

**COMMENTS OF THE PUBLIC ADVOCATES OFFICE ON THE CALIFORNIA
INDEPENDENT SYSTEM OPERATOR’S 2020-2021 DRAFT TRANSMISSION PLAN
AND THE FEBRUARY 9, 2021 PRESENTATION ON THE 2020-2021 DRAFT
TRANSMISSION PLAN**

INTRODUCTION

The Public Advocates Office at the California Public Utilities Commission (Cal Advocates) is the state’s independent consumer advocate with a mandate to obtain the lowest possible rates for utility services, consistent with reliable and safe service levels, and the state’s environmental goals.¹ The California Independent System Operator (CAISO) requested comments on its 2020-2021 Draft Transmission Plan. Cal Advocates provides the following comments and recommendations on future Transmission Planning Process (TPP) analyses and the CAISO 2020-2021 Draft Transmission Plan.

RECOMMENDATIONS AND COMMENTS

The following are Cal Advocates’ comments by specific topics covered in the TPP and the CAISO 2020-2021 Draft Transmission Plan.

1. Recommendations for future CAISO TPP Analyses

Background

During the 2020-2021 TPP, the CAISO performed its standard reliability, policy, and economic assessments on the California Public Utilities Commission’s (CPUC) renewable resource and greenhouse gas (GHG) target portfolios.² The policy assessments included on-peak and off-peak deliverability studies and the economic assessments included production cost modeling (PCM) simulations.³ These assessments are intended to evaluate the grid impacts of meeting higher renewable portfolio standards (RPS) and GHG reduction targets and to determine if new transmission improvements would be needed to accommodate these higher targets.⁴ Since the PCM simulation results identify where curtailment and transmission congestion may occur on the CAISO-controlled grid with additional renewables, the CAISO used this information to determine locations where battery storage resources could be located to mitigate identified transmission issues. The CAISO performed this analysis referred to it as “re-

¹ Cal. Pub. Util. Code § 309.5.

² *CAISO 2020-2021 Draft Transmission Plan, February 1, 2021*, pp. 19-20 and p. 161.

³ *CAISO 2020-2021 Draft Transmission Plan, February 1, 2021*, p. 162.

⁴ *CAISO 2020-2021 Draft Transmission Plan, February 1, 2021*, pp. 162-163.

mapping batteries,” which involved mapping proposed battery resources to transmission substations and locating them in areas where they would be deliverable and address projected high congestion and or curtailment.

A. Future Policy-Driven Need Assessments Recommendation

The CAISO performed its “battery re-mapping” study on the Sensitivity 2 portfolio⁵ during the 2020-2021 TPP. As mentioned, this re-mapping study used the results from the CAISO TPP analysis, specifically results from the peak and off-peak deliverability assessments, to determine locations where batteries would be deliverable and could potentially address renewable curtailment and transmission congestion.⁶ The CAISO’s PCM results with batteries “re-mapped” illustrate that “re-mapping” batteries can be effective at reducing transmission congestion, especially in areas with large amounts of renewable generators that cause local transmission congestion.⁷ For example, the CAISO states that congestion “on Path 26, COI [California Oregon Intertie], and Path 45 corridors decreased mainly because the battery remapping changed the overall generation dispatch including renewable curtailment and the battery charging and discharging, which improved the overall system operation.”⁸

Given the positive results associated with re-mapping batteries, Cal Advocates supports the CAISO’s and CPUC’s efforts to locate batteries where they would address identified issues and provide value to ratepayers and the grid. For future TPPs, Cal Advocates recommends additional re-mapping studies of other renewable resources in CPUC-provided portfolios, such as solar to avoid increases in CAISO grid congestion and curtailment, and to avoid unnecessary transmission projects.

B. Future Production Cost Model Simulation Study Recommendations

During the February 9, 2021 presentation on the CASIO 2020-2021 Draft Transmission Plan, CAISO staff presented possible mitigations to address curtailment and transmission congestion identified through PCM simulations of CPUC renewable resources and GHG target portfolios.⁹ These mitigations included special protection systems (SPS),¹⁰ reconductoring, and transformer upgrades. Cal Advocates requests that the CAISO expand the mitigation measures considered in

⁵ The CPUC developed the Sensitivity 2 portfolio in the Integrated Resource Plan proceeding. This portfolio assumed 6,456 megawatts of gas generation would retire by 2030 and be replaced with greater amounts of solar, wind, hydro and batteries.

⁶ *CAISO 2020-2021 Draft Transmission Plan, February 1, 2021*, p. 224.

⁷ *CAISO 2020-2021 Draft Transmission Plan, February 1, 2021*, p. 225.

⁸ *CAISO 2020-2021 Draft Transmission Plan, February 1, 2021*, p. 225.

⁹ *CAISO Economic Assessment and Production Cost Simulation Draft 2020-2021 Transmission Plan (presentation)*, February 9, 2021, slides 4-40.

¹⁰ Special protection systems trip load or generation to address a transmission line issue. This type of mitigation is considered the lowest cost option to mitigate line issues.

future TPPs to include non-wire alternatives such as dynamic line rating and power flow control devices where applicable.

C. 2020-2021 TPP Wildfire Impact Assessments and Future Assessments

To date the CAISO’s impact assessment of wildfire-related de-energization events has focused on the impact on transmission lines. As stated in Cal Advocates’ comments submitted on December 1, 2020, this assessment must account for impacts of de-energization events on transmission lines not in isolation and it must specifically assess the impact of distribution-level shutoffs and the resulting load reductions.¹¹ Cal Advocates is making this request for the following reasons: (1) Any analysis of de-energization events must account for reductions in load on the transmission lines caused by the de-energization of distribution circuits, (2) Typically, electric utilities de-energize far more distribution lines than transmission lines because distribution lines pose a greater risk of igniting wildfires, and (3) As illustrated in prior comments, PG&E’s de-energization events have had greater load loss impacts on distribution level circuits than transmission lines.¹²

Cal Advocates recommends that the CAISO change its usage of the term “critical facilities” in future TPPs and the 2020-2021 Final Transmission Plan. The CAISO identified transmission lines where a power shutoff could have a large impact in terms of loss of load as critical facilities in its 2020-2021 Draft Transmission Plan.¹³ The CPUC’s de-energization (Public Safety Power Shutoffs) proceeding has an existing definition of critical facilities, which are facilities that serve the public and are vital for health and safety (such as hospitals or fire stations).¹⁴ The CAISO’s identification of certain transmission lines as critical facilities creates confusion with the established meaning of the term. Cal Advocates recommends using a different term for transmission lines where a power shutoff could have a large impact in terms of loss of load.

¹¹ *Comments of the Public Advocates Office on the CAISO 2020-2021 Transmission Planning Process – November 17, 2020 Presentation and Stakeholder Meeting*, December 1, 2020, p. 1.

¹² *Comments of the Public Advocates Office on the CAISO 2020-2021 Transmission Planning Process – November 17, 2020 Presentation and Stakeholder Meeting*, December 1, 2020, p. 1.

¹³ *2020-2021 TPP Wildfire Impact Assessment Results Update and Conclusion* (presentation), February 9, 2021, slide 3.

¹⁴ CPUC Decision 19-05-042, pp. A4-A6.

2. CAISO 2020-2021 Draft Transmission Plan

A. Economic Planning Study Requests - Southwest Intertie Project – North

The Southwest Intertie Project (SWIP) – North project is a proposed interregional transmission project.¹⁵ It consists of a new 275 mile, 500 kilovolt (kV) single circuit transmission line that would connect the Midpoint 300 kV substation in southern Idaho to the Robinson Summit 500 kV substation in Nevada.¹⁶ The project objective is to address thermal overloads on the bulk transmission system in Northern California and “during various operating conditions while still allowing high COI North to South flows.”¹⁷ “However, not all overloads identified in the 2020-2021 TPP in the area [California/Oregon, Idaho/Nevada] would be mitigated by the SWIP-North project.”¹⁸

Per the CAISO’s analysis, overloads in the project area can be mitigated with substantially lower cost solutions such as implementing congestion management.¹⁹ For these reasons, Cal Advocates supports the CAISO’s recommendation to not undertake a capacity benefits analysis on the SWIP-North project at this time because of the uncertainty on the project’s benefits to California ratepayers and future procurement.

B. Pacific Gas and Electric Company’s (PG&E) Projects Previously On-Hold

Cal Advocates supports the CAISO’s decision to consider batteries as preferred low-cost mitigations for the identified issues on the Midway-Wheeler Ridge and Kern lines and Mesa area lines.²⁰ Cal Advocates supported this recommendation in prior comments on previously-proposed solutions for the Wheeler Ridge Junction and North of Mesa projects because batteries are cost effective solutions.²¹

Please contact Kanya Dorland if you have any questions on these comments at kanya.dorland@cpuc.ca.gov.

¹⁵ Coordination and evaluation of proposed transmission projects that involve more than one state is required per Federal Energy Regulatory Commission Order No. 1000. To this end, the CAISO conducts its coordination with neighboring planning regions on proposed interregional transmission projects biennially. *CAISO 2020-21 Draft Transmission Plan, February 1, 2021*, p. 357.

¹⁶ *CAISO 2020-2021 Draft Transmission Plan, February 1, 2021*, p. 79.

¹⁷ *CAISO 2020-2021 Draft Transmission Plan, February 1, 2021*, p. 78.

¹⁸ *CAISO 2020-2021 Draft Transmission Plan, February 1, 2021*, p. 79.

¹⁹ *CAISO 2020-2021 Draft Transmission Plan, February 1, 2021*, p. 79.

²⁰ *CAISO Reliability Assessment Recommendations – PG&E Area Draft 2020-21 Transmission Plan* (presentation), February 9, 2021, slides 4-6 & slides 7-9.

²¹ *Comments of the Public Advocates Office on the CAISO 2020-2021 Transmission Planning Process – November 17, 2020 Presentation and Stakeholder Meeting*, December 1, 2020, p. 2.