

**BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA**



Order Instituting Rulemaking to
Continue Electric Integrated
Resource Planning and related
Procurement Processes.

Rulemaking 20-05-003

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**COMMENTS OF THE CALIFORNIA ENERGY STORAGE ALLIANCE ON THE
ADMINISTRATIVE LAW JUDGE'S RULING SEEKING COMMENTS ON
ELECTRICITY RESOURCE PORTFOLIOS FOR 2025-2026 TRANSMISSION
PLANNING PROCESS**

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September 30, 2024

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In accordance with the Rules of Practice and Procedure of the California Public Utilities Commission (“Commission”), the California Energy Storage Alliance (“CESA”) hereby submits these comments on the Administrative Law Judge’s (“ALJ”) *Ruling Seeking Comments on Electricity Resource Portfolios For 2025-2026 Transmission Planning Process* (“Ruling”), issued on September 12, 2024.

I. Introduction

CESA appreciates the opportunity to provide input on the policy-driven portfolio for the upcoming 2025-2026 Transmission Planning Process (“TPP”). CESA recognizes the importance of accurate transmission planning in achieving a reliable and decarbonized electric grid. As the Commission finalizes the base case and sensitivity case portfolios for the 2025-2026 TPP, it is crucial to ensure the planning process accurately reflects resource classes and costs, particularly for energy storage. In previous TPP cycles, limitations in the modeling tools and resource classes have resulted in an underestimation of the value and need for long-duration energy storage (LDES) and an inaccurate view of supporting transmission. Furthermore, it is time to modernize the busbar mapping process’ view of distributed resources to include distributed storage in addition to distributed solar.

Therefore, CESA respectfully submits that:

- The base case and sensitivity cases must incorporate updated resource categories to ensure accurate transmission planning,
- Additional long lead time resources should not be re-optimized in the integrated resource plan (IRP) unless energy storage resource classes and costs are appropriately defined.
- The busbar mapping process must include distributed storage in addition to distributed solar.

II. The Base Case and Sensitivity Cases Must Incorporate Updated Resource Categories to Ensure Accurate Transmission Planning

It is important that the portfolio of resources submitted to the California Independent System Operator's ("CAISO") TPP accurately represents the public policy resource selection as well as the likely location the selected resources will interconnect to the grid. Creation of the Preferred System Plan ("PSP") and the portfolio of resources to submit to CAISO for the TPP is one step in a self-fulfilling system planning feedback loop. The Commission establishes the policy driven portfolio of resources, the CAISO uses this portfolio to inform its transmission investment, and this transmission investment informs developers where additional deliverability will most likely be available. Given that the selection of resources and the mapping of those resources to the transmission substations directly informs the transmission build-out, the longer this process fails to identify the correct needed resources and fails to accurately map these resources to the transmission system, the higher the likelihood of snowballing malinvestment in the transmission system and overall resource development.

The Ruling proposes a base case portfolio and sensitivity portfolios that continues to be the result of narrowly and inaccurately modeled energy storage resource classes. The modeling inputs and assumptions include a 4-hour duration Li-ion energy storage class, an 8-hour Li-ion energy storage class, a 12-hour pumped storage hydro class, and an 8- to 24-hour other long-duration energy storage (“Other LDES”) class. The capacity expansion model assigns costs accordingly, with all 12-hour capable LDES modeled with pumped storage hydro costs and the catch-all other LDES class modeled with Compressed Air Energy Storage (“CAES”) cost.

The resource selection class definitions impact both the quantity of resource development that should occur to meet public policy objectives as well as the mapping of those quantities to the transmission system. For instance, if the model were to appropriately weigh the trade-offs between 12-hour Li-ion battery technology and pumped storage hydro, it may determine a higher quantity of overall energy storage procurement is prudent. Likewise, other LDES with durations between 8-24 hours are not accurately represented by the cost of CAES, leading to inaccurate selection of only 0.5 GW in the base case. Furthermore, the Commission recently determined that 12-hour LDES and multi-day storage is needed and should be centrally procured by the Department of Water Resources.¹ DWR’s procurement will likely not be pumped storage hydro nor CAES, yet the busbar mapping process would inaccurately apply irrelevant screens to these resources, given the resource class they have been mapped into, resulting in transmission investment in areas where no transmission investment is actually needed.

The Commission must create and use new energy storage resource classes, with accurately associated costs, in its capacity expansion modeling to better inform the transmission investment

¹ D.24-08-064

needed to support its public policy objectives. The longer the resource classes are not corrected, the higher the likelihood of snowballing malinvestment in the transmission system and overall resource development.

III. Additional Long Lead Time Resources Should Not Be Re-Optimized in IRP Unless Energy Storage Resource Classes and Costs are Appropriately Defined

The Energy Division created a recommended sensitivity portfolio and an alternate sensitivity portfolio. Each portfolio inserts long-lead time procurement consistent with D.24-08-064 and differs in the amount of other resources from the load-serving entity (“LSE”) plans that are inserted into the portfolio, which impacts the timing, amount, and type of additional resources the capacity expansion model selects and optimizes. In the recommended sensitivity portfolio, LSE selected resources are included in the portfolio only through 2030, and thereafter the model is allowed to optimize the selection of additional resources to meet reliability and GHG goals. In the alternate sensitivity portfolio, LSE selected resources are included in the portfolio only through 2035, and thereafter the mode optimizes the selection of additional resources to meet reliability and GHG goals.

While CESA appreciates inclusion of the sensitivity cases, the decision to exclude LSE procurement after 2030 will undermine the considerable effort that LSEs have made in developing individual IRPs. The sensitivity cases for the 2025-2026 TPP propose to analyze transmission needs based on a portfolio that significantly departs from the LSE informed Preferred System Plan after 2030. This approach disregards the careful planning and coordination that has gone into the IRP process and risks creating a disconnect between long-term transmission development and the actual resource mix that is likely to materialize on the ground. Furthermore, simply removing LSE procurement plans fundamentally changes the resource portfolio and will converge to the

previously published “Least-Cost Portfolio.”² Very few parties supported the adoption of the Least-Cost Portfolio.³

Absent an accurate representation of resource classes, the base case itself is likely a better representation of transmission needs to support long lead time resource development. For purposes of transmission planning, it is likely not necessary, and may be counter-productive, to develop sensitivity cases that force in additional pumped hydro storage and other LDES, as the base case already incorporates the overall amount of long-lead time procurement needs. The current base case portfolio already includes 3,800 MW of LDES procurement by 2035, which is nearly double the 2,000 MW minimum long lead time LDES need the Commission identified.⁴ Until the Commission can accurately model energy storage resource classes and costs, the results of the sensitivity cases may perpetuate investment in transmission that will not be needed, undermining the Commission’s “least regrets” approach.

IV. The Busbar Mapping Process Must Include Distributed Storage in Addition to Distributed Solar

In response to the Ruling,⁵ regarding recommended improvements to the resource-to-busbar mapping process, distributed storage must be included in addition to the current category of distributed solar. As recognized in the capacity expansion modeling over the years, energy storage is an important element to meeting public policy objectives, providing reliability, GHG reduction, and enabling higher penetration of solar. The representation of in-front of meter distributed storage resources in the Commission’s portfolio of resources has been lacking. The

² D.24-02-047, pg. 56

³ D.24-02-047, pg. 58

⁴ D.24-08-064

⁵ Ruling, Section 6, Question 4

policy-driven portfolios have included only distributed solar, even though most distributed generation projects in the Wholesale Distribution Access Tariff (“WDAT”) queues in southern California today are energy storage.⁶ The TPP would be better informed if both the quantity of distributed storage and the location of the distributed storage were accurately included in the policy-driven portfolio of resources, like distributed solar.

In recent years, the CAISO’s allocation of deliverability through its Distributed Generation Deliverability process⁷ has been limited.⁸ One reason for the limited allocation of deliverability through this process is that it does not assess deliverability for WDAT resources at locations on the grid that lack a corresponding distribution substation in the Commission’s annual resource-to-busbar mapping for the annual TPP.⁹ Therefore, the lack of distributed storage in the Commission’s portfolio of resources is hindering the resource adequacy eligibility and development of distributed storage resources that can be used to support further solar development.

Correspondingly, the following language should be added to *CPUC Step #4* in Section 7 of the Methodology for Resource-to-Busbar Mapping for the Annual TPP:

Distributed Storage – This resource represents in-front of the meter storage resources. Resource potential is assessed based on resources identified in LSE plans and potential projects in the interconnection queues of the lower voltage transmission systems.[fn] These

⁶ For instance, most active Interconnection Requests in SDGE’s WDAT queue are energy storage:

<https://www.sdge.com/sites/default/files/documents/SDGE%20WDAT%20Generation%20Interconnection%20Queue%203-18-2024.pdf>

⁷ CAISO Business Practice Manual for Distributed Generation Deliverability

⁸ CAISO Resource Adequacy Deliverability for Distributed Generation, February 29, 2024, <https://www.caiso.com/documents/2023-2024deliverabilityfordistributedgenerationstudyresultsreport.pdf>

⁹ CAISO refers to the nodes that are eligible to be studied as those “...that have non-zero distributed generation MW in one of the most recent Transmission Plan renewable portfolios.”

resources are mapped to the nearest CAISO system level substation or the likely CAISO system interconnection point.

[fn] CPUC staff utilizes the Wholesale Distribution Access Tariff interconnection queues for PG&E, SCE, and SDG&E.

V. CONCLUSION

CESA appreciates the opportunity to submit these comments.

Respectfully submitted,

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