



significant resource capacity commitments and long lead times for building the necessary infrastructure. Developing a mechanism whereby a resource can reserve transmission capacity requires additional discussion among stakeholders to address the specific circumstances of these projects. Accordingly, the CAISO recommends the Commission not propose a uniform practice or rule. Rather, it should allow individual RTOs/ISOs to explore possible mechanisms, if a need exists, through stakeholder engagement processes.

**I. The California Public Utilities Commission has identified offshore wind as a potential resource through its integrated resource planning process**

The California Public Utilities Commission (CPUC) relies on its integrated resource planning (IRP) process to ensure the electric sector is on track to help California achieve its 2030 greenhouse gas (GHG) reduction target, at least cost, while maintaining electric service reliability.<sup>2</sup> The CAISO and the CPUC have a memorandum of understanding in place under which the CPUC provides a resource portfolio(s) for the CAISO to analyze in the CAISO's annual transmission planning process.<sup>3</sup> Consistent with its tariff, the CAISO incorporates these resource portfolios into its unified planning assumptions and study plan as part of its annual transmission planning process.<sup>4</sup>

---

<sup>2</sup> More information about the CPUC's IRP process is available on the CPUC's website: <https://www.cpuc.ca.gov/irp/>

<sup>3</sup> A copy of this Memorandum of Understanding is available on the CAISO's website: <http://www.aiso.com/Documents/100517DecisiononRevisedTransmissionPlanningProcess-CPUCMOU.pdf#search=CPUC%20MOU>

<sup>4</sup> See generally CAISO tariff section 24.3.

In the context of the CAISO's 2021-2022 transmission planning process, the CPUC provided a baseline portfolio and two sensitivity portfolios for the CAISO to assess through transmission studies.<sup>5</sup> One of the sensitivity studies will assess the transmission needs and costs to integrate offshore wind to inform future CPUC IRP cycles. Based on the resource portfolio provided by the CPUC, the sensitivity study will assess the cost of upgrading transmission to accommodate the 8.3 GW offshore wind with the potential to increase this offshore wind capacity up to 21.1 GW.<sup>6</sup> The CAISO also plans to conduct an assessment, at a conceptual level, to integrate 21.2 GW of offshore wind to ensure potential transmission development for early offshore wind resources, *i.e.*, the 8.3 GW identified in the CPUC's sensitivity portfolio, reflects a "least regrets" approach. The CAISO plans to incorporate the results of this study work into its 2021-2022 transmission plan scheduled for release in March 2022.

## **II. The CAISO's interconnection procedures can adapt to state policy changes and accommodate the assessment of offshore wind integration**

Offshore wind projects are not new to the CAISO's generator interconnection queue. The CAISO and its participating transmission owners have previously studied offshore wind projects. The CAISO's interconnection processes are technology neutral, ultimately focused on what network upgrades and interconnection facilities are necessary to interconnect any new supply resource to the CAISO controlled grid safely

---

<sup>5</sup> *Order Instituting Rulemaking to Continue Electric Integrated Resource Planning and Related Procurement Processes*, CPUC Decision 21-02-008 issued February 17, 2021, available at: <https://docs.cpuc.ca.gov/PublishedDocs/Published/G000/M366/K426/366426300.PDF>

<sup>6</sup> See Section 3.3 of the CAISO 's Unified Assumptions and Study Plan for the 2021-2022 Transmission Planning Process, available at: <http://www.caiso.com/InitiativeDocuments/Final2021-2022StudyPlan.pdf>

and reliably. As such, the fact a wind farm's site is offshore does not materially affect how the CAISO studies it. The interconnection customer would simply explain where it seeks to locate the generators and where they would interconnect to the CAISO controlled grid.

The CAISO tariff provides three ways for a resource to interconnect to the CAISO controlled grid:

1. The two-year cluster study process for any resource,<sup>7</sup>
2. The independent study process for any resource that seeks to interconnect more quickly than the cluster study process,<sup>8</sup> and
3. The fast track process for resources 5 MW and smaller.<sup>9</sup>

These processes provide resource developers significant flexibility depending on resource size, interconnection timeline, and whether they seek deliverability to provide resource adequacy capacity. All three processes can accommodate offshore wind projects; however, due to the scale of offshore wind projects developers likely would elect to use the CAISO's cluster study process.

### **III. The CAISO's transmission planning process incorporates state policies**

The CAISO's transmission planning process incorporates state renewable energy policies, including potential offshore wind development, in determining the need for policy-driven planning solutions. As referenced in Section I, the CAISO coordinates

---

<sup>7</sup> Section 3 of Appendix DD to the CAISO tariff.

<sup>8</sup> Section 4 of Appendix DD to the CAISO tariff.

<sup>9</sup> Section 5 of Appendix DD to the CAISO tariff.

with the CPUC to determine the transmission infrastructure necessary to meet the state's policy goals. Specifically, the CPUC develops resource portfolios through its IRP process. The CPUC's resource portfolios provide information regarding the quantity, technology, and location of the preferred resource build out. The CAISO uses this information to develop the base case for its transmission planning analysis.

The CAISO also routinely studies alternative portfolios provided by the CPUC to assess specific resource sensitivities. For example, in the 2020-2021 transmission plan, the CAISO specifically reviewed the system capability to interconnect offshore wind generation.<sup>10</sup> The CAISO's studies indicate the transmission system can accommodate approximately 5 to 6 GW of offshore wind generation after planned nuclear and gas-plant retirements in coming years.<sup>11</sup> As explained in section I, the CAISO will continue its study work to assess resource portfolios that include offshore wind in the 2021-2022 transmission planning process.

The existing transmission planning process adequately allows the CAISO both to review the system's current ability to accommodate offshore wind and to identify any needed transmission infrastructure investments to deliver offshore wind to meet policy-driven needs. A separate transmission planning process dedicated to offshore wind is unnecessary and would unduly complicate study and planning efforts.

---

<sup>10</sup> 2020-2021 CAISO Transmission Plan at 28, available at: <http://www.caiso.com/Documents/BoardApproved2020-2021TransmissionPlan.pdf>

<sup>11</sup> *Id.*

**IV. The Commission should allow RTOs/ISOs to work through their individual stakeholder processes to identify the need for any additional mechanisms to support state efforts to incorporate offshore wind into the resource mix**

As the resource mix has changed within the CAISO balancing authority area, the CAISO has evolved its interconnection procedures and transmission planning process to accommodate state policy objectives. This work has largely occurred in the first instance through stakeholder engagement and rule changes developed through stakeholder initiative processes. The CAISO does not support adoption of a transmission planning process solely to accommodate offshore wind integration, nor does it believe one is needed. The Commission has long recognized that RTOs/ISOs may rely on the independent entity variation standard to allow them flexibility in designing their interconnection procedures to accommodate regional needs more effectively.<sup>12</sup> In addition, the Commission has allowed for local and regional flexibility in designing the procedures RTOs/ISOs employ to identify the transmission needs driven by public policy requirements and evaluate potential solutions in the local or regional transmission planning processes.<sup>13</sup> The Commission should apply a similar principle to offshore wind development and allow RTOs/ISOs to work with their stakeholders to identify any regional-specific issues and the solutions to those issues.

Different regions of the country will experience different issues with offshore wind development and integration. For example, off the coast of California developers would likely site offshore wind far from the coast and probably use floating wind platforms,

---

<sup>12</sup> See, e.g., *Interconnection Queuing Practices* 122 FERC ¶ 61,252 (2008) at P 13.

<sup>13</sup> See, e.g., *Transmission Planning and Cost Allocation by Transmission Owning and Operating Public Utilities* 136 FERC ¶ 61,051 (Order No. 1000) at P 208.

given the depth of the ocean past the Continental Shelf.<sup>14</sup> This may require a large resource capacity commitment to justify an economic investment in offshore wind compared to other carbon free sources of electricity. The size of this commitment, the scope of the needed infrastructure, and the physical location of the resource might require a significant lead-time to develop offshore wind. Although the CAISO's transmission planning process can identify transmission additions and upgrades necessary to integrate such resources, the CAISO has no mechanism to hold or reserve transmission capability for a future project that may take several years to develop. If the CAISO were to approve large-scale transmission upgrades intended to accommodate offshore wind and make the wind deliverable to load, it has no mechanism to reserve the upgraded capacity only for offshore wind resources. Other resources in the interconnection queue would have access to such capacity, potentially rendering the project unable to satisfy fully its intended policy purpose of promoting offshore wind. This same issue exists for other resource types. For example, the CAISO has no mechanism to reserve transmission upgrade capacity only for geothermal or other specific resource types that may require a long lead-time to develop. If California seeks to facilitate development of a large wind resource offshore, the CAISO expects it will need to resolve this issue but, in the first instance, the Commission should allow the CAISO to address this matter through the normal course of stakeholder discussions.

---

<sup>14</sup> See California Energy Commission website regarding offshore renewable energy: <https://www.energy.ca.gov/programs-and-topics/topics/renewable-energy/offshore-renewable-energy>

## V. Conclusion

Offshore wind promises to offer a significant new source of carbon free electricity. The CAISO's interconnection and transmission planning processes are sufficiently robust to integrate this resource and there is no need for the Commission to direct a standalone offshore wind transmission planning process. To the extent new mechanisms are needed to address unique aspects of offshore wind integration in different regions, the CAISO recommends the Commission allow individual RTOs/ISOs to explore any such mechanisms through stakeholder engagement processes.

Respectfully submitted,

*/s/ Andrew Ulmer*

Roger E. Collanton

General Counsel

Anthony Ivancovich

Deputy General Counsel

Andrew Ulmer

Director, Federal Regulatory Affairs

William H. Weaver

Senior Counsel

Jordan Pinjuv

Senior Counsel

[aulmer@caiso.com](mailto:aulmer@caiso.com)

California Independent System

Operator Corporation

250 Outcropping Way

Folsom, CA 95630

Counsel for the California Independent System

Operator Corporation

Dated: May 10, 2021

## CERTIFICATE OF SERVICE

I certify that I have served the foregoing document upon the parties listed on the official service list in the captioned proceedings, in accordance with the requirements of Rule 2010 of the Commission's Rules of Practice and Procedure (18 C.F.R. § 385.2010).

Dated at Folsom, California this 10th day of May, 2021.

/s/ Martha Sedgley  
Martha Sedgley