Submit comment on Policy & Economic Preliminary Assessment and Study Updates

2025-2026 Transmission planning process

1. Please provide your organization's comments on the Recommended Reliability Projects less than $50 million

No comment.

2. Please provide your organization's comments on the MIC Expansion Requests

No comment.

3. Please provide your organization's comments on the Preliminary Policy Assessment Results for the SCE area

****The first two comments apply to all PTO planning areas.****

A. Policy Upgrades Should Be Planned as Requested by the CPUC

CAISO appears to be planning only minimal upgrades for this TPP cycle. CAISO suggested on the last stakeholder call that this is because the CPUC requested that no policy upgrades be triggered in this cycle. This is incorrect. As explained below, the Commission requested that transmission be planned for all renewable resources except *a portion of* in-state and out-of-state wind resources.

B. CAISO Should Reserve FCDS Capacity for In-State Wind

CAISO is not correctly interpreting the CPUC's February 2025 Decision (D.25-02-026), which clearly requests that CAISO develop new transmission capacity (to the extent needed) and reserve existing and/or new transmission capacity to accommodate the in-state FCDS wind resources included in the CPUC's adopted portfolio. (As discussed in response to Question 6, below, the CPUC excluded Northeast California wind from this request, asking that CAISO study, but not trigger, new transmission to access this area.) In response to CalWEA's question on the stakeholder call asking why CAISO is not proposing to reserve capacity for in-state wind, CAISO indicated that the Commission did not identify wind as a "long lead time" resource. This is incorrect, as explained below.

On page 2 of the CPUC decision (emphasis added), the Commission states, "This decision … **asks the CAISO to reserve deliverability on the transmission system for certain diverse resources that are geographically-limited and take longer to develop**, **including** geothermal, biomass, offshore wind, non-battery long duration energy storage, and **a specified portion of the total amount of in-state/on-shore and out-of-state wind."** There is no ambiguity here.

On page 58 of the CPUC decision, the Commission identifies the "open question" of "what other LLT resources [besides offshore and out-of-state wind], if any, should have reserved deliverability," stating that:

> "other LLT resources may have unique policy advantages, particularly for resource diversity. If no deliverability is reserved for certain LLT resource types that are identified by the Commission, we run the risk that transmission, once developed, may be used by resources that come online because they are easier to site, faster to come online, and currently more cost-competitive, compared to the LLT resources."

This description is undoubtedly true for transmission deliverability identified for in-state wind.

On page 59 of the CPUC decision, the Commission goes on to "**ask the CAISO to reserve deliverability for approximately 5.6 GW of in-state onshore wind as mapped in the 2035 portfolio**, corresponding to the total amount of non-energy-only wind, and excluding the 1,150 MW [of in-California wind that is mapped to substations in far Northeast California and outside of the CAISO balancing area] discussed above." (Emphasis added.) Similarly, on p. 60, the Commission asks CAISO to reserve capacity for only a portion of Wyoming and New Mexico wind. The Commission then "note[s] that the reservation of deliverability for diverse resources is something we intend to reevaluate with each TPP cycle," and "also hope[s] that the reservation of TPD for diverse resource types pushes some technological resource diversity onto the existing and planned CAISO grid."

In Ordering Paragraph 3 of the CPUC decision, the Commission summarizes its request to reserve deliverability for resources of all types, including geothermal, biomass, offshore wind, non-battery long-duration energy storage, out-of-state wind, and on-shore/in-state wind. There is no distinction between these resources in terms of some being "long lead time" and others not. The Commission is clearly requesting that transmission be developed and reserved for all these long lead-time resources in its IRP portfolio.

This explicit request is entirely consistent with CAISO's tariff Appendix DD section 8.9.1 and the policy stated on page 52 of CAISO's Track 3 Updated Final Proposal, which states that eligible long lead-time resource technologies are those that are "long lead-time" (certainly true of instate wind that is dependent on new transmission), "location-constrained" (certainly true of limited instate wind resources), and "resources dependent on policy-approved transmission with explicit guidance to treat the resource as a long lead-time resource from the CPUC or local regulatory authority" (which, per above, the CPUC has provided).

Accordingly, CAISO should develop and reserve deliverability capacity for all in-state FCDS wind resources in the CPUC's resource portfolio for the 2025-26 plan, except for Northeast California resources, which should be studied for transmission needs in accordance with the Commission's requests as discussed below. Failing to do so would undermine the IRP/TPP coordination framework.

We recognize that the amount of in-state wind included in the Commission's most recent draft portfolio for the 2026-27 TPP is lower than that contained in its 2025-26 TPP portfolio. However, the 2026-27 resource portfolio is not final, and CAISO states that it "will update this proposal in the Draft 2025-2026 Transmission Plan (March 2026), based on stakeholder comment and the portfolios of resources we receive from the CPUC and other LRAs." The NE California study results are needed to inform the CPUC's decision on its 2026-27 resource portfolio and future portfolios.

C. CAISO Should Plan Windhub to Vincent Upgrades

Development of cost-effective and IRP-planned resources in the SCE Northern Area, and specifically in the Tehachapi wind resource area, has been hampered by near-zero TPD capacity for that area as well as the CAISO-imposed Windhub Substation export limit under the extreme system event criteria – potential blackout condition due to simultaneous loss of both 500kV lines from Windhub.

CalWEA's studies show that adding a 230kV double-circuit transmission line with high-capacity double-bundle conductors from the Windhub 230kV bus to the Vincent 230kV bus would obviate the need to impose an export capacity limit at the Windhub substation. Further, when combined with a low-cost fix (<$20M) to eliminate the ground clearance limitation for the Antelope-Vincent 500kV line, this 230kV line upgrade would add more than 3,000 MW of TPD capacity to the Tehachapi wind resource area at Windhub, Whirlwind, and/or Antelope Substations. Almost 2,000 MW of solar and wind capacity is included in the CPUC's 2025-26 portfolio.

Thus, CalWEA strongly recommends that CAISO consider approving the Windhub-to-Vincent 230kV line and addressing the ground clearance limitation for the Antelope Vincent 500kV line as part of its 2025-26 TPP.

4. Please provide your organization's comments on the Preliminary Policy Assessment Results for the GLW area

Please see the first two comments under Question 3.

5. Please provide your organization's comments on the Preliminary Policy Assessment Results for the SDG&E area

Please see the first two comments under Question 3.

6. Please provide your organization's comments on the Preliminary Policy Assessment Results for the PG&E area

Please also see the first two comments under Question 3.

A. CAISO Should Properly Study Transmission to Northeast California

CAISO has not substantively responded to CalWEA's earlier comments, arguing that CAISO is not properly fulfilling the CPUC's request to study transmission solutions for 1,150 MW of wind in NE California.[1]

The CPUC requested that CAISO study transmission solutions, including routes and potential costs, to deliver 1,150 MW of in-state (but out-of-CAISO) Northeast California wind resources, and to interface with BPA and NVE about potential regional solutions.[2] The Commission indicated that this

[1] See CalWEA's 10-8-2025 comments, which are repeated and updated here.

[2] The CPUC stated the following in its Decision 25-02-026 (Feb. 26, 2025) (emphases added):

planning information would inform its further consideration regarding whether to plan for such transmission solutions in next year's Transmission Planning Process.[3] Failing to provide this study would undermine the Commission's request and prevent it from evaluating whether to include Northeast California transmission solutions in the 2026-27 portfolios.

In the CAISO's slides for the Sept. 24-25, 2025, Stakeholder Meeting, CAISO acknowledges, in Slide 27, that "CPUC staff recommend CAISO **conduct additional analysis** and defer approving **any potential transmission solutions needed** for the OOS wind resources which include … **1,150 MW of Northern California wind mapped to three NVE substations**." (Emphasis added.) And yet, the diagram on p. 9 shows 1,150 MW as "Out of CAISO Imports" at Malin. Slide 27 states "in 2035 base portfolio and 2040 base and sensitivity portfolio cases, these resources are modeled off-line.

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p. 59 "…1,150 MW of in-California wind that is **mapped to substations in far Northeast California** and outside of the CAISO balancing area …"

p. 62: "[W]e will ask [CAISO] to undertake a special study of the **various routes and combinations** for the OOS wind amounts [including Northeast California wind] to learn more information about the details of **potential routes**. This will allow for analysis of alternative locations for injecting the resources onto the CAISO grid and the potential transmission solutions."

Conclusions of Law "13. It is reasonable to request that the CAISO not trigger the approval of significant new transmission to support Northeast California wind and OOS wind on new regional transmission lines this year, but rather **study these options and interface with regional partners outside of California**, in order to **plan for future development of this transmission with a better understanding of routing options and potential costs."**

Ordering Paragraph 2: "The California Public Utilities Commission (Commission) requests that the California Independent System Operator (CAISO) **analyze the transmission needed for the base case portfolio** reflected in Ordering Paragraph 1, but not yet trigger approval of the solutions necessary to support out-of-state wind resources on new transmission and in-state wind resources that are beyond of the CAISO balancing area and are specifically identified in the results of the mapping of resources to busbars discussed in Section 5 of this decision. Instead, **the Commission recommends that the CAISO conduct the analysis and begin regional discussions (with entities responsible for regional planning and balancing areas outside of the CAISO planning area) about the appropriate siting and potential costs of such upgrades, for further consideration in next year's Transmission Planning Process."**

[3] CPUC D. 25-02-026 at p.63 (emphasis added): "Finally, there is a similar issue with respect to in-state/on-shore wind in Northern California, where 1.1 GW of wind is mapped to the Eastern side of the Sierra Nevada mountains in the NV Energy system (not within the CAISO). This area currently has commercial interest with two projects being developed. However, the resources would currently have to connect through the Bonneville Power Administration (BPA)-NV Energy connection, which has limited capacity, and then be imported into California through the California Oregon Intertie (COI).

"Similar to the OOS wind issues generally discussed above, **for this year's TPP, we are asking the CAISO to do additional study on transmission solutions to upgrade the NVE/BPA system or directly interconnect the CAISO grid to deliver these in-state (but out-of-CAISO) wind resources.** This can advance the identification of transmission locations and costs, without triggering potentially expensive or not-well-targeted solutions. This is also a complex question that requires interfacing with BPA and NVE about potential regional solutions. Thus, **conducting further study this year will prepare us in next year's TPP to actually trigger the appropriate transmission when more details are known."**

Instead, we build a 2040 out-of-state wind sensitivity case to have all these resources on to study any system impact and transmission solutions that are driven by these out-of-state wind resources."

On the September 24-25, 2025, stakeholder call, CalWEA's consultant asked CAISO to describe the off-line modeling. CAISO responded that there is sufficient MIC to support Northeast California wind resources and, therefore, they are not modeled in the sensitivity study. These resources are assumed to be included in import flows into CAISO. On the November 19, 2025 stakeholder call, CAISO repeated this explanation.

CAISO's proposal fails to fulfill the CPUC's request. MIC availability is very limited, and load-serving entities control its use. It is short-term and thus generally does not support project financing. In any case, MIC is no substitute for transmission upgrades that access Northeastern California, which is a promising area for wind resource development.

CalWEA therefore strongly urges CAISO to study 1,150 MW, as the CPUC requested, to inform the Commission's 2026-27 TPP portfolios.[4] While we recognize that the amount of in-state wind in Northeast California included in the Commission's most recent draft portfolio for the 2026-27 TPP is lower than in its 2025-26 TPP portfolio, the 2026-27 resource portfolio is a preliminary draft. The CPUC's requested transmission study will inform the Commission's proposed and final decisions on this portfolio.

An appropriate study would include evaluating a 230kV or 500kV substation north of the City of Susanville, along with a 230kV or 500kV line to the Round Mountain or Fern Road Substation. Consideration should then be given to connecting this high-voltage infrastructure to the planned NVE 500kV line (as part of its Greenlink expansion project plans) in the same area. This would offer an additional path for Northwest and Wyoming OOS wind resources to reach CAISO loads.

B. CAISO Should Plan for Needed NGBA Upgrades, Including Collinsville to Tesla

As noted above in response to Question 3, CAISO should plan for all transmission necessary to interconnect the renewable resources in the CPUC's 2025-26 portfolio, except for a portion of in-state and out-of-state wind resources.

CalWEA continues to recommend that CAISO consider upgrading the Tesla-to-Collinsville pathway. Furthermore, to promote more efficient use of transmission planning deliverability capacity, CAISO should follow the latest exceedance QC numbers from the CPUC's RA proceeding for the HSN hour, i.e., approximately 50% of nameplate capacity for offshore wind projects, rather than 83%, as CAISO currently plans to use based on the 20% exceedance level during the HSN hours. This 83% value will needlessly reserve TPD capacity for offshore wind projects that could accommodate additional interconnection customers.

The addition of the Collinsville Substation and the Collinsville-to-Pittsburg 230kV cables in the 2022-23 TPP was hampered by the fact that the Collinsville Substation became a bottleneck for deliverability capacity for practically all queued projects in PG&E's NGBA and even for many projects in the Greater Bay Area (GBA) that did not have such a constraint before the Collinsville addition. This concern became even more acute after CAISO approved the Fern-Road-to-

[4] CPUC's busbar mapping shows these resources interconnected at a new substation near the existing Leavitt substation in central western Nevada (300 MW), a new substation near the existing Madeline substation (700 MW), and at the Hilltop substation (150 MW).

Humboldt-to-Collinsville 500 kV upgrade as part of the 2023-24 TPP. The Collinsville deliverability bottleneck will prevent Humboldt offshore wind resources from attaining FCD status. Furthermore, CalWEA's studies show that a relatively modest Collinsville-to-Tesla 500kV line upgrade will substantially benefit all NGBA resources, whether for short-term RA or long-term reserved capacity. Hence, CalWEA strongly recommends that CAISO consider approving a Collinsville-to-Tesla 500kV line upgrade as part of its 2025-26 TPP.

7. Please provide your organization's comments on the Preliminary Economic Analysis Results

No comment.

8. Please provide your organization's comments on the Testing Results of Congestion Revenue Allocation

No comment.

9. Please provide any additional comments on the November 19, 2025 Transmission Planning Process Stakeholder Meeting

No comment.