO adopt the following high level principles in its review and update of the Local Capacity Technical Study (LCTS) methodology:</p> <ul style="list-style-type: none"> • Transparency, • Full alignment between standards-based requirements and procurement, • Accurately reflect the changing resource mix and hourly load variation <p>PG&E understands that the burden of evolving to a new LCTS methodology that better meets the high-level goals articulated above will be great, and that additional CAISO personnel and resources may be required to perform the necessary studies. Nevertheless, PG&E believes it is in the best interests of all customers to do so, because the cost of not conducting transparent local capacity studies that are sufficiently detailed and more fully aligned with RA procurement – and which therefore increase reliance on costly backstop procurement to fill in the remaining unidentified needs – is likely to be far greater.</p>	<p>ISO is committed to working with the CPUC and all other stakeholders to support the evolving RA framework through different and multiple venues. Given those other initiatives and venues, this initiative is being limited to updating the local capacity technical criteria. While several comments relate to issues beyond the scope of the initiative, responses have been provided to some extent to be helpful.</p>

⁷ “PG&E recommends a working group to specifically ‘examine the relationship between local RA requirements, RA resource obligations, changes to NQC in forward years, how RA performance i[s] assessed, and how local RA backstop procurement occurs or does not occur from uncured deficiencies.’ The Commission finds PG&E’s proposal to be reasonable, and directs Energy Division to establish a working group to evaluate improvements and refinements prior to the development of the 2021-2023 local RA requirements.” Proposed Decision of ALJ Chiv, 5/24/19, R. 17-09-020, pp. 8-9

No	Comment Submitted	CAISO Response
3b	<p><u>Transparency:</u> As PG&E has repeatedly noted in comments, the current LCTS methodology is opaque. The CAISO has repeatedly referred stakeholders to the Study Manual on its methodology but this does not provide any details on the specifics for determining requirements such as the resources adjusted between contingencies for an N-1-1. Stakeholders have little or no opportunity to review the underlying assumptions, methodology, and inputs that go into determining the local area and subarea needs, only some of which are identified and conveyed to the CPUC as Local Capacity Requirements (LCR) that will drive the procurement of local Resource Adequacy (RA).</p>	<p>Detailed adjustments between performance level P6 events can be found in the LCR Manual page 17 bullets #4 and #5. http://www.aiso.com/Documents/2020LocalCapacityRequirementsDraftStudyManual.pdf Every year since 2005 the ISO has conducted a stakeholder meeting around October 30th to specifically talk about LCR criteria, methodology and assumptions, therefore stakeholder had an overwhelming opportunity to review and understand these assumptions and methodology. Please bring specific questions and improvement suggestion in the correct stakeholder engagement process.</p>
3c	<p><u>Full alignment between standards-based requirements and procurement:</u> The goal of a revised and updated LCTS process should be to fully inform the RA procurement process about all known local needs, in order to ensure that the right resources (with the right combination of characteristics, located in the right areas and subareas of the system), are identified with sufficient advanced planning runway to allow efficient and cost-effective procurement by Load Serving Entities (LSEs). PG&E notes that the new three-year forward local requirement adopted by the CPUC will provide greater runway to plan for and procure new resources, where needed, and to identify cost-effective transmission upgrades and alternative mitigation, such as energy storage and demand response, where appropriate.</p>	<p>Thank you for providing your support towards the full alignment of the Local Capacity Technical criteria with the mandatory standards. The ISO has considered these comments in the development of the straw proposal.</p>
3d	<p><u>Accurately reflect the changing resource mix and hourly load variation:</u> Resource policy in California is driving the retirement of conventional gas-fired resources that historically provided a wide range of resource attributes bundled together, and were generally dispatchable to the same predictable level of output at most times of the day and year. This led to the application of single hour "snapshot" capacity planning processes, based upon a relatively simple assumption: if the resources in a given area are capable of meeting the worst single hour stressed system condition (1-in-10 peak load, under a set of prescribed contingencies), then that resource mix can safely be assumed to be sufficient to meet any less severe conditions, of whatever duration, which might occur at other times.</p>	<p>ISO has provided the hourly load profiles for each area and sub-area regarding the peak day as well as load profile for the entire year for most areas and sub-areas in the 2020 LCT Report.</p> <p>ISO is committed to improvements on how data is presented as well as going forward process after stakeholder have a chance to review the provide substantive comments. Data presented was in the same format as that presented in the Slow Response DR discussion.</p>

No	Comment Submitted	CAISO Response
	<p>However, planning processes that rely on this single hour snapshot assumption do not appropriately account for the evolving resource mix in California and hourly load variations from the peak, with the increasing penetration of variable renewables and energy-limited resources, such as energy storage and Demand Response. With the new resource mix, it is no longer safe to assess local area needs based on a single hour snapshot, and to apply a single capacity number as the appropriate basis for procurement of local RA for the entire year. PG&E believes that CAISO should use this initiative to begin developing and discussing with stakeholders the tools and methodology that will appropriately account for the temporal nature of resource contributions and hourly load variations, including the seasonally variable nature of renewables, as well as the limited duration of energy storage and demand response use limitations. A template for how this can be done was already developed in the Slow Response DR discussion and would be a good starting point for any new methodology developed here.</p>	
3e	<p>Other Questions on Topics in the Issue Paper</p> <p>CAISO should clarify what studies will be performed under the “fully aligned” versus “mostly aligned” scenario for both BES and non-BES facilities. PG&E would like to better understand, for example, whether CAISO will perform transient and post-transient analysis for the resources that would count towards RA.</p> <p>Will the CAISO identify recommended locations for non-consequential load drop solutions and the MW reduction in requirements?</p>	<p>Transient and post-transient analysis were always part of the local capacity studies and they will continue to be done under both scenarios. The only difference between scenarios is the actual contingencies taken (<i>i.e.</i> “all” or just “a subset”).</p> <p>Alternative solutions, including non-consequential load drop allowed by the NERC, WECC and ISO standards will be identified and considered through the Transmission Planning Process.</p>
<p>4. Western Power Trading Forum (WPTF) Submitted by: Carrie Bentley</p>		
No	Comment Submitted	CAISO Response
4a	<p>WPTF appreciates the opportunity to provide these comments on the CAISO’s Local Capacity Technical (LCT) Criteria Update issue paper and presentation. WPTF supports the CAISO using mandatory standards across planning studies, including the LCT study and expanding this initiative to consider other necessary changes to planning studies.</p>	

No	Comment Submitted	CAISO Response
	<p>WPTF supports the CAISO using “mandatory standards” in the LCT studies. As discussed by the CAISO in the paper, today the LCT study uses planning standards that are not aligned with those used in the Transmission Planning Process or retirement studies. This creates challenges from a planning perspective and ultimately leads to an inefficient outcome in terms of trade-offs made between transmission, retirements, and replacement capacity. Using the same standards across all planning studies would put local RA on even footing with transmission and retirement studies, allowing for cleaner trade-offs to be made. This is extremely important when it comes to making trade-offs between retirement and replacement within a local area. Today, for example, if the CPUC were to procure a resource within a local area such that it will allow another resource within that same area to retire, the standards used by the CPUC to determine the type, size, location, etc of the replacement resource is based on the local RA planning standards. However, when the CAISO goes to determine if the other resource can retire, it will only be allowed to retire if the replacement resource happens to meet the higher planning standards used in the retirement study. Thus, using the mandatory standards in the LCT studies would allow for a one to one comparison between retirement and replacement capacity within local areas. This will provide for a more transparent study process which will lead to more efficient retirements.</p>	<p>Thank you for providing your support towards the full alignment of the Local Capacity Technical criteria with the mandatory standards. The ISO has considered these comments in the development of the straw proposal.</p>
4b	<p><u>This initiative scope should be broadened to include changes to import assumptions in planning studies.</u> There is broad recognition within the CAISO and among stakeholders that the entire West's capacity margin is significantly lower than over the past decade and will continue to decrease. WPTF asks that the CAISO broaden this initiative to “LCT Study Criteria and Planning Standard Updates” and include a proposal on the appropriate import assumptions to use in CAISO planning studies, including the Summer Assessment and retirement/mothball studies. Currently, the CAISO assumes import quantities at the Maximum Import Capability (MIC) in the planning studies. This is an inappropriate assumption to make because the amount of RA capacity from imports is significantly less than the MIC. Therefore, it widely exaggerates the amount of import capacity available to meet the various planning standards. WPTF encourages the CAISO to consider using an assumed import amount that more realistically aligns with the amount of RA capacity provided by imports. WPTF thanks the CAISO for consideration of its comments.</p>	<p>Given other initiatives and venues underway, the scope of this initiative will be limited to LCT criteria. While several comments relate to issues beyond the scope of the initiative, responses have been provided to some extent to be helpful.</p> <p>The local capacity studies need to protect deliverability of Maximum Import Capability to assure that the load serving entities can purchase imports up to the allocation. The fact the load serving entities may not be able to procure as much becomes a system RA deficiency not subject to local capacity studies.</p> <p>The TPP studies process allows for changes to TPP inputs every year during the development of the study plan.</p>

No	Comment Submitted	CAISO Response
		ISO understands the concern of system RA shortfall and is looking into studies that more closely align actual RA showings, real-time schedules, and real-time flows vs. system studies.
5. Middle River Power (MRP) Submitted by: Joe Greco		
No	Comment Submitted	CAISO Response
5a	<p>Middle River Power (“MRP”) thanks the California ISO (“CAISO”) for the opportunity to submit these brief comments on the Local Capacity Technical Study Criteria Update presentation and call held on May 30, 2019. We provide the following brief comments on the proposed change to the LCT planning standards.</p> <p><u>MRP is supportive of the CAISO aligning the mandatory standards used in the LCT study with those used in other planning studies.</u> The current misalignment between standards across CAISO studies creates inefficiencies from a planning perspective within the CAISO and across agencies. By using the same standards in all studies, the CAISO, CPUC, and stakeholders will be able to have a clear understanding of the trade-offs between transmission, retirements, and replacement capacity. This is especially true with it comes to assessing retirements and replacement capacity within a local area. It is MRP’s understanding that theoretically (and perhaps historically) merely ensuring the LCT requirement was met would not necessarily be sufficient to enable a resource that is providing “excess” LCT capacity to retire. This is because the resource’s retirement would be studied under higher criteria than the LCT study. Thus, using the same mandatory standards in the LCT studies as is used in the retirement studies would allow for a more apples to apples comparison between retirement and replacement capacity within local area. Ultimately, MRP believes aligning study assumptions improve transparency and lead to more efficient retirements.</p> <p>MRP thanks the CAISO for the opportunity to comment on the LCT Criteria Update.</p>	<p>Thank you for providing your support towards the full alignment of the Local Capacity Technical criteria with the mandatory standards. The ISO has considered these comments in the development of the straw proposal.</p>

6. Bay Area Municipal Transmission group (BAMx) Submitted by: Paulo Apolinario		
No	Comment Submitted	CAISO Response
6a	<p><u>Introduction and Stakeholder Understanding</u></p> <p>On May 30, 2019, the CAISO held a web-conference to discuss its issue paper ("Issue Paper" hereafter) regarding updates to its Local Capacity Technical (LCT) study criteria. The Bay Area Municipal Transmission group (BAMx)⁸ appreciates the opportunity to comment on the CAISO's Issue Paper on this topic that was posted on the CAISO website on May 23, 2019. The Issue Paper has provided stakeholders with a better understanding of the CAISO's effort to align the LCT Study and the transmission planning criteria. We hope that the CAISO addresses the issues raised by BAMx in the Straw Proposal.</p> <p><u>BAMx Suggestions</u></p> <p><i>Update Category Definitions to Align with Current Standards</i></p> <p>BAMx understands the desire to update the old references and characterizations to the new references and characterizations to match the NERC and CAISO planning standards. At this point, most all of the stakeholders should be familiar with the P0-P7 contingency references so it would be more convenient to adopt the nomenclature utilized by the NERC and CAISO for planning purposes. But BAMx believes that now is the time to reassess some issues with regard to the tradeoff of building new transmission versus retaining existing generation. BAMx believes that because of the pressure to reduce the dependence on gas-fired generation, the economics of building new transmission versus retaining existing generation is a very important issue which is affected by changes to the LCT study criteria. So, we suggest below some issues that need to be addressed in an expanded Stakeholder effort.</p>	<p>Thank you for providing your support towards alignment of category definitions between the Local Capacity Technical criteria and the mandatory NERC standards. The ISO has considered these comments in the development of the straw proposal.</p>
6b	<p><i>Update Bulk Electric System (BES) Voltage Level</i></p> <p>The Issue Paper states that the "ISO would like to align the LCT study criteria with current planning practice for the appropriate levels by adjusting performance requirements to align with the ISO planning standards, rather than the NERC mandatory planning standards, for non-BES elements." BAMx suggests that the CAISO clarify, and provide additional information on how the CAISO suggests the non-BES facilities should be treated within the LCT studies</p>	<p>Non-BES elements are not planned per BES standards; they are planned per CAISO standards only. The ISO is proposing to align the LCR criteria for non-BES elements with the same criteria used in planning – CAISO Planning Standards. All contingencies taken on BES equipment will set LCR requirements no matter where the overload is, however only contingencies specified in ISO Planning</p>

⁸ BAMx consists of City of Palo Alto Utilities and City of Santa Clara, Silicon Valley Power.

No	Comment Submitted	CAISO Response
	<p>going forward. Would aligning with the CAISO planning standards entail that overloads on non-BES elements could set the local capacity requirements (LCR)? BAMx suggests the CAISO should provide specific examples of the proposed evaluation of non-BES elements within the Local Capacity Requirements (LCR) studies.</p>	<p>Standards for non-BES elements (see II.1. in page 4) will set LCR requirements. http://www.aiso.com/Documents/ISOPlanningStandards-September62018.pdf</p>
6c	<p><i>Economic Impact of Changing LCT Criteria</i> The Issue Paper states that aligning the LCT criteria with NERC, WECC and CAISO mandatory standards would provide a level playing field between consideration of constructing new transmission and retaining or expanding local resources in order to meet the mandatory standards.⁹ BAMx is uncertain whether this is true or not. In order to comprehensively evaluate the tradeoffs, we believe it would be prudent to update the LCR Potential Reduction Study the CAISO performed as part of the 2018-19 TPP, for at least some local areas to illustrate the effect of using the newly proposed LCT criteria. BAMx believes such information is needed to understand the likely economic impacts of changes to the LCR criteria.</p> <p>Given the uncertainty associated with the impact of changing LCT criteria on LCR procurement and cost, BAMx suggests an illustrative update to last year's LCR studies (at least for a few local areas) that compares the results of assuming two sets of criteria 1) the full set of P1-P7 contingencies and 2) a subset of all contingency categories, including one set of contingencies which are utilized by the CAISO operators in real-time system monitoring and operations¹⁰. The results of the analysis should be presented for stakeholder input.</p>	<p>The statement is based on the circumstances that today transmission is approved based on the full set of standards and RA resources are procured only to the LCR criteria (a sub-set of the contingencies studied per the transmission planning criteria). Only when a resources announces its retirement or mothball does the ISO study the need to retain the resource through an RMR contract to mitigate for all transmission planning criteria contingencies. If resource is needed to mitigate other contingencies than those covered under RA the resource will receive an RMR contract until all mandatory transmission planning criteria contingencies are mitigated without relying on the resource. Being more transparent and having all the reliability information from the onset would benefit both the RA program and the transmission planning process, since this information may be used to support earlier economic upgrades required to decrease the needs and therefore would allow a more rapid and orderly retirement of old resources. (The transmission planning process does not assess the risk of retirement of each and every individual resource unless there is a reason to expect the retirement.)</p>
6d	<p><i>Sensitivity Analyses as Information Only and the CPUC Forum</i> Additionally, BAMx believes LCR study is extremely important to provide guidance and support for CPUC's procurement efforts. The CPUC final decision (D. 06-06-064) on LCR for 2007 was issued on June 29, 2006. For Reliability Service Options for 2007, the CPUC adopted Option 2, NERC Performance Criteria Category C. It stated the following.</p>	<p>ISO recognizes that at the time the existing LCT criteria was developed (2005-2006) there was a wide-ranging discussion on the appropriate level of local procurement because there were no mandatory standards in place. Today the situation is different as we do have mandatory standards that have evolved through time and these</p>

⁹ Issue Paper, p.5.

¹⁰ Per CAISO Procedure 3100, the network is monitored and operated for single contingencies and every credible multiple contingency as identified in Appendix 3100B.

No	Comment Submitted	CAISO Response
	<p>“Given the reduced risk of interruptions expected under Option 2, we consider the required procurement of an additional 5% of needed capacity to be reasonable. We make this reliability determination for 2007 only. While we expect to apply Option 2 in future years in the absence of compelling information demonstrating that the risks of a lesser reliability level can reasonably be assumed, we nevertheless leave for further consideration in this proceeding the appropriate reliability level for Local RAR for 2008 and beyond.”</p> <p>BAMx notes that although it was anticipated in the original 2006 decision that the reliability criteria determining the LCR levels would be revisited in the future, it does not appear that changes in LCR levels has not happened for more than a decade. We believe that reviewing the LCT criteria is long overdue. The CAISO proposed changes as part of this initiative provides an opportune time for the consideration of the rate impact of setting various levels of LCT criteria. In the spirit of proper coordination between agencies, the decision to change the criteria needs to be also addressed as part of the CPUC Resource Adequacy (RA) proceeding (R.17-09-020).</p>	<p>mandatory standards are more demanding in certain instances and less so in others. Since the ISO has to respect these mandatory standards and to also assure one way or another, either through RA backstop (CPM) or reliability backstop (RMR) that there are enough resources to mitigate all contingencies, it would be preferred and would provide regulators with better tools and information to more quickly transition from current fleet structure to a future more decarbonized mix, if the two criteria were aligned.</p>
6e	<p><i>Provide Additional Details in Regard to the RMR Contracts</i></p> <p>The Issue Paper states “the ISO still needs to meet the mandatory standards and therefore will have to rely more and more on its Reliability Must Run (RMR) contract to maintain in-service old and potentially inefficient resources that want to retire and are not needed for RA” as one of the justifications for modifying the LCT criteria to include a full set of NERC, WECC, and CAISO mandatory planning standards. Based on BAMx’s preliminary research, it is not clear how utilizing more stringent LCT criteria will reduce the need for RMR contracts. We are aware of projects like Yuba City Energy Center¹¹ and Metcalf Energy Center¹² that were designated as RMR in 2017, but were identified to be needed as local capacity resources under the existing LCT criteria. BAMx urges the CAISO to provide examples and details of the past RMR designations that were triggered by mandatory reliability standards, while those resources may not</p>	<p>The ISO suggests considering a hypothetical example: There could be resources that are not required for any contingencies on the grid other than that, let’s say, a T-1-1 contingency or a bus outage. Since these contingencies are not studied for RA there is no requirement to acquire this resource in the RA process. It may still get a contract for, let’s say, system RA or flex RA, however alternatives for its need (T-1-1 or bus outage) will not be studied or economic analysis conducted until after it submits a retirement or mothball notice. At that time, in order to maintain reliability, the ISO will likely have to RMR the resources for one or two years until new alternative is in place, such as an SPS for T-1-1 contingencies or a new bus configuration. This can be avoided by being proactive and having all contingencies studied as part of the</p>

¹¹ See “Decision on request for reliability must-run designations,” Neil Millar, Executive Director, Infrastructure Development, Board of Governors Meeting, General Session, March 15-16, 2017, p.4

¹² “Current local capacity requirements in the South Bay-Moss Landing sub-area of the Bay Area local area are met with the Metcalf generation as a part of the generation in the area.” See “Metcalf Energy Center Retirement Assessment,” Stakeholder Call, September 26, 2017, pp.3-4.

No	Comment Submitted	CAISO Response
	<p>necessarily have been identified to be needed to meet LCR needs based upon the existing LCT study criteria. A full explanation with respect to such examples should help stakeholders better understand the likely effects of the changes being proposed.</p>	<p>RA program; that way an SPS or new bus configuration can be considered before the ISO receives a request for retirement or mothball.</p>
6f	<p><i>Alignment of the LCT criteria with NERC, WECC and CAISO Mandatory Standards</i></p> <p>The Issue Paper presents two different options for aligning the LCT criteria with NERC, WECC and ISO Mandatory standards. The first is to “Fully align the LCT criteria with NERC, WECC and ISO mandatory standards”, where the second option is to “Maintain certain differences between the NERC, WECC and ISO mandatory standards and the LCT criteria.” The CAISO asserts that fully aligning the LCT criteria to the planning standards “would provide a level playing field between consideration of transmission and resources in order to meet the mandatory standards”. BAMx would like to point out that the LCT analysis and the TPP analysis are fundamentally different. For example, the reliability assessment under the Transmission Planning process (TPP) allows for Load shedding as a viable mitigation for many local areas. Furthermore, Special Protection Schemes/Remedial Action Schemes (SPS/RAS) solutions or system readjustments are allowed for higher level contingencies under the CAISO planning standards. However, since the main purpose of the LCT studies is to identify the LCR requirements, using the same contingencies in the LCR studies would probably trigger higher LCR requirements. If the same relatively inexpensive mitigations are not allowed in LCR studies, it would likely drive up the LCR requirements and therefore would likely result in additional costs to the ratepayers.</p> <p>BAMx identified a couple of examples that illustrate that modeling higher-level contingencies to identify LCR needs leads to procurement of local resources even when they are not required to meet the mandatory reliability standards or to provide operational reliability. One example involving the existing LCT criteria is in the Big Creek-Ventura area, where the overall LCR need for 2024 identified in the latest LCT study is 2,577MW.¹³ The LCR value is driven by an overload</p>	<p>If the LCT criteria is fully aligned with the mandatory standards, load drop will be allowed for exactly the same contingencies as it is allowed today in the TPP.</p> <p>The scope of this initiative will be limited to the LCT criteria. This comment can be resubmitted during the development of the LCT study manual document later this year.</p>

¹³ 2024 Local Capacity Technical Study, Final Report and Study Results, May 1, 2019, p.4.

No	Comment Submitted	CAISO Response
	<p>on Sylmar-Pardee #1 or #2 230kV circuits following the overlapping outage of Lugo-Victorville 500kV line and the remaining Sylmar-Pardee 230kV circuit¹⁴. This outage could be mitigated via Operating Procedure 7680, and therefore does not violate any of the mandatory NERC, WECC or CAISO reliability standards. However, the LCR procurement in 2024 will be based on the 2,567MW value based on the existing LCT criteria that do not take into consideration any operating procedures that can be used for mitigation.</p> <p>BAMx found another example that illustrates that expanding the existing LCT criteria, where a low-cost mitigation measure could be more appropriate, could lead to greater local resource procurement and in turn higher local RA prices. Based on the latest 2020 & 2024 Final LCR results, the most limiting facility for the San Jose Subarea is the "El Patio-San Jose 'A' 115kV line" for the loss of "Stone-Evergreen-Metcalf" & "Metcalf-Evergreen #1 115kV" circuits¹⁵. The transmission planning analysis showed that P2 outage (Bus-Tie Breaker) of "Metcalf 115kV Section 1E & 2E" produces the largest overload on the El Patio-San Jose 'A' 115kV line circuit¹⁶. This type of overload could potentially lead to higher LCR requirements in the San Jose sub-area if P2 contingencies were to be included in LCT criteria. But there could be low-cost mitigation to protect against this type of contingency. BAMx offers the above two examples to illustrate the CAISO is dealing with a complicated issue probably involving significant cost tradeoffs.</p> <p>BAMx appreciates the opportunity to comment on the Issue Paper and acknowledges the significant efforts of the CAISO to develop this material. Based upon our above comments, we urge the CAISO to take the time to evaluate the total cost impacts of each of the alternatives suggested by the CAISO for changes to the LCT criteria before a decision is made.</p>	<p>Correct, the low cost solution should be approved in TPP as a reliability solution if there is no other mitigation (like for example retaining a resource under RA contract) or if the area is resource deficient, however if this issues is also known in the RA program, the low cost solution could be approved as an economic solution to eliminate the need to retain the more expensive resource even if reliability can be maintained by operating the resource.</p>

¹⁴ CAISO 2020 and 2024 Final LCR Results Big Creek-Ventura Area Presentation, April 10, 2019, Slide #11

¹⁵ CAISO 2020 and 2024 Final LCR Results Greater Bay Area Presentation, April 10, 2019, Slide #11.

¹⁶ Appendix C of the Board Approved 2018-2019 Transmission Plan