

COMMENTS OF THE STAFF OF THE CALIFORNIA PUBLIC UTILITIES COMMISSION REGARDING THE 2020-2021 TRANSMISSION PLANNING PROCESS (TPP) STAKEHOLDER CALL HELD NOVEMBER 17, 2020

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December 4, 2020

The Staff of the California Public Utilities Commission (CPUC Staff) appreciates this opportunity to provide comments on the ongoing development of the 2020-2021 Transmission Plan. These comments follow from the fourth TPP public meeting in 2020, where the CAISO reported on its latest assessment of transmission implications based upon policy driven assumptions of a future resource mix developed through the CPUC's Integrated Resource Planning process. For this TPP cycle, the CPUC identified the base case as the updated 2018 Preferred System Portfolio, as well as two sensitivity cases (#1 – 2019 Reference System Portfolio and #2 – 2019 30 MMT Energy Only Portfolio.)

The CAISO presents a significant volume of information and findings in its preliminary assessment. CPUC Staff offers comments and poses questions on certain findings of the CAISO's analysis.

1. Use of Remedial Action Schemes in the Base Case

No transmission upgrades are identified for the base case. The CAISO states that all the full capacity deliverability status (FCDS) resources are expected to be deliverable with implementation of certain remedial action schemes.

CPUC Staff notes that for this base portfolio, CAISO has flexibility to apply storage resources (up to 2,157 MW) at locations where it can mitigate identified transmission issues. However, the CAISO stated that so far, the CAISO has not modeled any generic storage MWs in this base case.

- *Does the CAISO intend to incorporate the modeling of storage resources to minimize remedial action schemes in certain areas?*
- *Will any results from this analysis specify the amount and location of storage resources that could be utilized?*
- *Will the modeling of generic storage resources eliminate need for any remedial action schemes identified in the base case analysis?*

CPUC Staff looks forward to further insights on this base case analysis in the draft Transmission Plan (to be posted in January 2021), specifically regarding the amount of storage MWs that could be applied as mitigation measures in certain areas.

2. Battery Storage Adjustments in the Sensitivity Cases

For the sensitivity portfolios, FCDS resources in several renewable transmission zones are not deliverable without upgrades, and varying amounts and ratios of renewable curtailment are likely to occur in transmission zones. CPUC Staff looks forward to the CAISO's further evaluation of the effectiveness of transmission solutions in selected renewable zones.

Regarding the mapping of storage resources in these sensitivity portfolios, CPUC Staff notes that CAISO adjusted the amount of batteries that had been mapped or recommended by the CPUC for both sensitivities. In addition, the CAISO noted additions and reductions of storage MWs within specific LCR sub-areas, as shown in two columns on the charts in slides 34-35 (pdf version) of the CAISO's presentation¹ at the November 17, 2020 meeting.

- *Could the CAISO clarify the reason and process for making these adjustments in both sensitivities?*
- *Could the CAISO clarify the reason and process for making these adjustments in the mapping of storage resources to busbars in in specific LCR sub-areas?*

It would be helpful if the draft Transmission Plan included a full explanation for all these storage mapping adjustments because these new assumptions can impact local capacity needs, renewable curtailment ratios and deliverability results in these sensitivity analyses.

3. Revised Deliverability Methodology

CPUC Staff notes this is the first TPP cycle under which the CAISO's revised methodology for determining deliverability of resources has been fully implemented. This new methodology incorporates risks of capacity shortage based on differing assumptions of peak and net peak hours within scenarios for the highest and second system need.

This new deliverability methodology refines the amount of FCDS resources that can be accommodated in each transmission area. CPUC Staff is eager to utilize updated transmission capability limits and upgrade cost estimates that have been developed based on this new methodology. This information and other insights about constraints that might result in excessive renewable curtailment enhance the IRP process for the development of renewable resources and transmission.

- *Could the CAISO confirm when transmission capability limits will be upgraded?*
- *Could the CAISO offer any further insights regarding the impacts of this revised deliverability methodology on the FCDS transmission capability that feeds back into the IRP process?*

4. Results of Deliverability Assessment and Curtailment Impacts

CPUC Staff commends CAISO's presentation of results of deliverability assessment for the sensitivity cases.

The CAISO's presentation nicely summarizes results of extensive analysis of the deliverability of resources in the CPUC-developed portfolios. Slides 48-111 (pdf version) identify the on-peak deliverability capabilities by each overloaded facility within each transmission zone, specify the MW

¹ <http://www.caiso.com/Documents/Presentation-2020-2021TransmissionPlanningProcess-Nov172020.pdf>

amounts of renewable and storage resources behind each constraint and – importantly -- explain the types of mitigation that could be used to manage each of these constraints at peak hours.

Among the mitigation options that are specified are curtailment of renewable resources, the charging of storage resources, remedial action schemes, and reconductoring of lines. Identifying these mitigation processes greatly helps to understand the severity of any renewable curtailment under both sensitivity portfolios as well as how these constraints might be resolved.

The design of CAISO's presentation compacts a tremendous amount of information that is useful for developers, transmission owners and regulators. CPUC Staff appreciates this consolidated format, the sophistication of this deliverability analysis and the explanation of these results for each specific area.

5. Refinement of the Wildfire Risk Assessment

The CAISO's assessment of wildfire risk in the PG&E service area includes additional scenarios which are categorized from least to most plausible. The CAISO will focus on the most plausible scenarios in its ongoing consideration of potential mitigation solutions for PSPS events.

CPUC Staff appreciates this first-year effort to incorporate wildfire risk into transmission planning activities. CPUC Staff further appreciates the CAISO's commitment² to expand its assessment beyond the PG&E service area in future assessments.

- *Does the CAISO anticipate assessing wildfire risk in all transmission areas in the CAISO footprint as part of the 2021-2022 TPP cycle?*

We also urge continued coordination with the Transmission Owners to account for the load drop due to distribution lines also taken out for PSPS events. It seems appropriate that distribution load loss should be considered in these assessments as well as the potential mitigation projects that would be considered. We anticipate that as the methodology matures for this new and unique wildfire assessment, the CAISO will better integrate the analysis of distribution and transmission facilities.

CPUC Staff looks forward to discussion at future stakeholder meetings on this foundational assessment. Given the urgency of wildfire risk in California, CPUC Staff encourages CAISO's efforts to disseminate its findings and expand upon this important assessment in future TPP cycles.

² CAISO's response to CPUC Staff Comments following September 23-24, 2020 Stakeholder Meeting, <http://www.aiso.com/Documents/ISOResponsestoComments-2020-2021TransmissionPlanningProcess-Sep23-242020.pdf>