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BAMx Comments on the Joint Agency Workshop on Next Steps to Plan for SB 100 Resource Build- Transmission

Comments submitted on behalf of Bay Area Municipal Transmission group (BAMx) consisting of City of Palo Alto Utilities and City of Santa Clara, Silicon Valley Power

Additional submitted attachment is included below.

BAMx Comments on the Joint Agency Workshop on Next Steps to Plan for SB 100 Resource Build- Transmission

On July 22, 2021, the California Energy Commission (CEC) jointly conducted a workshop with the California Public Utilities Commission (CPUC) and the California Independent System Operator (CAISO) to discuss existing and proposed transmission projects that can potentially support the delivery of resources required to achieve the goals of Senate Bill 100 (SB 100).[1] The Bay Area Municipal Transmission group (BAMx)[2] appreciates the opportunity to comment on the July 22nd workshop.

Background & Summary Comments

The 100 Percent Clean Energy Act of 2018 (SB 100, De Leon, Chapter 312, Statutes of 2018) establishes a target for renewable and zero-carbon resources to supply 100 percent of retail sales and electricity procured to serve all state agencies by 2045. SB 100 requires the CEC, CPUC, and California Air Resources Board to develop and submit a joint-agency report to the legislature by January 1, 2021, and at least every four years thereafter.

BAMx recognizes that comprehensive and coordinated statewide planning is necessary to ensure that California continues to have a safe and reliable electricity system as new renewable and zero-carbon resources and associated transmission infrastructure is developed, consistent with the State's clean energy and environmental priorities and goals. BAMx, therefore, applauds the efforts of CEC Commissioner Karen Douglas and Commissioner Siva Gunda in hosting the July 22nd workshop. In this workshop, some previous renewable energy resource and transmission planning efforts were discussed. The workshop also included presentations from representatives of in-state and Out-of-State (OOS) transmission projects. However, there was hardly any discussion on the cost impact of the in-State and OOS transmission projects or how these costs will be allocated across different market participants and load-serving entities (LSEs).

In these comments, we provide detailed recommendations on the need to comprehensively assess generation and transmission needs in an integrated, cost-effective manner.

Transmission Solutions Should Not Be Considered in Isolation

The State's climate goals are likely to require a transformation of the state's electrical infrastructure, including the In-State, Offshore, and OOS solar, wind, and storage resources, including the associated transmission facilities to deliver the related energy to load. Such large-scale planning needs to co-optimize economic, land use, transmission, and interconnection issues associated with the amount of renewables and storage needed to be online in the 20-year timeframe to achieve the state's SB 100 goal of 100% clean electricity by 2045, as well as 80

[1] CEC, CPUC and CAISO are referred together as "Joint Agencies" hereafter.
[2] BAMx consists of City of Palo Alto Utilities and City of Santa Clara, Silicon Valley Power.

percent below 1990 emissions by 2050. Therefore, BAMx concurs with the Joint Agencies that a longer-term context for framing issues in the existing 10-Year Transmission Plan is necessary.

During the July 22nd workshop, several in-State and OOS transmission projects listed below were discussed extensively.

- Pacific Transmission Expansion Project
- North Gila Imperial Valley #2 Transmission Project
- TransWest Express Transmission Project
- Southwest Intertie Project (SWIP) North
- Cross Tie Project
- SunZia Southwest Transmission Project
- Ten West Link Project
- Southline Transmission Project
- Lucky Corridor Transmission Project
- GridLianceWest

Some of these projects are complementary to each other, whereas some others are substitutes for other projects. BAMx notes that the resources accessed by these transmission projects compete against other off-shore wind and in-State solar, wind, geothermal, and short- and long-term storage generation resources. In particular, the extent and location of battery storage will be critical in meeting the State policy goals. For example, locating battery storage in a highly congested area with high renewable generation curtailment would help to reduce congestion and renewable curtailment, thereby minimizing the need for certain competing transmissions solutions.[3] The CAISO's past comprehensive battery remapping studies[4] have demonstrated not only that transmission congestion and renewable curtailment can be further reduced by remapping or allocating batteries to constrained areas, but also that the latter is more effective than the other transmission alternatives.[5] This lesson learned is important for studying all resource portfolios and scenarios going forward on a state-wide basis. In other words, it is pertinent to perform an additional layer of analysis to check whether any transmission upgrades triggered by a given resource portfolio could be eliminated or scoped differently by remapping the renewable and battery storage resources. We encourage the Joint Agencies to have such study processes built-in as it evaluates the need for future transmission solutions.

All Transmission Costs Should Be Considered

Any evaluation of OOS transmission projects should identify a realistic assessment of additional in-State transmission upgrades and related costs to accommodate OOS resources. For example, RESOLVE,[6] a capacity expansion model that is used to develop the resource portfolios by the

[3] See BAMx Comments on the CAISO 2020-2021 Transmission Plan Stakeholder Presentation Materials from November 17, 2020, December 1, 2020 located at https://flynnrci.com/wp-content/uploads/2021/03/BAMx-Comments-on-CAISO-2020-21-Transmission-Plan_12012020-2.pdf
[4] "Economic Assessment and Production Cost Simulation," Draft 2020-2021 Transmission Plan, 2020-2021 Transmission Planning Process Stakeholder Meeting, February 9, 2021.
[5] 2020-2021 Draft Plan, pp. 224-232.
[6] Further information on RESOLVE is available here: https://www.cpuc.ca.gov/General.aspx?id=6442459770

CPUC, is a linear model that applies only an estimate of the cost on a $/kW basis of the necessary transmission to deliver the energy to the CAISO system. In the Sensitivity 1 portfolio used in the CAISO 2021-2022 TPP, RESOLVE selected 1,500 MW of Full Capacity Deliverability Status (FCDS) New Mexico wind interconnected into the "SCADSNV-Riverside_Palm_Springs" transmission zone.[7] This selection assumed that the transmission costs to reach the CAISO system are approximately $121/kW-Yr.[8] The RESOLVE model does not capture in-state transmission buildout to access the OOS resources. In other words, RESOLVE likely underestimates the overall transmission costs associated with procuring OOS wind. Presumably, the CAISO modeling of the Base and Sensitivity portfolios in the 2021-2022 TPP will capture these additional transmission upgrades to accommodate the OOS wind resources. These additional internal (gateway) upgrades need to be accounted for to accurately capture the overall transmission cost associated with the OOS wind. It is pertinent that all types of transmission costs associated with OOS wind are accurately captured to adequately evaluate the cost-effectiveness of the OOS resources relative to the competing In-State and OOS renewable and storage resources. The economic impact of the transmission costs are further complicated by the need to estimate the portion of any OOS transmission which may be paid for by the CAISO ratepayers versus the intervening states and/or the developer/owner of the new transmission.

Need for a Framework that Allocates Cost of OOS Transmission Project(s) to LRAs/LSEs that Trigger the Need for Them

The July 22nd discussion made it abundantly clear that determining the economics of competing OOS transmission projects would be a challenging exercise. One straightforward way that the economics of these transmission projects is determined by the OOS sellers is to model the delivery of its product to the CAISO grid. That will probably be based upon the Seller's ability to access existing transmission or purchase transmission from developers of that transmission. To perform a systematic comparison of the transmission cost impact of the OOS transmission, the following transmission cost allocation principles must be applied. The fundamental principle for cost allocation is that it should be allocated in a way that is commensurate with benefits. In particular, the LSEs within the Local Regulatory Authorities (LRAs) approving resource procurement that are benefiting from the OOS resources should pay for that transmission delivering those resources to the CAISO border.

BAMx believes that having the OOS supplier build in its cost of delivering its product to the CAISO will also improve its ability to deliver its product to the WECC-wide grid optimally and encouraging others to contribute to the transmission costs. This mechanism ensures that buyers of the remote generation will have the transmission costs outside of the CAISO captured in the power purchase agreement (PPA) pricing. This will also help accomplish the first principle of FERC Order 1000, that is, costs are allocated in a way that is roughly commensurate with benefits. Broadly, LSEs voluntarily procuring resources using transmission should pay for the cost of delivery. One such example is the SunZia Transmission Project, accessing the New

[7] Source: Figure 3 in the "Descriptions of the Proposed Portfolios for the 2021-2022 TPP," CPUC Energy Division, October 23, 2020, p.B-6.
[8] "Descriptions of the Proposed Portfolios for the 2021-2022 TPP," CPUC Energy Division, October 23, 2020, p.B-4.

Mexico wind, which is not seeking CAISO Transmission Access Charge (TAC) cost recovery to deliver its product to the CAISO boundary point.[9] In other words, the costs of new transmission outside CAISO are captured in the PPA pricing with LSE off-takers who are procuring New Mexico wind energy and will not be borne by all the CAISO-wide TAC payers. To our knowledge, among the transmission projects presented during the July 22nd workshop, with the exception of SunZia, all the remaining projects are seeking the CAISO TAC cost recovery. BAMx believes such a cost allocation to entities not receiving the output of OOS resources does not follow cost causation principles.

Similarly, if the major transmission ties that deliver offshore wind are determined to be generation ties, those costs should be included in the purchase price of offshore wind output. If CAISO TAC ratepayers pay for the transmission for any OOS wind resources, LSE's may select such resources over offshore wind when that might not be the best economic decision.

Conclusion

BAMx is fully supportive of taking any necessary steps to achieve the State's climate goals. Further, it understands that electric rates will continue to rise to achieve those goals. But it is incumbent on us all to do so in a manner that achieves those goals as cost-effectively as possible. Incorporating the cost of needed transmission to deliver new resources to load is critical to achieving our climate goals cost-effectively. BAMx appreciates the opportunity to comment on the Joint Agency efforts on comprehensive and coordinated statewide planning. We hope to work with the Joint Agencies staff to continue to improve and enhance these efforts.

If you have any questions concerning these comments, please contact Paulo Apolinario (papolinario@svpower.com or (408) 615-6630).

[9] See Southwestern Power Group and Pattern Energy Group Joint Reply Comments on Administrative Law Judge's Ruling on Portfolios for the 2021-2022 Transmission Planning Process, November 20, 2020, p.1. Southwestern Power Group (SWPG) is developing SunZia Transmission Project, a 520-mile independent transmission project to deliver New Mexico wind to Pinal Central (Palo Verde area) to serve Arizona and California markets.