

**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

**OPENING COMMENTS OF OFFSHORE WIND CALIFORNIA ON
ADMINISTRATIVE LAW JUDGE'S PROPOSED DECISION ADOPTING
2023 PREFERRED SYSTEM PLAN AND RELATED MATTERS
ADDRESSING TWO PETITIONS FOR MODIFICATION**

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In accordance with Rule 14.3 of the California Public Utilities Commission (“Commission” or “CPUC”) Rules of Practice and Procedure and the January 10, 2024 Administrative Law Judge’s Proposed Decision Adopting 2023 Preferred System Plan and Related Matters, and Addressing Two Petitions for Modification (“Proposed Decision”), Offshore Wind California (“OWC”) respectfully submits the following opening comments regarding the proposed 2023 Preferred System Plan (the “PSP”) and Transmission Planning Process (the “TPP”) portfolios.

I. INTRODUCTION

“California policy continues to be as aggressive as possible to reduce GHG emissions as soon as possible.”¹ Accordingly, the Proposed Decision adopts a 25 million metric ton (“MMT”) by 2035 electric sector greenhouse gas (“GHG”) target for the PSP and recommended TPP portfolios. However, the Proposed Decision selects only 4.5 gigawatts (“GW”) of offshore wind from 2035 through 2045,² which is far short of the California Energy Commission’s (“CEC”) Assembly Bill (“AB”) 525 (Chiu, 2021) planning goals and other state and federal offshore wind planning goals.

¹ Proposed Decision at 61.

² *Id.* at 66 (Table 4).

The Proposed Decision should be revised to align with California’s clearly stated offshore wind planning goals, which are restated and reaffirmed in the CEC’s just-released Draft AB 525 Offshore Wind Strategic Plan.³ Moreover, the Commission should not rely solely on a speculative least-cost model for system planning purposes. Instead the Commission should take a holistic approach that takes into account other factors such as the benefits of grid diversity, offshore wind’s resiliency value, cost efficiencies that come with economies of scale, its high capacity factors and complementary power generation profile, and the economic and jobs benefits that can be captured through the deliberate, long-term buildout of offshore wind on the California coast. Finally, the Proposed Decision’s TPP should be revised to include, at a minimum, 2.7 GW of offshore wind capacity in the North Coast area.

II. THE PROPOSED DECISION SHOULD BE REVISED TO ADDRESS THE SIGNIFICANT GAP BETWEEN ITS SELECTION OF 4.5 GW OF OFFSHORE WIND AND CALIFORNIA’S AB 525 OFFSHORE WIND PLANNING GOAL OF 25 GW BY 2045

The Proposed Decision’s treatment of offshore wind is inconsistent with its own stated desire to aggressively “reduce GHG emissions as soon as possible” and is at odds with both the policy articulated by the Legislature and the State goals set by the CEC, the Governor, and the California Air Resources Board (“CARB”). In particular, the Commission should revise the Proposed Decision to address the major discrepancy between the proposed PSP’s minimal selection of offshore wind and the CEC’s offshore wind planning goals for 25 GW by 2045. The Commission’s Memorandum of Understanding with the CEC and the CAISO states: “[t]he CPUC will incorporate longer term statewide resource planning efforts led by the CEC into its proceedings for portfolio

³ CEC, *Draft Commission Report: Assembly Bill 525 Offshore Wind Strategic Plan* (Jan. 2024) (“Draft AB 525 Offshore Wind Strategic Plan”), <https://www.energy.ca.gov/data-reports/reports/ab-525-reports-offshore-renewable-energy>.

development for resource procurement and transmission planning purposes.”⁴ Yet, the Proposed Decision fails to incorporate the CEC’s long-term offshore wind planning goals in the PSP and TPP. While the Proposed Decision acknowledges that multiple parties raise concerns with the fact that “the PSP and TPP results do not reflect the goal of 25 GW of OSW by 2045 included in the CEC’s plan required by Assembly Bill (“AB”) 525,”⁵ the Proposed Decision fails to adequately and fully address this issue.

The Legislature has identified offshore wind as “a critical resource for California achieving its ambitious clean energy goals, while also adding to a diverse portfolio of energy resources to ensure system reliability.”⁶ AB 525 requires the CEC to identify 2030 and 2045 offshore wind planning goals. In August 2022, the CEC adopted AB 525 planning goals of up to 5 GW by 2030 and 25 GW by 2045.⁷ AB 525 further requires the CEC, in consultation with the Commission and the California Independent System Operator (“CAISO”), to assess the transmission investments and upgrades necessary to support the 2030 and 2045 offshore wind planning goals.⁸ Just this month, the CEC published its Draft AB 525 Offshore Wind Strategic Plan, highlighting offshore wind’s economic and workforce benefits, benefits for communities, and emphasizing that “[l]arge investments in transmission upgrades and new transmission infrastructure will be needed to accommodate offshore wind development to meet the state’s planning goals and deliver offshore wind power to local

⁴ *Memorandum of Understanding Between the California Public Utilities Commission (CPUC) and the California Energy Commission (CEC) and the California Independent System Operator (ISO) Regarding Transmission and Resource Planning and Implementation* (Dec. 2022) at 2 (¶ 3), <https://www.caiso.com/Documents/ISO-CEC-and-CPUC-Memorandum-of-Understanding-Dec-2022.pdf>.

⁵ Proposed Decision at 57.

⁶ 09/09/21- Assembly Floor Analysis at 2 (AB 525) (Chiu, 2021), https://leginfo.legislature.ca.gov/faces/billAnalysisClient.xhtml?bill_id=202120220AB525.

⁷ See CEC, *Offshore Wind Energy Development off the California Coast* (Aug. 2022) , <https://www.energy.ca.gov/filebrowser/download/4361>.

⁸ See Pub. Res. Code § 25991.4(a).

communities and the larger grid to serve major load centers.”⁹

Furthermore, the CEC is not alone in calling for ambitious investment in offshore wind development. The Governor earlier called for at least 20 GW of offshore wind by 2045,¹⁰ which the California Air Resources Board (“CARB”) adopted in its 2022 Scoping Plan.¹¹ At a national level, the Biden-Harris Administration announced an inter-agency goal of deploying 30 GW of offshore wind energy by 2030, unlocking a pathway to 110 GW by 2050.¹²

In selecting for only 4.5 GW of offshore wind from 2035 through 2045,¹³ the Proposed Decision is at odds with the mandates of AB 525 and the State planning goals established by the CEC, the Governor, and the CARB. If adopted, the Proposed Decision will hamper the development of transmission necessary to support California’s development of offshore wind off the North and Central Coasts. As emphasized in Edison International’s recent report, *Countdown to 2045: Realizing California’s Pathway to Net Zero*, “California cannot afford to delay investing in the development of emerging technologies.”¹⁴ The CAISO urges that “[p]lanning for the level of clean resources and grid investments needed through 2035 and beyond is necessary now and should span the next decade

⁹ Draft AB 525 Offshore Wind Strategic Plan, Vol. 1 at 26.

¹⁰ Newsom, Gavin, *Letter from Governor Newsom to CARB Chair Liane Randolph* (Jul. 22, 2022) <https://www.gov.ca.gov/wp-content/uploads/2022/07/07.22.2022-Governors-Letter-to-CARB.pdf>.

¹¹ CARB, *2022 Scoping Plan for Achieving Carbon Neutrality* (Dec. 2022) (“2022 Scoping Plan”) at 75 & 201, <https://ww2.arb.ca.gov/sites/default/files/2023-04/2022-sp.pdf>.

¹² White House, *Fact Sheet: Biden Administration Jumpstarts Offshore Wind Energy Projects to Create Jobs* (Mar. 29, 2021), <https://www.whitehouse.gov/briefing-room/statements-releases/2021/03/29/fact-sheet-biden-administration-jumpstarts-offshore-wind-energy-projects-to-create-jobs/>.

¹³ Proposed Decision at 66 (Table 4).

¹⁴ See Edison International, *Countdown to 2045: Realizing California’s Pathway to Net Zero*, at 9 (Sept. 2023). https://download.newsroom.edison.com/create_memory_file/?f_id=6508e6633d63325f2e763f1b&content_verified=True.

rather than accumulate at the end of the decade.”¹⁵ The Proposed Decision should be revised to adopt a PSP with 25 GW of offshore wind by 2045.

III. RATHER THAN RELYING ON A LEAST-COST MODEL, THE COMMISSION SHOULD TAKE A HOLISTIC APPROACH TO PORTFOLIO PLANNING THAT ACCOUNTS FOR THE FULL BENEFITS OF INVESTING IN OFFSHORE WIND

The Proposed Decision relies too heavily on the results of the RESOLVE model, which does not adequately account for California’s long-term policy objectives and inadequately plans for and integrates long lead-time resources with unique system value and uncertain cost profiles.¹⁶ Energy models face “fundamental limitations in representing factors that are relevant for practical decision-making [...] As a result, the societal value from such generation types could be vastly misrepresented.”¹⁷ The Commission should revise the Proposed Decision to reflect the fact that the RESOLVE model has a number of limitations that cause it to under-select offshore wind.

First, the RESOLVE model does not have the capability to accurately model costs over time for emerging, long lead-time resources such as offshore wind.¹⁸ As recognized by the Proposed Decision, “the [offshore wind cost] assumptions are as-yet untested with actual procurement processes in California, so actual costs for [offshore wind] could vary significantly from the assumptions.”¹⁹ For example, many of the initial sunk costs to launch the offshore wind industry in California will be the same regardless of whether only 4.5 GW are built or 25 GW are built, therefore forecasting costs on a per GW basis is inaccurate. Moreover, the RESOLVE model cannot fully

¹⁵ SCE Opening Comments on ALJ Ruling at 5 (Nov. 13, 2023).

¹⁶ See American Clean Power (“ACP”) Opening Comments on ALJ Ruling at 4-6, Vineyard Opening Comments on ALJ Ruling at 13.

¹⁷ Philipp Beiter et. al., *Expanded Modelling Scenarios to Understand the Role of Offshore Wind in Decarbonizing the United States*, Nature Energy (Oct. 9, 2023), <https://www.nature.com/articles/s41560-023-01364-y#Sec13>.

¹⁸ ACP Opening Comments on ALJ Ruling at 13.

¹⁹ Proposed Decision at 52.

account for economies of scale²⁰ that will drive down cost over time and other efficiencies from proactive offshore wind planning and development.²¹ The best way to undertake system planning is to plan for the entire system’s completion – in this case the full 25 GW of offshore wind – rather than taking a piecemeal approach. Planning the system as a whole allows for optimization of time, supply chains, and permitting etc., whereas a piecemeal approach will lead to problems and redundancies at each stage.

Second, RESOLVE cannot predict or acknowledge the role of public policy in creating and growing new industries and markets.²² For example, RESOLVE is not capable of accurately reflecting the impact that scaled-up federal and state infrastructure support programs may have on resource development,²³ such as the just-announced \$427 million federal grant to Humboldt Bay Harbor to begin construction of a marine terminal to enable the deployment of offshore wind turbines.²⁴ The enactment of AB 1373 this past fall has also led to the establishment of a central procurement entity for long lead time resources, which “could affect costs through leveraging economies of scale and contract bundling.”²⁵ The Commission should “ensure that the possibility of

²⁰ The Commission has repeatedly acknowledged across various industries that economies of scale can achieve decreasing unit costs and benefit ratepayers. *See e.g.* D.23-11-069 at 799(Findings of Fact “FOF” 104) (undergrounding power lines at a large scale should facilitate decreasing unit costs by achieving economies of scale); D.21-08-002 at 41 (FOF 16) (economies of scale within public water systems benefit ratepayers); D.15-11-021 at 493 (FOF 100) (unit repair and replacement costs for underground structures are likely to decline with economies of scale); D.16-06-055 at 28 (acknowledging “the fact that storage projects do benefit from economies of scale”).

²¹ *See* OWC Opening Comments on ALJ Ruling at 6-8.

²² ACP Opening Comments on ALJ Ruling at 12.

²³ *Id.* at 6.

²⁴ Mary Callahan, *Feds Provide Nearly Half a Billion Dollars Toward Construction of Humboldt Bay Marine Terminal Supporting Offshore Wind*, Press Democrat Jan. 23, 2024), <https://www.pressdemocrat.com/article/news/feds-provide-nearly-half-a-billion-dollars-toward-construction-of-humboldt/>.

²⁵ NRDC-UCS Comments on ALJ Ruling at 6.

lower offshore wind costs achieved through central procurement is included in its modeling assumptions.”²⁶

Third, due to its primary focus on the least-cost dispatch, RESOLVE does not fully capture the ancillary, but significant, benefits of offshore wind and related transmission development.²⁷ For example, the intrinsic value of resource diversity is under-represented in the least-cost modeling.²⁸ Resource diversity benefits include: (1) the ability to mitigate supply chain risks from overdependence on a more limited set of technologies;²⁹ (2) management of land-use conflict and balance between conservation and clean energy goals when siting generation and transmission;³⁰ (3) contribution to broader regional resource development objectives and capacity needs for multi-state decarbonization; (4) contribution to in-state local economic development goals;³¹ and (5) the ability to advance multiple pathways toward successful achievement of SB 100 and economy-wide climate mitigation as a hedge against future unknowns and risks.³² A recent Pacific Northwest National Laboratory (“PNNL”) study found that:

The pursuit of lowest cost of energy at the plant level, though helpful in the initial maturation of bulk-scale renewable energy technologies, has also resulted in plants which require significant compensating reserves, often fossil-fueled, at the system level. Intermittent renewable energy generation poses unique capacity challenges which increasingly depend on weather events at varying

²⁶ *Id.*

²⁷ OWC Opening Comments on ALJ Ruling at 8; Vineyard Opening Comments on ALJ Ruling at 13.

²⁸ ACP Opening Comments on ALJ Ruling at 1 & 6-7. This leads to an excessive dependence on solar and storage resources to satisfy the portfolio’s resource adequacy requirements. Vineyard Opening Comments on ALJ Ruling, Attachment A at 1.

²⁹ *See also* OWC Opening Comments on ALJ Ruling at 8; Vineyard Opening Comments on ALJ Ruling at 14 (RESOLVE fails to acknowledge the potential risks posed by supply chain constraints).

³⁰ *See also* Vineyard Opening Comments on ALJ Ruling at 14 (RESOLVE fails to acknowledge the potential risks posed by land-use conflicts and permitting).

³¹ OWC Opening Comments on ALJ Ruling at 8 (large scale offshore wind development offers workforce benefits); *see also* CEC Draft AB 525 Offshore Wind Strategic Plan, Vol. 1 at 8-9.

³² *See* ACP Opening Comments on ALJ Ruling at 12.

timescales, from sub-hourly ramping to decadal droughts. Geographic and technological diversity may provide a solution to many of these challenges ... OSW on the U.S. West Coast is a resource that poses system value today through diversification of a renewable energy resource portfolio, rather than on a leading cost of energy basis.³³

California has never simply been a passive beneficiary of commercial maturation: the cost declines we see in other clean energy resources such as solar and battery storage are the direct result of ambitious state policies and historic investments made in the past two decades.³⁴ The Commission should not allow the limitations of the RESOLVE modeling to hamstring California's progress towards the robust development of its offshore wind resources. Rather than overly relying on "least cost" models, the Commission should advance a holistic, proactive, policy-driven approach to preferred system planning that incorporates critical long lead time resources like offshore wind.

IV. THE TPP SHOULD BE REVISED TO INCLUDE MORE OFFSHORE WIND CAPACITY IN THE NORTH COAST

Whereas last year's TPP base case portfolio included 1.7 GW of offshore wind on the North Coast,³⁵ the October 5, 2023, Administrative Law Judge Ruling proposed a TPP that failed to map *any* offshore wind to the North Coast.³⁶ The Proposed Decision takes a step in the right direction by

³³ Travis Douville et al., *An Offshore Wind Energy Development Strategy to Maximize Electrical System Benefits in Southern Oregon and Northern California*, National Offshore Wind Research and Development Consortium & U.S. Department of the Interior, Bureau of Ocean Energy Management (Sep. 2023) ("PNNL Study") at ES-1, https://nationaloffshorewind.org/wp-content/uploads/SoOR_NorCA_OSW_Development_Strategy_Report_PNNL_NOWRDC_BOEM_092923-1.pdf.

³⁴ See ACP Opening Comments on ALJ Ruling at 12.

³⁵ Proposed Decision at 112 (FOF 17).

³⁶ *2023 Proposed PSP & 2024-2025 TPP: Resolve Modeling Results* (Oct. 5, 2023) at 52, https://www.cpuc.ca.gov/-/media/cpuc-website/divisions/energy-division/documents/integrated-resource-plan-and-long-term-procurement-plan-irp-ltpp/2023-irp-cycle-events-and-materials/2023-proposed-psp-and-2024-2025-tpp-resolve-analysis-slide-deck_20231004.pdf.

revising the proposed TPP base case portfolio to include 1.6 GW of offshore wind on the North Coast “to promote consistency in planning for the development of transmission in an area where upgrades are indicated and where LSEs and developers have shown an interest in developing OSW due to the quality of wind generation resources.”³⁷ However, the Proposed Decision does not go far enough.

The CEC estimates that the North Coast has suitable sea space to support between 28.5 GW and 47.4 GW of offshore wind development.³⁸ Of that, the already-awarded Humboldt lease areas are estimated to have an installation capacity of between 1.6 and 2.7 GW, with an additional 26.9-44.8 GW if capacity feasible in the North Coast region. Thus, 1.6 GW represents the absolute minimum expected installed capacity for the Humboldt leases alone and only a tiny fraction of the North Coast’s potential. Such a minimalist approach to development of offshore wind on the North Coast undercuts this region’s potential and doesn’t reflect the improved power density and economies of scales that offshore wind can achieve through 2045.

Moreover, one of the primary purposes of the TPP is to “[i]dentify existing and projected limitations of the CAISO Controlled Grid’s physical, economic or operational capability or performance and identify transmission upgrades and additions ... deemed needed to address the existing and projected limitations.”³⁹ Another purpose is to develop a Transmission Plan that “meet[s] state, municipal, county and federal policy requirements and directives, including renewable portfolio standards policies.”⁴⁰ As noted in the CEC’s Draft AB 525 Offshore Wind Strategic Plan, “[t]he electric system on the North Coast is relatively isolated from the larger California grid and serves

³⁷ Proposed Decision at 71-72.

³⁸ Draft AB 525 Offshore Wind Strategic Plan, Vol. II at 121.

³⁹ CAISO Tariff at Sec. 24.2(d), <https://www.aiso.com/Documents/Section24-ComprehensiveTransmissionPlanningProcess-as-of-Sep20-2023.pdf>.

⁴⁰ *Id.* at Sec. 24.1.

primarily local communities, so additional transmission infrastructure will be needed in this region.”⁴¹

The Draft AB 525 Offshore Wind Strategic Plan further finds:

Large investments in transmission upgrades and new transmission infrastructure will be needed to accommodate offshore wind development to meet the state’s planning goals and deliver offshore wind power to local communities and the larger grid to serve major load centers. This can avoid stranded transmission investments built for near term needs that must be removed and replaced in later stages of development.⁴²

Including only 1.6 GW of North Coast offshore wind in the TPP will cause additional North Coast transmission capacity needed to meet the state’s planning goals to remain undeveloped – counter to the very purpose of the TPP. Rather than planning for only the bare minimum installed capacity, the Commission should instead plan for *at least 2.7 GW* in the North Coast.

V. CONCLUSION

California is positioned to play a critical role in enabling and leading the scalable deployment of floating offshore wind technology and unlocking this clean energy resource’s broad climate, clean-energy, and grid-reliability benefits. The Commission should seek to capture the full benefits of deploying offshore wind energy at a scale that will help lower prices for offshore wind in California, as it has for other innovative technologies. The Commission should serve as a catalyst for offshore wind by selecting robust offshore wind capacity in Northern as well as Central California for transmission planning purposes. Accordingly, the Proposed Decision should be revised to adopt a PSP with offshore wind capacity that is more in line with California’s stated offshore wind planning goals. Moreover, the Commission should advance a holistic, proactive, policy-driven approach to preferred system planning that better evaluates and incorporates critical long lead time resources.

⁴¹ Draft AB 525 Offshore Wind Strategic Plan, Vol. 1 at 7.

⁴² *Id.* at 26.

Finally, the Proposed Decision's TPP should be revised to include 2.7 GW of offshore wind capacity in the North Coast area, in line with the CEC's high estimate for the installation capacity of the Humboldt leases.

Respectfully submitted,

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Dated: January 30, 2024

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APPENDIX A

The following findings of fact should be added to the Proposed Decision:

Findings of Fact

11. The RESOLVE model is a useful tool to identify resources that are least cost, but it does not account for other benefits and policy objectives.
12. California is home to one of the world’s best offshore wind resources in the world.
13. The California Legislature has identified offshore wind as a critical resource for California achieving its ambitious clean energy goals.
14. In August 2022, the California Energy Commission adopted Assembly Bill (“AB”) 525 planning goals of 5 GW of offshore wind by 2030 and 25 GW by 2045.
15. AB 525 requires the CEC , in consultation with the Commission, to assess the transmission investments and upgrades necessary to support the 2030 and 2045 offshore wind MW planning goals.
15. Diversity of both resource type and location will be essential to ensure the system remains both flexible and reliable. As recognized by AB 525, “[o]ffshore wind can add resource and technology diversity to the state’s energy portfolio.”
16. Proactive offshore wind planning and development will capture economies of scale as well as significant reliability, workforce, and supply chain benefits.

The following revisions and additions should be made to the Proposed Decision’s conclusions of law.

Conclusions of Law

13. The Commission should take a holistic approach to preferred system planning that balances multiple benefits and policy objectives.
14. The Commission must incorporate longer term statewide resource planning efforts led by the CEC into the development of the PSP and TPP.
15. Pursuant to the AB 525 offshore wind planning goal adopted by the CEC, the Commission should include 25 GW of offshore wind in the PSP by 2045.

~~1315.~~ The Commission should include at least ~~maintain 1.6~~ 2.7 GW of offshore wind mapped to the North Coast/Humboldt area in the base case for the 2024-2025 TPP, to accommodate offshore wind development to meet the state's planning goals, ~~to be consistent with the prior portfolio and the plans of individual LSEs in the Core scenario.~~