

BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA



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

Rulemaking 20-05-003

**COMMENTS OF THE PUBLIC ADVOCATES OFFICE IN RESPONSE TO THE
ADMINISTRATIVE LAW JUDGE'S RULING SEEKING COMMENTS ON
ELECTRICITY RESOURCE PORTFOLIOS
FOR THE 2023-2024 TRANSMISSION PLANNING PROCESS**

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I. INTRODUCTION

The Public Advocates Office at the California Public Utilities Commission (Cal Advocates) submits the following comments in response to the October 7, 2022, *Administrative Law Judge’s Ruling Seeking Comments on Electricity Resource Portfolios for the 2023-24 Transmission Planning Process* (ALJ Ruling). The ALJ Ruling presents 2033 and 2035 reliability and policy-driven base case and sensitivity portfolios; an updated busbar mapping methodology; and preliminary busbar mapping results. The ALJ Ruling requests that parties respond to six questions regarding these materials. Cal Advocates’ comments are organized in response to these six questions.

II. BACKGROUND

The transmittal of California Public Utilities Commission (Commission) Integrated Resource Planning (IRP) portfolios to the California Independent System Operator (CAISO) for the CAISO’s Transmission Planning Process (TPP) is a cornerstone of the Commission’s and the CAISO’s work to co-optimize generation and transmission planning. In recent years, this work has resulted in the approval of a high number of policy-based transmission projects, reversing the CAISO’s previous practice of approving few or no policy projects (See Figure 1).¹ The portfolios transmitted to the CAISO for the 2022-23 TPP cycle (currently underway) and the 2023-24 TPP cycle continue this trend. If the CAISO approves all the projects that are indicated as needed in the Commission’s transmitted portfolios for the 2022-2023 and 2023-2024 TPPs, the currently estimated amount would be \$11.9B in capital spending on policy projects.²

¹ This is based on a Cal Advocates staff review of CAISO transmission plans going back to the 2012-13 cycle.

² This estimate is the sum of the cost of transmission upgrades that are indicated as needed in the Commission’s Busbar Mapping Dashboard Workbooks that were transmitted to the CAISO. The workbook for the 2022-23 CAISO TPP is available at <https://www.cpuc.ca.gov/industries-and-topics/electrical-energy/electric-power-procurement/long-term-procurement-planning/2019-20-irp-events-and-materials>, and the workbook for the 2023-24 CAISO TPP is available at <https://www.cpuc.ca.gov/industries-and-topics/electrical-energy/electric-power-procurement/long-term-procurement-planning/2022-irp-cycle-events-and-materials/portfolios-and-modeling-assumptions-for-the-2023-2024-transmission-planning-process>. See Appendix A for a full list of projects.

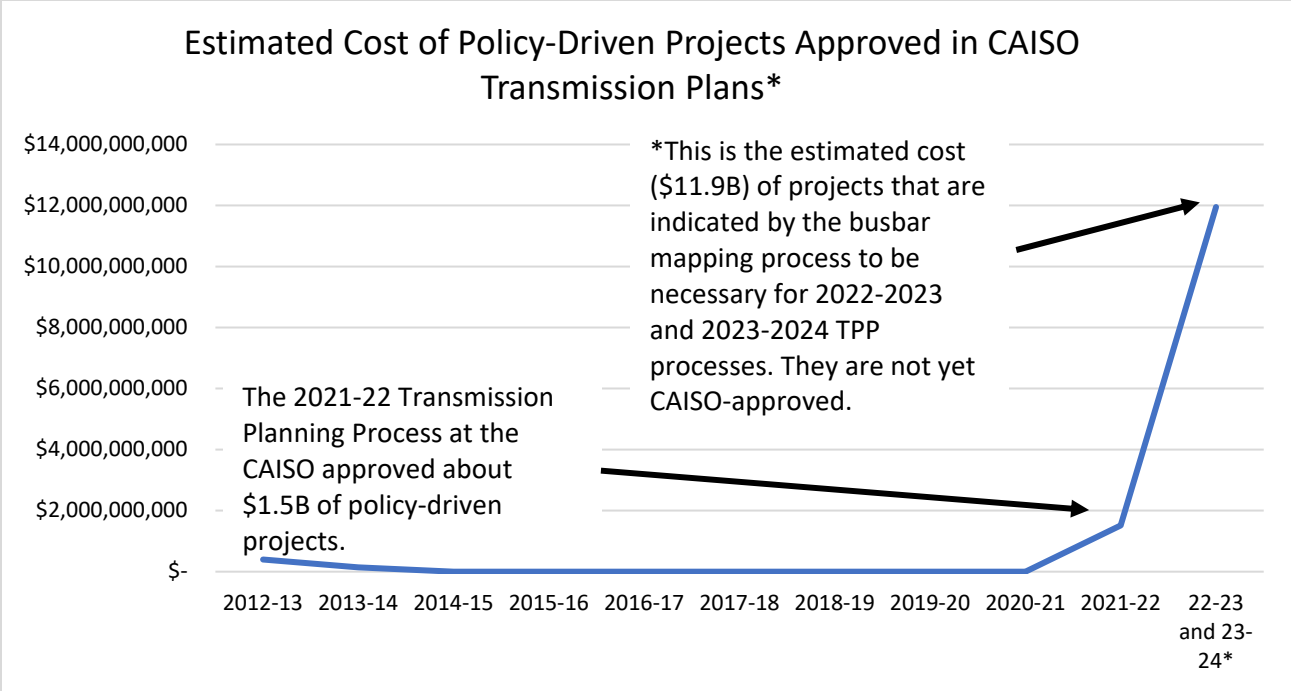


Figure 1- Estimated Capital Cost of Policy-Driven Transmission Projects

These approvals (and potential approvals) have serious implications for the Transmission Access Charge (TAC), paid by all ratepayers within the CAISO Balancing Authority Area and which increased 255% between 2009 to 2021.³ Figure 2 shows the CAISO’s projections for the TAC (in \$/megawatt hour (MWh)) that include the projects approved in the 2021-2022 TPP, compared to the reliability-based projects proposed in the 2022-2023 TPP and the policy-based projects indicated as needed by transmitted portfolios for the 2022-2023 and 2023-2024 TPPs.⁴

³ California Public Utilities Commission, *Utility Cost and Affordability of the Grid of the Future*, May 2021 at 41. Available at: https://www.cpuc.ca.gov/-/media/cpuc-website/divisions/office-of-governmental-affairs-division/reports/2021/senate-bill-695-report-2021-and-en-banc-whitepaper_final_04302021.pdf.

⁴ The TAC forecasts in Figure 2 use the CAISO’s TAC Forecast Model (available at: <http://www.caiso.com/Pages/documentsbygroup.aspx?GroupID=7A2CFF1E-E340-4D46-8F39-33398E100AE7>) and are based on the capital costs and construction timelines estimated in the Busbar Mapping Dashboard. The TAC increase that results from the 2023 Reliability Proposals is based on projects proposed – not yet approved by the CAISO - to meet reliability needs in the current 2022-23 transmission planning process (available at: <https://stakeholdercenter.caiso.com/RecurringStakeholderProcesses/2022-2023-Transmission-planning-process>.)

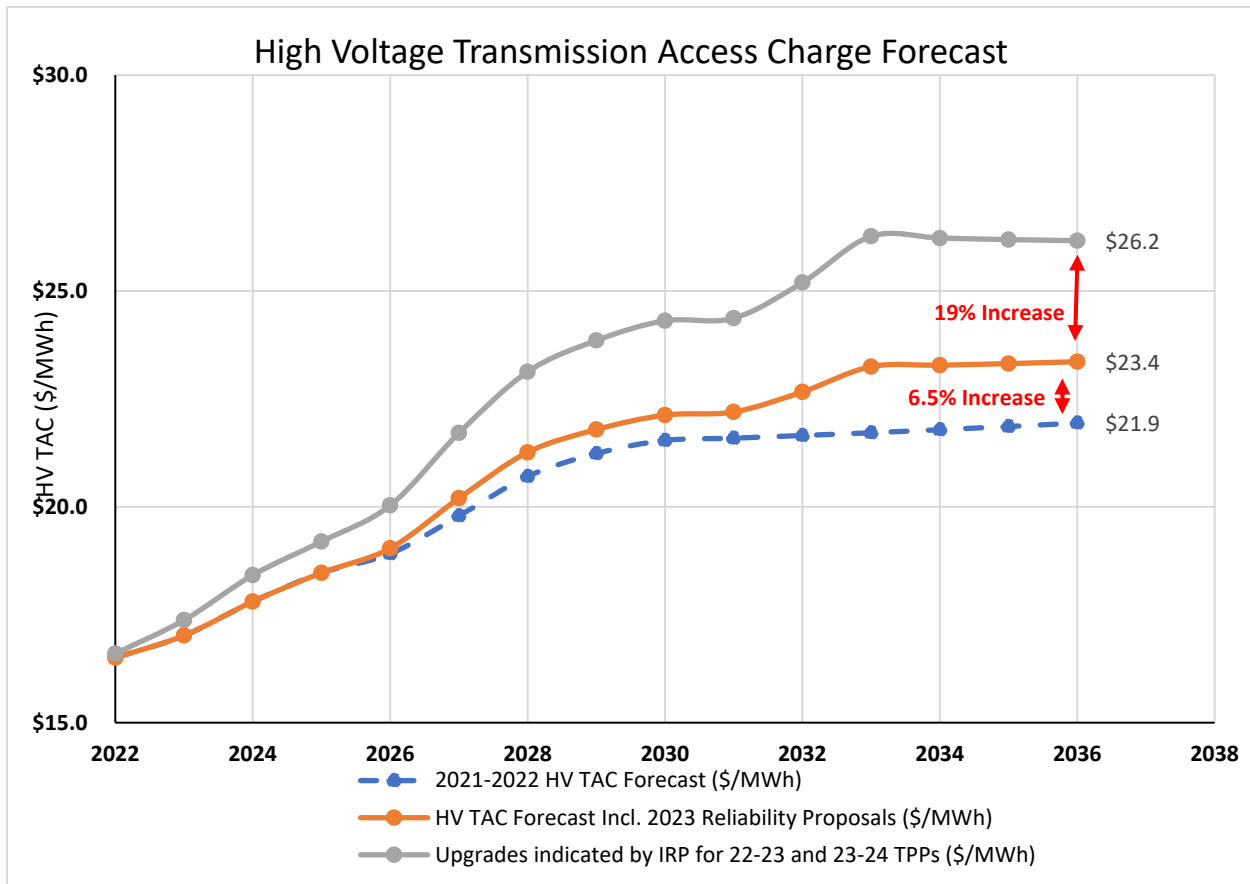


Figure 2 – The CAISO’s and Cal Advocates’ Projections for the Transmission Access Charge

As the Commission has stated, “[i]f handled incorrectly, California’s policy goals could result in rate and bill increases that would make other policy goals more difficult to achieve and could result in overall energy bills becoming unaffordable for some Californians.”⁵ To prevent this transmission buildout from constraining progress toward policy goals⁶ or imposing an unacceptable burden on ratepayers, the Commission needs to take every possible measure to mitigate the cost impact of increasing transmission.

⁵ California Public Utilities Commission, *Utility Cost and Affordability of the Grid of the Future*, May 2021 at 3. Available at: https://www.cpuc.ca.gov/-/media/cpuc-website/divisions/office-of-governmental-affairs-division/reports/2021/senate-bill-695-report-2021-and-en-banc-whitepaper_final_04302021.pdf.

⁶ A recent report from UC Berkeley’s Energy Institute found that high electricity rates could hinder California’s plans to transition to electric vehicles. (Balaraman, Kavya, *High electricity rates could jeopardize California’s electrification efforts: report*, UtilityDive. September 22, 2022. Available at: https://www.utilitydive.com/news/california-electricity-rates-haas-report-electrification-EVs/632351/?utm_source=Sailthru&utm_medium=email&utm_campaign=Issue:%202022-09-28%20Utility%20Dive%20Load%20Management%20%5Bissue:44868%5D&utm_term=Utility%20Dive:%20Load%20Management.)

III. DISCUSSION AND RECOMMENDATIONS

A. ALJ 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.*

Cal Advocates generally supports the proposed 2033 and 2035 base case portfolios. However, the Commission should conduct a loss of load expectation (LOLE) analysis of the base case and sensitivity portfolio(s)⁷ that the Commission submits to the CAISO's TPP. If LOLE analysis shows that any portfolio does not meet the LOLE industry standard of 0.1, then the Commission should add and map additional resources, selected by capacity expansion modeling, to that portfolio.

It appears that Energy Division Staff did not conduct LOLE analyses of the 2033 and 2035 reliability and policy-driven base case portfolios, nor the sensitivity portfolios, that the Commission is proposing to submit to the CAISO's 2023-2024 TPP. Cal Advocates generally supports the base case and sensitivity portfolios as proposed in the ALJ Ruling; however, if time permits, the Commission should use the Energy Division Staff's production cost model, SERVM, to determine the portfolios' LOLEs. Going forward, the Commission should continue to conduct LOLE analyses of the reliability and policy-driven base case portfolios and any sensitivity portfolios that the Commission submits to the CAISO's TPP.⁸

⁷ For simplicity, Cal Advocates refers to policy sensitivity portfolios here, in response to Question 1, rather than repeat the recommendation in response to Question 2.

⁸ The CAISO has also made this request in the last IRP cycle. In the CAISO's May 7, 2020 opening comments to the October 20, 2020 *Administrative Law Judge's Ruling Seeking Comments on Portfolios to be Used in the 2021-22 Transmission Planning Process*, the CAISO requested that the Commission "ensure, at minimum, that base cases and sensitivities meet the 0.1 loss of load expectation (LOLE) standard and greenhouse gas (GHG) targets. Not having this upfront assessment requirement may erode confidence in the effectiveness of the transmission planning process...." See *Comments of the California Independent System Operator Corporation on Portfolios to be Used in the 2021-22 Transmission Planning Process*, November 10, 2020 at 2-3.

The 0.1 LOLE standard is a key industry-standard planning metric used in the IRP proceeding,⁹ and Energy Division Staff have also proposed using the 0.1 LOLE standard to determine the planning reserve margin for IRP.¹⁰ Running a portfolio from RESOLVE through a production cost model like SERVVM validates whether that given portfolio meets the 0.1 LOLE standard, meaning that the portfolio likely has enough capacity to limit the loss of load events in a given model year to no more than one day in 10 years.¹¹ Compared to RESOLVE, a production cost model like SERVVM more robustly models stochastic variables, including forced outages, load, hydro availability, and solar and wind generation.¹² SERVVM also models the portfolio for all 8760 hours of the model year, while RESOLVE only models 37 representative days¹³ for each model year, and SERVVM is able to model the operations of resources with more detail than RESOLVE.¹⁴

LOLE analysis becomes more important as the IRP and TPP portfolios change over time and target new study years. The base case and sensitivity portfolios for the 2023-2024 TPP as proposed in the ALJ Ruling differ significantly from previously tested portfolios that contained higher GHG targets and earlier study years. Specifically, the proposed portfolios are based on the 2022-2023 TPP policy-driven sensitivity portfolio

⁹ Decision (D.) 19-04-040, *Decision Adopting Preferred System Portfolio and Plan For 2017-2018 Integrated Resource Plan Cycle*, April 25, 2019 at 92; issued in Rulemaking (R.) 16-02-007.

¹⁰ The Commission uses loss of load probability (LOLP) modeling to derive the planning reserve margin in IRP and the 0.1 LOLE standard is the reliability standard that determines the total reliability need. See <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/20220719-fr-and-reliability-mag-slides.pdf> at slides 16, 17, and 20.

¹¹ See e.g., D.20-03-028, *2019-2020 Electric Resource Portfolios to Inform Integrated Resource Plans and Transmission Planning*, March 26, 2020 at Findings of Fact 5 at 95; issued in R.16-02-007.

¹² See e.g., <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/20220719-fr-and-reliability-mag-slides.pdf> at slide 58.

¹³ RESOLVE package available at: <https://www.cpuc.ca.gov/industries-and-topics/electrical-energy/electric-power-procurement/long-term-procurement-planning/2022-irp-cycle-events-and-materials/portfolios-and-modeling-assumptions-for-the-2023-2024-transmission-planning-process>.

¹⁴ See <https://www.cpuc.ca.gov/-/media/cpuc-website/files/uploadedfiles/cpucwebsite/content/utilitiesindustries/energy/energyprograms/electpowerprocurementgeneration/irp/2018/irp-mag-webinar-2018-07-13-servm-2017iepr-rsp-posted.pdf> at slide 20.

that contained a 30 million metric ton (MMT) by 2030 GHG target and a high transportation electrification assumption – significantly different loads, resources, GHG targets, and study years than prior tested portfolios.¹⁵ It appears that Energy Division Staff did not conduct an LOLE analysis of this 30 MMT by 2030 GHG target with high electrification policy-driven sensitivity portfolio prior to submitting it to the CAISO as a sensitivity portfolio in the current TPP.¹⁶ But even if the Commission had tested this sensitivity portfolio prior to submitting it to the CAISO in the current TPP, the base and sensitivity portfolios that the Commission may submit to the 2023-2024 TPP have updated load and renewables assumptions and are designed for different study years. If time permits, the Commission should conduct LOLE analyses of the proposed base and sensitivity portfolios prior to submitting them to the CAISO.

LOLE analysis would verify that the portfolios proposed in the ALJ Ruling are robust, given the changes that result from the new 2033 and 2035 study years, such as the increased load of the 2021 integrated energy policy report (IEPR) load forecast and the additional transportation electrification assumption,¹⁷ as well as other discrete changes in the portfolios. For example, Energy Division Staff replaced 128 MW of new advanced combined-cycle gas turbine (CCGT) that RESOLVE picked for the year 2035 with 146 MW of geothermal.¹⁸ Energy Division Staff made a significant update to its modeling datasets this year when staff added weather years 2018-2020 to the weather years/patterns that inform the range of load as well as hydro, solar, and wind generation profiles

¹⁵ ALJ Ruling at 3.

¹⁶ D.22-02-004, *Decision Adopting 2021 Preferred System Plan*, February 10, 2022 at 111 and <https://www.cpuc.ca.gov/-/media/cpuc-website/divisions/energy-division/documents/integrated-resource-plan-and-long-term-procurement-plan-irp-ltpp/2019-2020-irp-events-and-materials/2022-2023-tpp-high-electrification-sensitivity-resolve-results.pdf>.

¹⁷ ALJ Ruling at 3-4.

¹⁸ ALJ Ruling at 7.

available for SERVM.¹⁹ These critical updates warrant further reliability testing of the proposed portfolios in SERVM.

B. ALJ Ruling 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.*

Cal Advocates generally supports the proposed portfolios, especially the sensitivity portfolio that limits the development of out-of-state and offshore wind. The inclusion of this second sensitive portfolio will, as stated in the ALJ Ruling, help identify “least-regrets” projects that are necessary across a variety of future scenarios. This approach is consistent with best practices in modeling, in which a range of possible futures are considered.²⁰

C. ALJ Ruling 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.*

Cal Advocates has no comment at this time.

D. ALJ Ruling 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.*

Cal Advocates has no comment at this time.

¹⁹ See <https://www.cpuc.ca.gov/industries-and-topics/electrical-energy/electric-power-procurement/long-term-procurement-planning/2022-irp-cycle-events-and-materials/unified-ra-and-irp-modeling-datasets-2022>.

²⁰ For example, the California Energy Commission’s IEPR process, which forecasts electricity demand, uses low, medium, and high-demand scenarios to account for a broad range of possible outcomes. Additional information available at: <https://www.energy.ca.gov/data-reports/reports/integrated-energy-policy-report>.

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

The preliminary busbar mapping results include 300 MW of full capacity deliverability status (FCDS) long-duration energy storage (LDES) at the existing 230 kilovolt (kV) Morro Bay substation. The Commission should either remap this 300 MW tranche of LDES to another substation or collaborate with the CAISO to revise the assumed resource output factors²¹ for offshore wind.

Mapping 300 MW of FCDS LDES to the Morro Bay substation could result in unnecessary transmission upgrades depending on the final mapping of Morro Bay offshore wind resources and the prospect of future years' Morro Bay offshore wind development. The ALJ Ruling²² and the Busbar Mapping Dashboards²³ clarify that Morro Bay offshore wind can be considered to interconnect at some combination of the Diablo switching stations and/or a new 500 kV Morro Bay substation. While no offshore wind is mapped to the existing 230 kV Morro Bay substation, any FCDS resources mapped to the existing Morro Bay substation may contribute to many of the same downstream transmission constraints as offshore wind resources mapped to either the Diablo switching station or a new 500 kV Morro Bay substation. The mapping of 300 MW of FCDS LDES to the existing Morro Bay substation, therefore, increases the

²¹ The resource output factors provide an assumption of how much of a resource's nameplate capacity should be considered available and deliverable during certain grid conditions. For FCDS testing, there are separate resource output factors for the Highest System Need and Secondary System Need conditions, which primarily reflect summer evening net peak hours with low solar output and the preceding early summer evening hours, with moderate solar output, respectively. A resource output factor of 100% for offshore wind during Highest System Need conditions is an assumption that an offshore wind resource's production level may be at its nameplate capacity during summer evening net peak hours.

²² ALJ Ruling at 16-17.

²³ 2033 and 2035 Busbar Mapping Dashboards, Tab, "Summary_MappingTransmittal." ("In consultation with CAISO staff, the working group mapped Morro Bay wind as interconnecting to the Diablo Canyon substation rather than a proposed new substation at Morro Bay. Given the substations similar proximity to the resource and the current removal of the Diablo Canyon Offshore Wind call area by BOEM, CPUC staff will recommend the CAISO study the Morro Bay offshore wind impacts of interconnecting at either substation.") Available at: <https://www.cpuc.ca.gov/industries-and-topics/electrical-energy/electric-power-procurement/long-term-procurement-planning/2022-irp-cycle-events-and-materials/portfolios-and-modeling-assumptions-for-the-2023-2024-transmission-planning-process>.

likelihood of the CAISO approving transmission upgrades for the on-peak deliverability of resources interconnecting to the general Morro Bay – Diablo area of the grid.

CAISO approval of such transmission upgrades to the Morro Bay – Diablo area would extend not from co-optimization of generation and transmission but instead from the use of a questionable assumption in the IRP modeling. To assess the FCDS transmission headroom at these substations, Energy Division Staff applied a resource output factor of 100% for offshore wind resources' production during Highest System Need (HSN) hours – far higher than the assumed output factors for any other variable resource type.²⁴

The assumed 100% HSN output factor for offshore wind suggests that any offshore wind mapped to the Morro Bay – Diablo substations utilizes on-peak transmission headroom on a 1-for-1 nameplate MW basis. The 300 MW of FCDS LDES is wholly incremental to the nameplate Morro Bay offshore wind capacities, for purposes of determining how much transmission headroom is available in that area. The FCDS LDES capacity could limit the amount of additional offshore wind development, consistent with the larger long-term offshore wind buildouts of the Assembly Bill (AB) 525 report.²⁵ Mapping LDES to the same area of the grid in the current TPP cycle may risk interference with the most cost-effective options for integrating additional Morro Bay offshore wind in future TPP cycles.²⁶ Re-mapping the 300 MW of FCDS LDES to another substation could resolve the issue.

²⁴ 2033 and 2035 Busbar Mapping Dashboards, Tab, “2_CAISO_Output_Factors.”

²⁵ AB 525 (Chiu, Chapter 231, Statutes of 2021) requires the California Energy Commission (CEC) to identify 2030 and 2045 planning targets for offshore wind capacity, as well as other related planning activities. The CEC's report selected a 2045 target of 25 gigawatts (GW). The CEC report, related materials, and ongoing procedural activities can be found at: <https://www.energy.ca.gov/programs-and-topics/topics/renewable-energy/offshore-renewable-energy>.

²⁶ To the extent that the 230kV Morro Bay substation may offer too little capacity for Morro Bay offshore wind, resources at the Morro Bay substation are nonetheless likely to contribute to many of the same downstream transmission constraints as offshore wind resources mapped to either the Diablo switching station or a new 500kV Morro Bay substation.

Alternatively, the Commission could collaborate with the CAISO to revise the 100% HSN output factor assumption for offshore wind. With 3,100 MW of FCDS offshore wind mapped to the Diablo substation, even a modest revision of the output factor could enable the mapping of the LDES resource(s) in a more cost-effective manner. For example, the same transmission headroom would be needed for the sum of the 300 MW of FCDS LDES and 3,100 MW of FCDS offshore wind at an assumed 90% output factor, as would be needed for 3,100 MW of FCDS offshore wind at an assumed 100% output factor – but with no FCDS LDES. A modest revision would reduce the chance that this or future TPP cycles might select transmission upgrades that are ultimately unnecessary, given the optimistic 100% HSN output factor assumption for offshore wind.

A modest revision to the 100% output factor could also support any policy rationale that the CAISO may have had for implementing that assumption, which first appeared in the most recently adopted 2021-2022 TPP.²⁷ Neither the adopted TPP nor the ALJ Ruling detail the reasons for the assumption that 100% of an offshore wind resource's output may be available during HSN hours. To the extent that there may be a policy-related or modeling-related prerogative for the 100% HSN output factor assumption, a modest revision, such as a 90% assumption, would nonetheless represent an optimistic view of a variable resource's ability to generate during the tightest system conditions.

Finally, the Commission should incorporate the results of any reconsideration of the 100% HSN output factor assumption for offshore wind into the ongoing effort to update the IRP inputs and assumptions.

²⁷ CAISO, *2021-2022 Transmission Plan*, March 17, 2022 at 176. Available at: <https://www.caiso.com/Documents/ISOBoardApproved-2021-2022TransmissionPlan.pdf>.

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

The Commission should continue its advocacy for transmission competition by specifying which of the projects indicated for approval in the transmitted portfolios for the 2022-2023 and 2023-2024 TPPs are eligible for competitive solicitation. The Commission has been vocal and unequivocal in its support of competitively soliciting transmission projects (allowing them to be owned and constructed by non-incumbent-utility entities following a competitive request-for-offer process). In comments before the Federal Energy Regulatory Commission (FERC), the Commission noted that private developers that have secured the right to build new transmission have been subject to “binding cost caps or various cost control measures, such as return on equity (‘ROE’) caps and equity percentage caps, that ‘will likely limit the cost increases to levels below those experienced by projects historically.’”²⁸

If the projects indicated for approval in the Busbar Dashboards transmitted to the CAISO for the 2022-2023 and 2023-2024 TPPs were constructed and owned by their incumbent utilities, the projects would represent a massive amount of new capital additions upon which these utilities would collect a rate of return (see Figure 3).²⁹ The FERC-approved return on equity for transmission projects has been steadily increasing;

²⁸ FERC Docket RM21-17-000, *Initial Comments of the California Public Utilities Commission*, October 12, 2021 at 27. Available at: https://elibrary.ferc.gov/eLibrary/filelist?accession_num=20211012-5697.

²⁹ Figure 3 is based on the transmission upgrades indicated as needed by the Busbar Dashboards transmitted to the CAISO for the 2022-23 Transmission Planning Process (available at: <https://www.cpuc.ca.gov/industries-and-topics/electrical-energy/electric-power-procurement/long-term-procurement-planning/2019-20-irp-events-and-materials>) and the 2023-24 Transmission Planning Process (available at: <https://www.cpuc.ca.gov/industries-and-topics/electrical-energy/electric-power-procurement/long-term-procurement-planning/2022-irp-cycle-events-and-materials/portfolios-and-modeling-assumptions-for-the-2023-2024-transmission-planning-process>.)

SCE has requested (but has not yet received) a 17.12% ROE,³⁰ and 9-10% rates are common.³¹

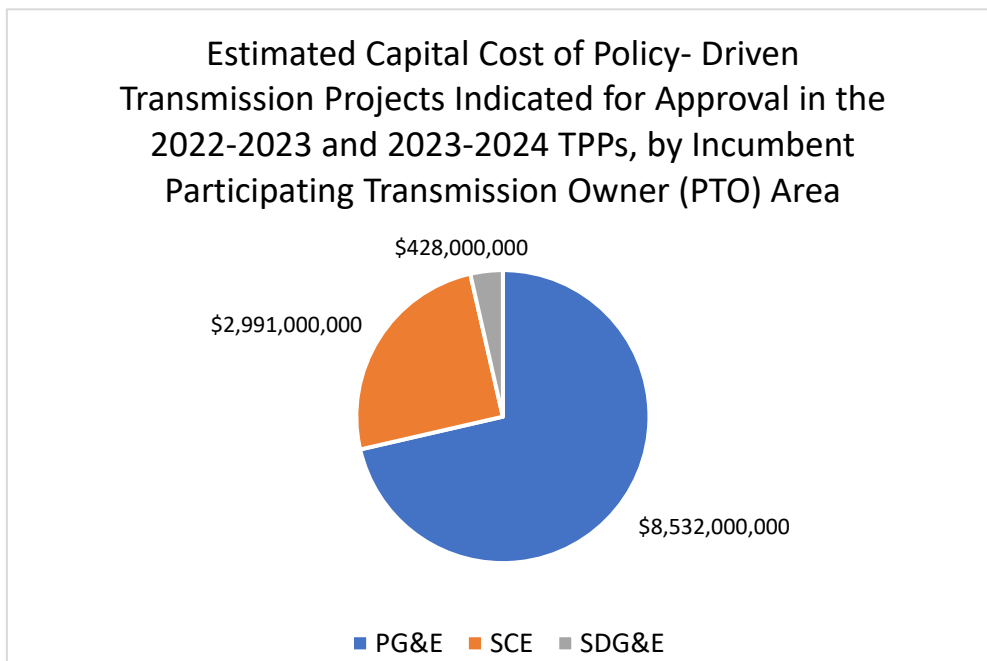


Figure 3 - Estimated Capital Cost of Policy- Driven Transmission Projects Indicated for Approval in the 2022-23 and 2023-24 TPPs, by Incumbent Participating Transmission Owner (PTO) Area

However, regulations could allow for the competitive solicitation for a high percentage of the above projects. For context, FERC Order 1000 sought to increase the number of competitively bid projects by removing the right of incumbent utilities to construct projects in their service territory.³² In compliance with FERC Order 1000, the CAISO tariff allows for competitive solicitation but exempts both 1) projects that are not

³⁰ Businesswire, *Southern California Edison Files Request with Federal Regulator to Increase Return on Equity Due to Unique Wildfire Risk*, April 11, 2019. Available at: <https://www.businesswire.com/news/home/20190411005446/en/>.

³¹ For example, the FERC-approved ROE for transmission assets for SCE stated in January 2022 filing letter was 10.3%. Available at: <https://www.sce.com/regulatory/open-access-information/formula-transmission-rate>.

³² Clark, Tony, *Order No. 1000 at the Crossroads: Reflections on the Rule and Its Future*, April 2018 at 3. Available at: <https://www.wbklaw.com/uploads/file/Articles-%20News/2018%20articles%20publications/WBK-%20TC-Order%201000%20whitepaper%20Final.pdf>.

deemed to be upgrades or additions to existing facilities³³ and 2) “local” transmission projects, which the CAISO defined as under 200 kV and entirely within the footprint of a transmission owner.³⁴

Cal Advocates staff reviewed the 22 policy-driven projects indicated as needed in the portfolios for the 2022-2023 and 2023-2024 TPPs and found initially that between 80-90% of the capital costs could be incurred by projects that are eligible for competitive solicitation (See Appendix A for Cal Advocates’ initial review).³⁵ For example, the estimated \$1.022B New Devers-Red Bluff 500 kV line, indicated by the Busbar Mapping Dashboard as necessary to address the Devers – Red Bluff 500 kV constraint, should be eligible for competitive solicitation, given that it is a new line over 200 kV.³⁶

The impacts of competitively soliciting a significant number of these projects could be substantial and positive for ratepayers. The Commission’s FERC comments³⁷ cite a report that finds, between 2013 and 2019, competitively procured projects in the CAISO Balancing Authority Area led to an average cost savings of 29% relative to the

³³ Section 24.5.1 of the CAISO tariff exempts additions/upgrades from competitive solicitation “unless a project sponsor and Participating TO agree to a different arrangement.” Available at: <http://www.caiso.com/Documents/Conformed-Tariff-as-of-Jan1-2022.pdf>.

³⁴ CAISO Board-Approved 2021-22 Transmission Plan, March 2022, available at: <http://www.caiso.com/Documents/ISOBoardApproved-2021-2022TransmissionPlan.pdf>. (“Projects eligible for competitive solicitation include regional transmission facilities (i.e., transmission facilities 200 kV and above) except for regional transmission solutions that are upgrades to existing facilities. Transmission facilities below 200 kV are not subject to competitive solicitation unless they span more than two participating transmission owner service territories.”)

³⁵ Based on an initial Cal Advocates review of the projects indicated to be needed in the 2035 Busbar Dashboard. Cal Advocates’ assessment is available in Appendix A.

³⁶ This new line is indicated as necessary on the “2_Tx_Calculator” tab of the 2035 30 MMT Busbar Dashboard, available at: <https://www.cpuc.ca.gov/industries-and-topics/electrical-energy/electric-power-procurement/long-term-procurement-planning/2022-irp-cycle-events-and-materials/portfolios-and-modeling-assumptions-for-the-2023-2024-transmission-planning-process>.

³⁷ FERC Docket RM21-17-000, *Initial Comments of the California Public Utilities Commission*, October 12, 2021 at 27.

CAISO's initial estimates.³⁸ Applied to the initial estimates above, the potential savings from competitive solicitation could reach as high as \$3B.³⁹

As Appendix A indicates, there are also several projects for which eligibility for competitive solicitation could be subject to interpretation, and having the Commission state clearly which projects it interprets to be eligible could lessen that ambiguity. For example, there are two new 500 kV/230 kV transformers (estimated at \$70M each) at El Dorado and Lugo that could be interpreted as upgrades or as new, over-200 kV facilities. Given the scale of the capital additions in question, the Commission should give straightforward guidance to the CAISO and to stakeholders and state that all new, over 200 kV new infrastructure additions are eligible for competitive solicitation.

The CAISO - whose tariff is federally approved⁴⁰ - has jurisdiction over which lines are subject to competitive solicitation. However, the Commission should review the transmission projects that are indicated as needed and clearly state, in a revised Ruling, which projects should be competitively solicited under current regulations. This would be consistent with the Commission's existing positions⁴¹ and drive solutions that may reduce the cost impact of a significant transmission buildout on ratepayers.

IV. CONCLUSION

Cal Advocates respectfully requests the Commission adopt the recommendations herein.

³⁸ See The Brattle Group, *Cost Savings Offered by Competition in Electric Transmission: Experience to Date and the Potential for Additional Customer Value*, April 2019 at Figure 19. Available at: https://www.brattle.com/wp-content/uploads/2021/05/16726_cost_savings_offered_by_competition_in_electric_transmission.pdf.

³⁹ This assumes that roughly \$10.56B is associated with projects that could be competitively solicited (see Appendix A) and assumes the 29% cost reduction estimate found by the Brattle Group Study. 29% of \$10.56B is \$3.069B.

⁴⁰ "The California ISO is regulated by the Federal Energy Regulatory Commission, an independent federal agency that regulates the interstate transmission of electricity, natural gas, and oil." (California Independent System Operator, available at: <http://www.caiso.com/rules/Pages/Regulatory/Default.aspx>.)

⁴¹ FERC Docket RM21-17-000, *Initial Comments of the California Public Utilities Commission*, October 12, 2021 at 27. Available at: https://elibrary.ferc.gov/eLibrary/filelist?accession_num=20211012-5697.

Respectfully submitted,

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APPENDIX A

Upgrades Indicated as Needed in the Portfolios Transmitted to the CAISO for the 2022-23 and 2023-24 Transmission Planning Processes			
Constraint	Upgrade	Eligible for Competitive Solicitation under Current Regulations?	Cost of Upgrade
Antelope – Vincent Constraint	Antelope - Vincent 500kV line rating increase (18 months)	Unlikely, upgrade	\$ 15,000,000.00
Kramer-Victor/Roadway - Victor Constraint	Loop in Kramer - Victor 115kV line into Roadway and reconductor Kramer to Lugo 230kV lines (81 months)	Unlikely, upgrade	\$ 108,000,000.00
Victor-Lugo Constraint	Reconductor Lugo - Victor 230kV lines (27 Months)	Unlikely, upgrade	\$ 226,000,000.00
Lugo 500/230 kV Transformer Constraint	New Lugo 500/230kV No. 3 transformer (42 months)	Unclear	\$ 70,000,000.00
Devers – Red Bluff 500 kV Constraint	New Devers - Red Bluff 500kV No. 3 line (105 months)	Likely, new, over 200 kV facility	\$ 1,022,000,000.00
Serrano – Alberhill – Valley 500 kV Constraint	Devers - Mira Loma - Mesa 500kV line (105 months)	Likely, new, over 200 kV facility	\$ 1,480,000,000.00
Eldorado 500/230 kV Transformer #5 Constraint	New Eldorado 500/230 transformer (42 months)	Unclear	\$ 70,000,000.00
Encina-San Luis Rey Constraint	New Encina - San Luis Rey 230 kV line (120 months)	Likely, new, over 200 kV facility	\$ 102,000,000.00
San Diego Internal Constraint	Internal San Diego Area reconductoring (18 months)	Unlikely, upgrade	\$ 89,000,000.00
San Luis Rey-San Onofre Constraint	New San Luis Rey-San Onofre 230 kV line (120 months)	Likely, new, over 200 kV facility	\$ 237,000,000.00
Cortina -Vaca-Dixon 230kV Line	Delevan 500kV (144 months)	Likely, new, over 200 kV facility	\$ 3,531,000,000.00
Woodland-Davis 115 kV Lines	Q653-Davis (60 months)	Unclear	\$ 11,000,000.00

Constraint	Upgrade	Eligible for Competitive Solicitation under Current Regulations?	Cost of Upgrade
Contra Costa-Delta Switchyard 230kV Line	Bay Area (CC) (86 months)	Unclear	\$ 505,000,000.00
Midway – Gates 230kV Line	Gates - Arco - Midway 230 kV-Redraw boundary (98 months)	Unlikely, upgrade	\$ 142,000,000.00
Gates 500/230kV Bank #13 Constraint	Gates TB # 13 ADNU (48 months)	Unclear	\$ 40,000,000.00
Wilson-Storey-Borden #1 & #2 230 kV Lines	Wilson-Storey-Borden #1 and #2 230kV lines (50months)	Likely, new, over 200 kV facilities	\$ 232,000,000.00
Tesla-Westley 230kV Line	Reconductor Tesla-Westley 230 kV Line (50months)	Unlikely, upgrade	\$ 90,000,000.00
Morro Bay-Templeton 230kV Line	Morro Bay 230 kV (98 months)	Likely, new, over 200 kV facility	\$ 1,248,000,000.00
Las Aguillas-Panoche #1 and #2 230kV	Las Aguillas sw sta-Panoche #1 and #2 230kV (78 months)	Likely, new, over 200 kV facilities	\$ 317,000,000.00
Moss Landing-Los Banos 230kV	Moss Landing-Los Banos 230kV (98 months)	Likely, new, over 200 kV facility	\$ 68,000,000.00
Moss Landing-Las Aguillas 230kV	Moss Landing-Las Aguillas 230kV (98 months)	Likely, new, over 200 kV facility	\$ 48,000,000.00
Humboldt Offshore Wind Line (Proposed)	Humboldt (98 months)	Likely, new, over 200 kV facility	\$ 2,300,000,000.00
Total:			\$11,951,000,000.00