

## Subject: 2018 ISO LCR Study Criteria, Methodology and Assumptions

Submitted by	Company	Date Submitted
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The CPUC Staff appreciate the opportunity to comment on the California Independent System Operator (CAISO) Draft Manual, 2018 Local Capacity Area Technical Study and the October 31, 2016 presentation entitled, “2018 ISO LCR Study Criteria, Methodology, and Assumptions.” In summary, Energy Division staff believes that:

- CAISO should more clearly explain the assumptions that it will be using to determine the local capacity areas and sub-areas (e.g., will CAISO be using the 2015 IEPR or the 2016 IEPR, how will CAISO add back in the peak-shift, what are the specific load figures that will be used in each of the areas and sub-areas, etc.);
- CAISO should more clearly explain how it intends to set the local area requirement if it runs two or more studies (will it again choose the higher of the two studies or will it be based on the most realistic facts and circumstances);
- CAISO should include at least one study which assumes Aliso Canyon storage field is operational;
- CAISO should include at least one study which assumes Aliso Canyon storage field is operational and relies on CEC’s mid-demand, low AAEE, rather than on CAISO’s peak-shift analysis;
- CAISO should use a coincidence adjustment when reviewing the combined SDG&E sub-area and LA Basin;
- CAISO should work with the CEC and the IOUs to ensure that the load forecast is adjusted to take into consideration incremental demand-side resources procured to meet LCR needs;
- CAISO should hold another web conference to explain the assumptions that will be used in the studies, which were not clearly articulated in the study call on October 31, 2016;
- CAISO should revise its schedule to provide the local capacity study to the CPUC by April 15, 2016, as requested in Commission Decision 16-06-045.

Each of these points is discussed in more detail below.

## CAISO Should More Clearly Explain its Assumptions

Energy Division Staff recommends that CAISO more clearly explain the assumptions that it will be using to determine the load in each of the local capacity areas and sub-areas. In its study Draft Manual, CAISO stated that it “will utilize the latest information available from the California Energy Commission for the Technical Study” (p. 6). CAISO did not, however, indicate whether it plans to use the CEC 2015 IEPR or the 2016 IEPR, which is expected to include a peak-shift scenario. CAISO should clarify in its Draft Manual whether it intends to use the revised 2016 IEPR forecast and should advise parties if this is or is not the case.

Also, CAISO did not clearly explain its rationale or methodology for its additional scenarios regarding the “peak shift issue” discussed in its Draft Manual (pp. 6-7). On the stakeholder call, CAISO indicated that it does not intend to conduct a study with the CEC’s mid-demand, low AEE (adjusted for a 1-in-10 year), without the peak-shift analysis, which would allow for a clear comparison under these two different load scenarios. CAISO has indicated that it will conduct a study using the CEC base case analysis, but only assuming that the Aliso Canyon storage fields are not operating. This will not facilitate a clear comparison between the two load scenarios and the results in the latter case will be driven by moving the local generation requirement resources from LA Basin into the San Diego area.

In addition, CAISO did not explain in any detail how it will develop the load for its peak-shift analysis. In the Draft Manual, the CAISO only states that it “will conduct additional scenarios on a case by case basis regarding the peak shift issue” (p. 7). This is not a complete discussion of assumptions. CAISO needs to indicate clearly how it intends to determine the MW needed to add back into the CEC’s analysis, if at all. For the 2017 study, CAISO added back in 228 MW to SDG&E’s load and 651 MW to SCE’s load. Does CAISO intend to use the corresponding figures for 2018 (i.e., 254 MW for SDG&E and 733 MW for SCE)? If so, CAISO needs to provide a justification for this methodology, given that early results from the CEC indicate that this may substantially overstate the load. CAISO has also not explained how it will attribute the 733 MW for SCE to the local areas – will it all be applied to the LA Basin or is there some ratio that is applied. Finally, in the interest of transparency, CAISO should provide parties with the load that will be used in each of the sub-areas, so that parties may verify the load assumptions that CAISO will be using in its analysis (both with and without the peak-shift) and given that load is a critical assumption, this should be provided to parties before the CAISO LCR analysis begins.

In its peak-shift analysis for 2017 LCR study, CAISO indicated that it made another adjustment to the peak-shift analysis: “the ISO considered a sensitivity analysis with less contribution from rooftop solar PV during the hour of 6:00 PM when customer demand remains high, *and with a more conservative assumption that key static shunt capacitor switching does not occur in a timely manner for the shorter post-transient condition*” (p. 109, emphasis added). CAISO should explain, before conducting its study, whether this assumption, which was not used before the 2017 study or discussed in the 2017 Draft Study Manual, will be used for the 2018 studies and, if so, provide a detailed explanation regarding why this assumption is appropriate for the 2018 study year.

With respect to the Aliso Canyon storage facility, CAISO indicates that “Limited use or availability of Aliso Canyon would directly affect delivery of gas to generating facilities located in the western area of the LA Basin during summer peak load conditions... Studies may be performed similar to the Joint Agency Task Force technical assessment for summer 2018.” CAISO should clarify whether it will be relying on the existing study or a new study. If it is relying on the existing study, CAISO should clarify how it “balanced the gas generation resource needs in LA Basin and the San Diego sub-area to lessen the impact that the absence of Aliso Canyon has on the reliability of the electric transmission system in the LA Basin and San Diego area.” Specifically, in its 2017 study, CAISO indicated that “The capacity reduction in the LA Basin is about 716 MW, or 7 million cubic feet (MMcf) per hour or approximately 167 MMcf per day.” CAISO should clearly explain how it developed this 716 MW and provide citations to the technical study and where this need/scenario is discussed.

Finally, CAISO did not discuss any of the assumptions for the 2022 study. For example, which IEPR study will be used, how will the peak-shift issue be handled, if at all, and what assumptions will CAISO make regarding the Aliso Canyon storage fields. Energy Division staff believes that these assumptions need to be shared and discussed with parties before CAISO conducts its 2022 analysis.

### **CAISO Should Clearly Explain how it Intends to Set Requirements when Conducting Multiple Scenarios**

In its Draft Manual, CAISO did not discuss how it intends to set local requirements if it is conducting multiple scenarios. In the 2017 study process, CAISO chose the higher requirement for the San Diego local area associated with the assumption that the Aliso Canyon storage facility was not operational. CAISO does not discuss this issue in its Draft Manual, but Energy Division staff request that CAISO indicate how it will determine the LCR with multiple scenarios – will it be the higher requirement and for whom (LA Basin or San Diego sub-area) or will it be based on the most realistic scenario at the time?. We raise this issue because more information regarding the operation of Aliso Canyon storage facility will be available later this year, early next year, and certainly by April 2017, which should be taken into account when setting the LCR needs.

### **CAISO Should Include At Least One Study in Which the Aliso Canyon Storage Facility is Operational**

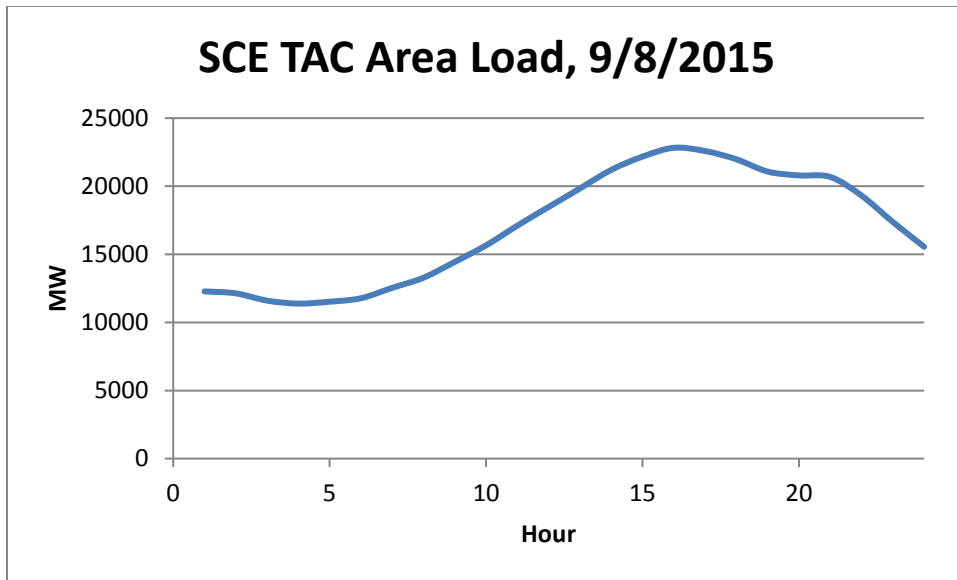
Energy Division staff recommends that CAISO should conduct at least one study (and preferably two, one without the peak-shift analysis, which is discussed further below) in which Aliso Canyon Storage Facility is operational. While we agree that the status of the Aliso Canyon storage facility is uncertain, we expect that there will be more information available in the April/May/June 2017 timeframe and that the Commission should adopt LCR needs based on the facts and circumstances known at that time. If Aliso Canyon will be operational for 2018, that should be taken into consideration in the 2018 LCR study for determining local needs for 2018.

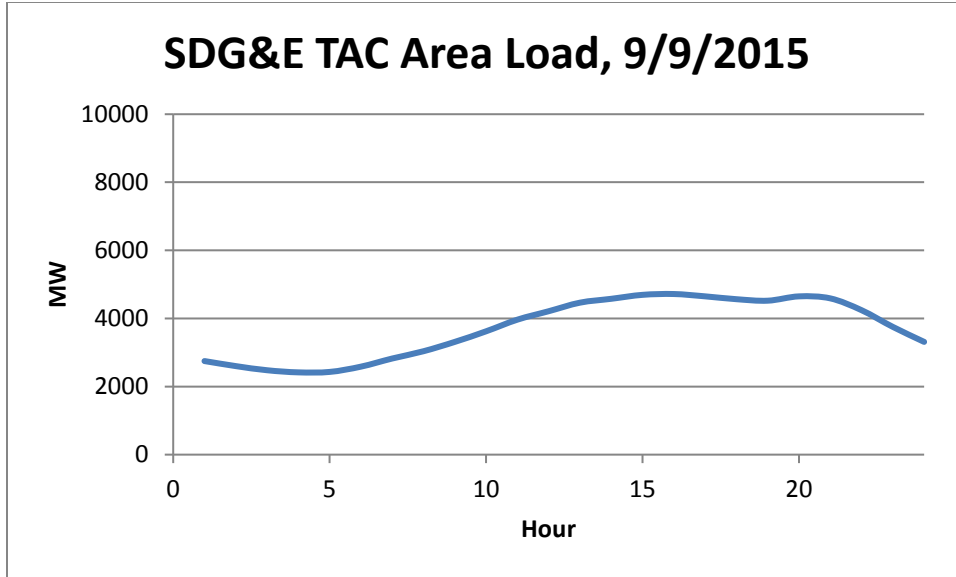
**CAISO Should Conduct At Least One Study Using CEC’s Adopted Forecast (and Assuming Aliso Canyon is Operational) to Address Flaws in CAISO’s Peak Shift Analysis**

Energy Division staff recommends that CAISO conduct at least one study using the CEC’s adopted forecast (i.e., without the peak-shift analysis) while assuming Aliso Canyon is operational, in order to establish a base case to which CAISO’s peak-shift and Aliso Canyon scenarios could be compared.

In its Draft Manual, CAISO states that “The ISO will continue to perform additional assessments of the reliability impacts when loads continue to remain high as forecasted by the CEC, but without the contribution of solar photovoltaic distributed generation at an early evening hour (i.e., 6:00 p.m.).”

Energy Division staff finds the CAISO’s methodology, of adding back in all of the behind-the-meter generation (i.e. 254 MW for SDG&E and 733 MW for SCE for 2018) to the CEC’s base case forecast to be flawed as it overstates the loads in these areas. CAISO’s methodology is flawed because it does not take into consideration that consumption loads decline by 6 pm and, therefore, adding back in behind the meter generation to the 4 pm peak will result in a higher load than will be seen at the 6 pm hour. This is illustrated in the figures below.





That is, for the SCE TAC area, if 650 MW are added back in at 4 pm, this will overstate the sales load at both the 4 pm and certainly the 6 pm hour. Moreover, the CAISO’s peak shift adjustment is also problematic for the combined area, where the peak is likely to be driven by the SCE area. In sum, given the shape of these sales load curves, we believe that CAISO’s peak shift adjustment is likely to be flawed.

Consequently, Energy Division staff recommends that the peak shift analysis be considered only as a scenario, and that CAISO should conduct a study with only the CEC *adopted* forecast and with the assumption that Aliso Canyon is operational (to ensure comparability and to ensure that the CPUC is able to adopt LCR needs if Aliso Canyon is operational, without the peak-shift *scenario*, if appropriate).

**CAISO Should Use a Coincidence Adjustment for its Combined LA Basin/San Diego Area**

On the stakeholder call, CAISO appeared to indicate that it was using a coincidence adjustment for the combined LA Basin and San Diego sub-area analysis. We agree that the load should be adjusted for coincidence, but are not sure that the adjustment was made, given our understanding of the CEC forecasting process. CAISO should clarify whether it is making a coincidence adjustment. CAISO should ensure that the load is adjusted for coincidence because San Diego typically peaks at a different time than SCE and this should be taken into consideration in the CAISO analysis for the combined areas.

**CAISO Should Work with the CPUC, CEC and the IOUs to Ensure Load Forecasts are Adjusted for Local Capacity Procurement**

Energy Division staff recommends that CAISO work with the CPUC, CEC and the IOUs to ensure that the load forecast is adjusted to take into consideration incremental demand side resources that have been procured to meet local capacity requirements for 2018 and 2022. The CPUC authorized SCE and SDG&E to procure supply and demand-side resources to meet its local capacity requirements. If the load forecast is not adjusted to take the incremental demand-

side resources into account, we believe that the local capacity requirements will be overstated and the demand-side resources will not reduce the LCR need as anticipated by the CPUC. Accordingly, CAISO should work with the CPUC, CEC and IOUs to ensure that this issue is addressed appropriately.

**CAISO Should Provide More Detail Regarding its Assumptions and Hold Another Stakeholder Call to Discuss these Assumptions**

As discussed above, CAISO has not clearly explained its assumptions. Therefore, Energy Division requests that CAISO revise its Draft Manual to provide additional details regarding its actual assumptions (e.g., actual load, shunt capacity assumptions, Aliso Canyon assumptions, 2022 assumptions) and hold another conference call to explain the assumptions that will be used in their 2018 and 2022 study.

**CAISO Should Revise its Schedule for the Local Capacity Technical Study**

In its October 31, 2016, presentation, CAISO presented its schedule (see p. 38) indicating that its final report would be completed on May 1, 2017. In its Decision (D.) 16-06-045, the CPUC found that “[i]n order to promote due process to all parties,” that among other provisions, “[t]he final studies should be filed and served in the then-current RA proceeding by April 15 of each year, unless otherwise scheduled by the ALJ or scoping memo” (p. 60.). In its comments on the CPUC’s proposed decision, CAISO stated that “[t]o the extent that these practices have not already been adopted, the CAISO will seek to incorporate these recommendations into its study process as appropriate on a going forward basis.” (CAISO’s Comments on the Proposed Decision, June 9, 2016). Accordingly, Energy Division staff requests that CAISO revise its study process and schedule to incorporate the filing and serving of the Local Capacity Technical Studies, which means that the timeline presented at the stakeholder call should be revised.