



## **Submit comment on Straw proposal**

Initiative: Transmission planning process enhancements

### **1. Please provide your organizations comments on adjusting the timeline for the release of the draft transmission plan from the end of January to the end of March, targeting approval in each year's May Board of Governors meetings.**

CalWEA generally supports the proposed timeline adjustment, but requests that CAISO review the timeline of the generation interconnection process to ensure the two-month shift does not adversely impact the generation interconnection studies such as CAISO's Annual Reassessment Process.

### **2. Please provide your organizations comments on enabling approvals for major long lead time transmission projects needed beyond the current 10-year planning horizon.**

CalWEA supports enabling approvals for major long-lead-time transmission projects needed beyond the current 10-year planning horizon, which is also now required under SB 887, which was recently signed into law.

In addition, SB 887 requires the CPUC to request the CAISO to "Identify, based as much as possible on studies completed before January 1, 2023, by the [CAISO] and projections provided before January 1, 2023, by the commission and the Energy Commission, the highest priority transmission facilities that are needed to allow for increased transmission capacity into local capacity areas to deliver renewable energy resources or zero-carbon resources that are expected to be developed by 2035 into those areas," and to "[c]onsider whether to approve transmission projects identified pursuant to paragraph (1) as part of its 2022–23 transmission planning process." We urge CAISO to anticipate this request and to timely meet the Legislature's and the Governor's unambiguous request to start approving backbone transmission projects that will clearly be needed to meet the state's policy goals.

Beyond addressing this immediate directive, CalWEA urges CAISO to develop a clear and transparent process for selecting upgrades that support long-term planning goals. In CalWEA's comments on the 20-year conceptual plan, we outlined such an approach wherein longer-term planning could be effectively integrated into the regular TPP cycle: To identify near-term upgrades that advance the long-term plan, CalWEA recommends that the CAISO work with the CPUC and CEC to develop a least-regrets longer-term planning process in which three significantly different, but plausible, ~20 year resource scenarios be created for which actual (rather than conceptual) transmission plans are independently developed. Those upgrades that are common to all three scenarios should move forward in the annual TPP cycle for presentation to the CAISO board for approval. Those upgrades that are common to two out of the three scenarios should be considered in the annual TPP cycle as replacement (and potentially more costly) solutions to address reliability, economic and/or policy upgrades that are identified in the TPP.

CalWEA expects this approach will identify the backbone upgrades that will be needed to achieve the state's SB 100 goals regardless of resource mix. Such upgrades will be needed to deliver renewable energy and storage from any of multiple possible locations. Some backbone upgrades,

particularly subsea upgrades that connect to major load centers, such as the Bay Area or LA Basin, can also relieve local transmission constraints, thereby accommodating the major load growth expected in these areas due to transportation, household, and industrial electrification.

However, establishment of such a process should not delay any backbone upgrades that may be identified in the 2022-23 TPP cycle, including upgrades identified pursuant to SB 887 and those that can be supported by the 2035 high electrification sensitivity and other sensitivity portfolios that the CPUC transmitted for use in this cycle.

Finally, the CAISO should harmonize the assumptions in the long-term planning and the annual TPP cycle. In particular, in the methodology used in the 20-year conceptual plan to determine deliverability, CAISO assumed that energy storage resources are fully charged, but not producing in the peak consumption study, which nearly corresponds to the Secondary System Need (SSN) test in the CAISO's on-peak deliverability assessment. This assumption appropriately recognizes that, when solar generation is abundant, dispatchable resources, such as storage, are likely to have low output, or even negative output (charging), to get ready for later hours when fast net-load ramping and high net-load conditions (corresponding to the HSN scenario) must be managed by the system operator. This realistic assumption should also be made in the regular TPP cycle, along with other reforms that promote more efficient grid utilization, discussed in response to the next question.

### **3. Please provide your organizations comments on retaining policy-driven transmission upgrade capacity for the specific policy purpose for which it was developed.**

The concept of reserving policy-driven transmission upgrade capacity for specific resources at certain locations is appealing for certain concentrated and location-specific resources with long development lead-times, such as offshore wind. However, the concept requires substantial additional consideration regarding policy, legal, and technical aspects, and more traditional approaches should be considered.

#### **Policy and Legal Aspects**

In looking to New Jersey as the model, as the proposal does, it is important to recognize the many steps that New Jersey and PJM have taken to achieve the overall policy to reserve capacity for offshore wind. CAISO and the State of California would need to emulate at least the more critical components of these steps:

- Place cost-allocation procedures in tariff
  - PJM's Operating Agreement has an existing provision permitting PJM to enter into a "State Agreement Approach" with a state governmental entity (authorized by such state) to allow such entity to be responsible for the allocation of all costs of a proposed transmission expansion or enhancement that addresses state public policy requirements identified or accepted by the state. The CAISO tariff would likely need to be tailored so only California load-serving entities under CPUC jurisdiction would be responsible for the transmission costs.
- Establish state policies to develop transmission for offshore wind
  - New Jersey formally set forth a state policy to expand the transmission system to accommodate a buildout of 7,500 MW of offshore wind generation by 2035.

- The New Jersey Board of Public Utilities (NJ BPU) then issued an order requesting that PJM, pursuant to the State Agreement Approach (SAA), open a competitive proposal window to solicit transmission proposals to interconnect and ensure deliverability of 7,500 MW of offshore wind generation by 2035. The NJ BPU also negotiated with PJM, and filed with the Commission, a study agreement to implement this proposal.
  - The SAA Agreement establishes processes for the review and selection of specific transmission projects, which may be onshore and/or offshore facilities, to effectuate New Jersey's public policy goals.
  - Under the SAA Agreement, PJM evaluates and develops recommendations on transmission project proposals that are submitted in the competitive proposal window to facilitate NJ BPU-designated generation. The NJ BPU subsequently decides whether to sponsor one or more of PJM's recommended projects.
  - The SAA Agreement specifies that any SAA Project would be controlled by PJM and subject to its open access policies.
  - All transmission costs related to the SAA Project are to be recovered from customers in a state or group of states that agrees to be responsible for the project(s), rather than other PJM customers. However, while offshore projects could reserve capacity on the new SAA Project, they will be required to go through the regular interconnection process to identify any Network Upgrades and Interconnection Facilities other than the SAA Project necessary for their interconnection
- Select benefitting generators
    - The SAA Agreement provides that NJ BPU has the right to assign the "SAA Capability" created by an SAA Project to offshore wind generators or other public policy resources chosen in NJ BPU's solicitation process ("NJ BPU-designated generators"). "SAA Capability" rights would only apply to future capacity rights created by the project, not to existing rights as contemplated by CAISO.
    - The SAA Agreement provides that any SAA Capability not initially assigned within a period no later than two years from the last solicitation date in the NJ BPU solicitation schedule will be released for use by entities other than NJ BPU-designated generators, subject to the cost sharing provision. CAISO and the state need to consider what its plan would be for release of capacity after an initial solicitation process; it may take many years to build out each offshore wind resource area.
    - Under the SAA Agreement, a NJ BPU-designated generator must proceed through the interconnection process and execute an interconnection service agreement to be awarded Capacity Interconnection Rights.

In line with the steps above, California should contemplate how to address non-CPUC-jurisdictional CAISO load-serving entities. These LSEs may or may not be subject to the state's SB 100 requirements and could be subject to state offshore wind requirements. The state should consider whether these LSEs should be covered under a state transmission policy for offshore wind. (Without it, it is unclear how these entities will be able to contract for offshore wind, which the SB 100 Joint Agency Report identified as an important component of the statewide SB 100 portfolio.)

### **Technical Aspects**

CAISO's proposed policy to reserve capacity for specific resources at certain locations could have impacts on other resources due to the meshed nature of the network. In some cases, reserving capacity would reduce deliverability of other resources even if the other deliverability issues are not

relevant to the resources that the capacity is reserved for. In other cases, reserving capacity could cause over-subscription of deliverability available to other resources and require more transmission upgrades in the future.<sup>1</sup> Therefore, if CAISO moves forward with this concept, the process must be well-designed to facilitate certain resource development while preventing adverse impacts on interconnection requests already in the study process.

Technically, there are two ways to reserve the transmission capacity for the specific resources mandated by state policy (State Policy Resources). First, when studying other projects in the generation interconnection process, CAISO could exclude the transmission upgrades approved for the State Policy Resources until such resources submit an interconnection request. However, while the transmission upgrades earmarked for the State Policy Resources would be reserved, transmission capacity on the existing system would not and other resources could utilize such existing capacity that may be necessary for State Policy Resources to deliver the energy to the grid. As a result, further upgrades (beyond those contemplated by the earmarked transmission upgrades) may be necessary to interconnect the State Policy Resources. Therefore, reserving capacity from a particular transmission upgrade for a State Policy Resource may not help the intended resource developer with all necessary costs of interconnection.

Second, CAISO could add representative generators for the state mandates (Representative Generators) as firm commitments in its on-going generation interconnection studies for other projects. Thus, other generation projects seeking deliverability would only have access to the capacity remaining after considering such firm commitments. Given the mismatch between the CPUC's portfolios and the current generation queue,<sup>2</sup> this approach, on the one hand, would adversely impact the available deliverability for generators already in the queue and, on the other hand, would not ensure there is enough transmission capacity for the Representative Generators. In addition, Representative Generators may help to relieve certain existing transmission constraints and other generator's interconnections may benefit from such relief. However, because the Representative Generators may not interconnect to the grid for an extended period, the other generators that benefit from their interconnection may not be deliverable for a long time when the Representative Generators are eventually built.

Considering the tentatively planned offshore wind development in California, these issues would arise predominantly at the North Coast, which has a severe lack of transmission. The closest bulk transmission (Malin – Round Mountain 500kV lines) is more than a hundred miles away. CAISO has envisioned onshore HVDC lines to the bulk transmission system. The capacity of the HVDC lines could be preserved for offshore wind projects. However, there are also transmission constraints south of Round Mountain that will limit the delivery of offshore wind and other generation projects in the PG&E north area. The CPUC is now considering a 2035 base case portfolio with 1.6 GW at Humboldt (and a sensitivity case with 3 GW at Humboldt and 5 GW elsewhere on the North Coast). Even if CAISO were to approve more downstream transmission upgrades and preserve the capacity for 1.6 GW, the remainder will be quickly absorbed by the queued generation. Unless the CPUC adopts a much more aggressive offshore wind figures in its 2035 base case, the CAISO may have to constantly chase the policy goal and approve more and more transmission upgrades to support both the offshore wind and other resources in the PG&E north area.

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<sup>1</sup>Assuming CAISO reserves capacity by not including certain transmission upgrades in TPD allocations for other resources, the TPD available to other resources could be higher than it should be when the transmission upgrade makes other deliverability constraints worse.

<sup>2</sup> For example, the TPP could be planning for 1.6 GW of offshore wind at the North Coast when there is already 5 GW of other types of resources that could use up that capacity. Some of the 5 GW may already have PPAs but are not being counted in the RPS portfolio mapping as contracted or generic resources.

The Central Coast has abundant transmission, especially after Diablo Canyon's retirement. The issue with the Central Coast is more about how much offshore wind is assumed to interconnect to the onshore grid at 500kV, and when it will interconnect, as offshore wind helps to relieve the nearby transmission constraints, such as Gates 230/500kV transformer constraint. The new resources interconnecting at 230kV or below in Fresno and Kern areas rely on the offshore wind resources for deliverability and face NQC reductions until enough offshore wind resources are operational. Offshore wind projects are now planned with greater turbine density, such that the Morro Bay areas to be leased by BOEM later this year could support on the order of 6 GW of capacity. Barring reforms to the CAISO's deliverability methodology (discussed below), and assuming Diablo Canyon will retire by 2030, it may be necessary to add another 500kV line from Diablo either to Gates or Midway.

### **More Traditional Approach**

Given the difficulties and controversy associated with carving out transmission capacity for the specific resources, particularly at the North Coast, a more traditional approach may be preferable. Namely:

1. The state should provide offshore wind developers (and any other preferred long-lead-time resources that have been identified as needed) with the market certainty required to secure generation interconnection through normal processes. This would ideally come from a legislative procurement requirement; second-best from a CPUC procurement requirement.
2. Clear state requirements would allow the CAISO to conclusively plan for policy upgrades. CAISO has adjusted the 2022-2023 portfolio to cover all generating resources with transmission plan deliverability allocations. This should be carried forward in future portfolio development. With proper timing, the practice could ensure that there is sufficient transmission capacity for the resources in the IRP portfolio in every transmission plan deliverability allocation cycle.
3. Per existing rules, new TPD capacity becomes available for subscription immediately upon approval by CAISO, thus it is essential that (a) upgrade approvals be timed such that developers are in a position to file and secure an interconnection agreement under the CAISO's tariff, and (b) developers have secured power purchase agreements (PPAs), because CAISO assigns TPD rights on a priority basis and gives developers holding PPAs the highest priority. While this will not ensure that all planned resources obtain TPD capacity, it will give them a strong opportunity.

A complementary strategy would be for CAISO to make more efficient use of the existing and new transmission assets by reforming unreasonable assumptions in the deliverability assessments used in its transmission planning and interconnection studies. Such reforms would deliver substantial ratepayer benefits while increasing the capacity that can be accommodated by newly planned capacity. CalWEA believes, for example, that the appropriate energy storage assumption used in the CAISO's long-term conceptual plan, noted above in response to question 2, would likely substantially reduce the \$30 billion estimated cost of the transmission upgrades that were identified in that plan.

It is important that, as we plan for a major transformation of the grid, we promote the efficient use of the existing grid, which will significantly reduce the upgrades and associated costs required to interconnect the same amount of capacity. CalWEA has explained at length elsewhere why

eliminating the SSN test, as well as reforms to the HSN test, are central to that goal.<sup>3</sup> This reformed methodology should be applied in long-term planning as we reimagine the future grid.

**4. Please provide additional comments your organization has on the transmission planning process enhancements initiative.**

No additional comments at this time.

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<sup>3</sup> See CalWEA's September 23, 2022, comments CAISO's Draft 2023 Policy Initiatives Catalog, available [here](#).