

**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
(Filed on May 7, 2020)

**COMMENTS OF THE CALIFORNIA ENERGY STORAGE ALLIANCE ON THE
ADMINISTRATIVE LAW JUDGE'S RULING SEEKING COMMENTS ON
ELECTRICITY RESOURCE PORTFOLIOS FOR 2023-2024 TRANSMISSION
PLANNING PROCESS**

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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 Ruling Seeking Comments on Electricity Resource Portfolios for 2023-2024 Transmission Planning Process* (“Ruling”), issued by Administrative Law Judge (“ALJ”) Julie Fitch on October 7, 2022.

I. INTRODUCTION.

CESA appreciates the work done by the Commission, the California Energy Commission (“CEC”), and the California Independent System Operator (“CAISO”) in the development of the Ruling and the portfolios described therein. The Ruling and its Attachment (“Attachment A”) demonstrate that the aforementioned entities have managed to establish a robust method to, year after year, appropriately update the most relevant long-term planning portfolios and translate them in a manner that can assist the CAISO’s Transmission Planning Process (“TPP”).

Generally, CESA is supportive of the direction of the Ruling and of the portfolios recommended within it. The Commission’s determination to communicate a more ambitious base

case scenario than those passed on to CAISO in recent past years deserves recognition. Moving forward with a series of portfolios that more closely align with the magnitude and timing of grid expansion necessary to meet California’s ambitious environmental goals represents a reasonable hedge against the significant challenges associated with transmission siting and development. While the Ruling and its Attachments represent a commendable effort and significant advancements to the TPP and busbar mapping processes, there are still areas where CESA sees improvements are possible, particularly considering new developments regarding federal policy and the Integrated Resource Planning (“IRP”) proceeding’s timing. Thus, in these comments, CESA focuses on the following topics:

- The Commission is correct in proposing to communicate a Base Case Portfolio that meets High Electrification load forecasts and achieves 30 million metric tons (“MMT”) of greenhouse gas (“GHG”) emissions by 2030.
- The Commission and the CAISO should prioritize analysis of the Limited Offshore and Out-of-State (“OOS”) Wind sensitivity given the uncertainties of developing regional transmission and offshore wind.
- Given recent changes in federal tax policy, in future IRP cycles the Commission should consider revising the degree to which co-location is forced upon selected standalone PV and storage.
- The Commission should direct Energy Division (“ED”) to modify its busbar mapping methodology document to clarify how long duration energy storage (“LDES”) resources are being mapped; specifically, clarify if LDES is only being mapped as if it were pumped hydro storage (“PHS”).
- As the Commission considers development of a new procurement program, Energy Division (“ED”) should leverage the busbar mapping results to inform area-specific procurement, particularly in Local Reliability Areas (“LRAs”) and disadvantaged communities (“DACs”).

II. RESPONSES TO QUESTIONS INCLUDED IN THE RULING.

Question 1: Do you recommend any changes to the proposed base case portfolio in Section 2 of this ruling? If so, provide rationale and justification for your recommended changes.

A. The Commission is correct in proposing to communicate a Base Case Portfolio that meets High Electrification load forecasts and achieves 30 MMT of GHG emissions by 2030.

CESA commends the Commission's decision to communicate a Base Case Portfolio that recognizes the impacts electrification will have on electric demand while honoring California's aggressive climate policy. In the prior TPP cycle, CESA urged the Commission to focus primarily on cases that meet 38 and 30 MMT GHG targets by 2030, as they most closely align with the resource need required to achieve the goals established in Senate Bill ("SB") 100, while providing reasonable hedges against extreme weather events that have increased in both magnitude and frequency due to climate change. As such, we support the Commission's intent to communicate a Base Case Portfolio that meets a 30 MMT GHG target in 2030, and a 25 MMT GHG target by 2035. CESA agrees with the Commission's sense that the proposed Base Case Portfolio will accelerate the State's move toward planning for a higher electrification future and identify incremental infrastructure needs for the increased renewable needs associated with existing and new energy policy drivers.

With regards to the load forecast utilized, CESA is also supportive of the use of the CEC's 2021 Integrated Energy Policy Report ("IEPR") Additional Transportation Electrification ("ATE") scenario. In prior cycles, CESA had hesitated in supporting use of other high electrification load forecasts, such as the PATHWAYS-derived scenarios, because their use could require significant modifications to the models, inputs, and

assumptions utilized in this proceeding and the TPP. Now, thanks to the coordinated efforts of the Commission, CEC, and CAISO, the TPP process has a set of usable and reliable high electrification forecasts that account for the policy and market drivers behind higher transportation electrification. As such, CESA supports the proposed Base Case Portfolio.

Question 2: Do you recommend any changes to the proposed sensitivity portfolios in Section 3 of this ruling? If so, provide rationale and justification for your recommended changes.

A. The Commission and the CAISO should prioritize analysis of the Limited Offshore and OOS Wind sensitivity given the uncertainties of developing regional transmission and offshore wind.

In the Ruling, the Commission notes that two proposed Sensitivity Portfolios are to be communicated to the CAISO for the 2023-2024 TPP cycle: an Offshore Wind Sensitivity Portfolio (“Sensitivity 1”) and a Limited Offshore and OOS Wind Sensitivity Portfolio (“Sensitivity 2”). The key difference between these two policy driven sensitivities is the level of forced-in offshore and OOS wind resources. Sensitivity 1 assumes offshore wind will take off and includes a total of 13.4 GW of forced-in offshore wind capacity while Sensitivity 2 has more conservative assumptions regarding wind development and limits offshore and OOS wind on new transmission to 2 GW each through the 2035 build year.

Overall, CESA is supportive of the Commission communicating two different pathways towards decarbonization, each capturing the different opportunities and challenges associated with the development of new generation assets and transmission lines. In a context of increased regionalization and growing climate risks, the Commission’s consideration of contrasting alternatives that could meet the state’s goals is

timely, especially considering new federal tax incentives and credits adopted and imminent guidelines resulting from the enactment of the Inflation Reduction Act (“IRA”). As noted by ED staff elsewhere in the IRP proceeding, the IRA will have material impact in the costs associated with a wide array of energy resources, particularly renewable generators and energy storage assets.¹ This landmark piece of national industrial policy will likely expand the set of potential solutions to our decarbonization goals; hence, the Commission is correct in commencing exploration of what these strategies might entail with regards to transmission planning.

While state and federal goals and conditions have changed greatly since the first IRP cycle, the challenges that transmission development entails have seldom been addressed or ameliorated. Both technical complexities and legal challenges impact the feasibility and expediency of transmission buildout. In addition, CESA believes that it is reasonable to expect other currently unforeseen challenges may arise as California starts to develop the necessary infrastructure to adopt offshore wind at considerable scale for the first time. The lack of consistent regional planning across the Western Interconnection only exacerbates these concerns. In this context, CESA recommends prioritizing analyzes and identification of least-regrets investments based on Sensitivity 2.

Question 3: Do you recommend any changes to the busbar mapping methodology or process described in Section 5 of this ruling and in Attachment A? If so, provide rationale and justification for your recommended changes.

¹ CPUC, “Inputs and Assumptions Modeling Advisory Group Webinar”, September 2022, at 23, available at: <https://www.cpuc.ca.gov/-/media/cpuc-website/divisions/energy-division/documents/integrated-resource-plan-and-long-term-procurement-plan-irp-ltpp/2022-irp-cycle-events-and-materials/iamag09222022.pdf>

A. Given recent changes in federal tax policy, in future IRP cycles the Commission should consider revising the degree to which co-location is forced upon selected standalone PV and storage.

On August 16, 2022, President Biden signed the into law the IRA, a landmark piece of industrial policy legislation that, according to McKinsey & Company, will direct nearly \$400 billion in federal funding to clean energy through a mix of tax incentives, grants, and loan guarantees over the next decade.² Notably, when considered in conjunction to the previously signed Bipartisan Infrastructure Law, these two policies will direct almost \$100 billion specifically to batteries and renewable generation resources.³ New incentives and grants mean new eligibility norms and associated incentives. During the staff workshop on October 20, 2022, ED staff noted that the capacity expansion modeling that produced the proposed Base and Sensitivity Portfolios did not take into account IRA impacts due to the timing of the bills signing and the need to communicate the TPP portfolios. While this can be understandable given the pressing nature of timely transmission planning and some of the uncertainties pending formal Internal Revenue Service (“IRS”) guidance on various IRA provisions, the differences in federal incentives and their impact should be considered by the Commission in upcoming busbar mapping cycles.

Today, federal tax incentives like the investment tax credit (“ITC”) and local rules regarding property taxes incent the co-location of storage and renewable assets. This, nevertheless, may not be the case generally moving forward due to the provisions of the IRA. Namely, the IRA now allows solar resources to receive either the ITC or the

² McKinsey & Company, “The inflation Reduction Act: Here’s what’s in it”, October 2022, available at: <https://www.mckinsey.com/industries/public-and-social-sector/our-insights/the-inflation-reduction-act-heres-whats-in-it>

³ *Ibid.*

production tax credit (“PTC”). Moreover, the IRA now allows for standalone storage to receive ITC.⁴ Crucially, the ITC percentage a storage asset may be eligible for has also increased given the creation of bonus incentives. As a result, the economic case for co-locating storage and renewable assets is bound to change given the effects of the IRA.

In this context, the Commission should consider re-evaluating the assumptions regarding co-location of storage and solar resources within its busbar mapping methodology. CESA believes that the Commission’s determination to explicitly model paired solar and storage as a candidate resource, as noted in the I&A process of the 2023 IRP cycle, will greatly ease this concern. Having a hybrid candidate resource and separate standalone solar and standalone storage candidate resources will ease integration of the cost impacts associated with IRA and will ease the mapping of the assets without necessarily forcing co-location upon standalone assets. While the inclusion of this novel candidate resource will result in a more reliable idea of future transmission needs, the busbar mapping criteria for the standalone storage will need to be revised to allow for the optimal siting of paired and standalone assets. CESA expects that this will greatly align with peaker replacement needs in LRAs and DACs, as further detailed in our response to Question 6.

⁴ CPUC, “Inputs and Assumptions Modeling Advisory Group Webinar”, September 2022, at 22, available at: <https://www.cpuc.ca.gov/-/media/cpuc-website/divisions/energy-division/documents/integrated-resource-plan-and-long-term-procurement-plan-irp-ltpp/2022-irp-cycle-events-and-materials/iamag09222022.pdf>

B. The Commission should direct ED to modify its busbar mapping methodology document to clarify how LDES resources are being mapped; specifically, clarify if LDES is only being mapped as if it were PHS.

Attachment A to the Ruling describes the methodology used for resource-to-busbar mapping for TPP purposes. Overall, the document describes a method by which the Commission, CEC, and CAISO can convert a geographically coarse portfolio, as those generated by RESOLVE, and translate it to a busbar-level map. In this process, some resource classes are geographically constrained, meaning that they can only be mapped to substations that are within or nearby the areas where the resource is available (*e.g.*, a geothermal generator must be developed nearby a geothermal resource). This has not been the case for battery energy storage systems (“BESS”) since these can be deployed in all geographies at any scale. This, however, is not the case for all types of storage. PHS is a particularly geographically constrained type of energy storage since it generally requires a series of reservoirs and favorable geography to be executed at scale. Unfortunately, so far, the Commission has continued to use PHS as the modeling proxy for many other LDES technologies, including some that are differently geographically constrained and others that do not have such constraints. In the future, the Commission can avoid issues of this nature in the future by explicitly modeling a wider gamut of LDES technologies, as ED presented in the September 22nd, 2022, Modeling Advisory Group (“MAG”) Workshop regarding inputs and assumptions (“I&A”) for the 2023 IRP cycle.

Given these circumstances, it is unclear when ED notes in Attachment A that the process will address “location specific long duration energy storage” by comparing “the location of long duration energy storage resources that are limited to a specific geographic area to each substation radius and allocate the transmission planning area-level long

duration energy storage resources to substations in closest proximity.”⁵ CESA requests clarification of this statement since: (1) it is unclear whether there are non-location specific LDES resources and location specific LDES resources, or if all LDES resources are assumed to be location specific; and (2) if the latter is true, the Commission should clarify if these location specific LDES resources are assumed to be PHS (or at least to share their geographic constraints).

Question 4: Do you recommend any changes to the specific busbar mapping criteria and their implementation described Section 5 of this ruling and in Attachment A? If so, provide rationale and justification for your recommended changes.

Please see CESA’s answer to Question 3, above.

Question 5: Describe any concerns you have about the preliminary busbar mapping results described in Section 6 of this ruling.

Overall, CESA applauds the Commission for enhancing the busbar mapping methodology in a manner that reflects commercial interest based on CAISO’s interconnection queue. Today, the busbar mapping methodology will prioritize mapping of resources to substations with earlier commercial operation date and transmission plan deliverability. CESA believes this enhancement will more accurately identify transmission expansion and upgrades needed to meet the state’s greenhouse gas goals. As such, CESA does not offer specific comments on the draft results at this time but may address other parties’ opening comments in replies.

⁵ Attachment A, at 14.

Question 6: Include any comments in response to this ruling that are not covered in Questions 1-5 above.

A. As the Commission considers development of a new procurement program, ED should leverage the busbar mapping results to inform area-specific procurement, particularly in LRAs and DACs.

The Commission has made a commendable effort to prepare preliminary busbar mapping results ahead of the communication of the portfolios to be used in the 2023-2024 TPP cycle. At a high level, the results show that a significant fraction of energy storage resources (5-6 GW) are being mapped in LRAs and/or DACs.⁶ While these results are driven by the busbar mapping methodology and are intended to inform the TPP process more broadly, CESA believes that these lessons should be considered as the Commission considers development of a new programmatic framework to translate IRP results into procurement directives in a regular manner.

So far, current IRP procurement directives have been limited to system-level resources despite the fact that exercises such as busbar mapping seek to prioritize the deployment of future incremental capacity in locally constrained or otherwise underserved communities. Focusing procurement directives on system resources has a twofold effect. First, it does not incent load-serving entities (“LSEs”) to invest in developing new capacity identified in the IRP, which is either renewable generation or storage capacity, in LRAs, thus limiting our ability to utilize IRP-selected assets to replace existing, aging capacity. Second, in the long run, it results in increased ratepayer costs since, assuming full

⁶ CPUC, “Proposed Electricity Resource Portfolios for the 2023-2024 Transmission Planning Process Workshop Materials”, October 2022, at 75, available at: https://www.cpuc.ca.gov/-/media/cpuc-website/divisions/energy-division/documents/integrated-resource-plan-and-long-term-procurement-plan-irp-ltpp/2022-irp-cycle-events-and-materials/2023-2024-tpp-portfolios-and-modeling-assumptions/23-24tpp_portfolios_workshopslides.pdf

deliverability, any MW within a LRA provides both Local and System Resource Adequacy (“RA”), while resources outside a LRA only provide System RA. As such, any programmatic procurement framework that does not direct or incentivize procurement specific to LRAs and DACs will have the effect of delaying the replacement of aging capacity and raising ratepayer costs in the long run.

III. CONCLUSION.

CESA appreciates the opportunity to submit these comments to the Ruling and looks forward to working with the Commission and stakeholders in this proceeding.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'Jin Noh', written in a cursive style.

Jin Noh
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CALIFORNIA ENERGY STORAGE ALLIANCE

Date: October 31, 2022