BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA

Order Instituting Rulemaking to Develop an Electricity Integrated Resource Planning Framework and to Coordinate and Refine Long-Term Procurement Planning Requirements.	Rulemaking 16-02-007 (Filed February 11, 2016)

COMMENTS OF THE BAY AREA MUNICIPAL TRANSMISSION GROUP IN RESPONSE TO ADMINISTRATIVE LAW JUDGE'S RULING SEEKING COMMENT ON PROPOSED REFERENCE SYSTEM PORTFOLIO AND RELATED POLICY ACTIONS

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The Bay Area Municipal Transmission Group ("BAMx")[1] appreciates the opportunity to provide comments in response to the Administrative Law Judge's Ruling ("Ruling") seeking comment on the Proposed Reference System Portfolio ("RSP") issued on November 6, 2019. This Ruling requests that all parties respond to several questions embedded in the Ruling, its attachments, and the modeling analysis conducted to support it.

I. BAMx COMMENTS

In this section, BAMx responds to a subset of the questions posed in the ALJ Ruling.

E. Commission or LSE Actions in Response to Portfolio Recommendation

18. Are there other actions the Commission should take with respect to development of any other types of capacity or resources such as offshore or out-of-state wind? Describe in detail.

BAMx appreciates the Staff's new modeling that allows RESOLVE to build new transmission for 3 GW of out of state (OOS) wind resources as a default assumption. We know that the 46 MMT case did not select any OOS wind resource dependent on new transmission, as,

[1] The members of BAMx are City of Palo Alto Utilities and City of Santa Clara, *dba* Silicon Valley Power.

given the cost of new transmission upgrades, the OOS wind resources appear to be more expensive than a combination of In-State solar and Li-Ion battery resources at this level of need. Although both NM and WY wind are selected under the most stringent GHG target of 30 MMT, the location of OOS wind resources on new transmission (NM or WY) is sensitive to transmission cost assumptions under a 38 MMT target.[2] Overall, the ED Staff's updated analysis suggests that the OOS wind resources could be part of the future portfolios, however, the appropriate accounting of the cost of new transmission infrastructure, and who pays for it, is critical to the procurement options being investigated by the CPUC.

BAMx strongly cautions the Commission against making any procurement decisions with respect to OOS transmission - that requires new transmission to be built - at this time. First, there is no currently-demonstrated commercial interest by LSEs that indicates their intention of paying for the transmission cost associated with accessing the NM/WY wind resources. From a cost causation standpoint, entities that require new transmission investments should pay for such investments. Second, RESOLVE's decision to select OOS resources that trigger the need for new transmission investments is very sensitive to several assumptions such as generation retirement assumptions, resource characteristics, resource and transmission costs, transmission capability, and net exports. These assumptions are subject to major uncertainties that need to be analyzed in future IRP's before additional transmission investment is deemed justified. Under the current transmission expansion approval framework, there is no recourse once the CAISO Board approves a large-scale OOS transmission project that is subsequently found to be excessive and/or unneeded in the future. In previous statements by the CAISO, they appear to recognize the need for such new OOS transmission to be determined as part of the CPUC resource procurement responsibility. We recommend the CPUC, as part of this proceeding or in a new one, start an effort to delineate how to recover the cost of OOS transmission projects if such ever becomes the chosen path in this process.

[2] Attachment A (2019-20 IRP: Proposed Reference System Plan) to the ALJ Ruling, November 6, 2019, slide #98-100.

F. CAISO TPP Recommendations

19. Comment on the recommendation to use the 46 MMT Alternate Scenario as the reliability and policy-driven base cases for the next CAISO TPP.

BAMx questions the need to add 2,000 MW of "generic effective capacity" anticipated in the 46 MMT Alternate Scenario on several grounds. We believe that applying a 5,000 MW restriction on the hourly economic dispatch in the SERVM model is not justified. Afterall, SERVM performs a Western Electricity Coordinating Council (WECC) wide hourly 8,760 chronological production costs analysis, presumably based on detailed and realistic representation of loads, generation, and transmission infrastructure in the future. It is likely that in the absence of the 5,000 MW artificial constraint for economic dispatch purposes, SERVM assumed a realistic level of additional import beyond 5 GW for some hours. Furthermore, based upon the statements made by the Energy Division (ED) staff in the November 20th webinar, it is clear that the ED staff did not conduct any iterative analysis to determine the optimal level of effective generic capacity that would ensure LOLE below 0.1. BAMx believes that an amount significantly lower than 2,000MW of "generic effective capacity" would be adequate in meeting such a reliability goal.

Furthermore, BAMx agrees with the CAISO that it is not reasonable for the CAISO to model "generic effective capacity" in the annual transmission planning process (TPP) without the CPUC identifying the most appropriate real resource(s) associated with such capacity.[3] BAMx recommends that the ED eliminates the need for 2,000MW effective generic capacity from the *46MMT Alternate* case in the absence of having any better insights into SERVM's reliance on the hourly import levels exceeding 5,000MW. If the ED chooses to restrict the hourly dispatch in SERVM to 5,000MW, at minimum they need to refine the level of generic effective capacity. Furthermore, the ED needs to provide the technological and locational attributes to this additional capacity so that the CAISO could appropriately model it in the reliability and policy-driven base cases for the next CAISO TPP.

As we further discuss in our response to Q.21, a comprehensive busbar mapping process and a robust feedback loop between the CPUC IRP and CAISO TPP - that includes stakeholder input - is of critical importance for meaningful TPP results.

[3] CAISO Ex Parte Communication with the Commission, R. 16-02-007, November 27, 2019.

20. Comment on the recommendations for policy-driven sensitivities around curtailment in particular transmission zones and the associated impact on EO or full deliverability for renewables.

The ED has proposed two different approaches comprising new energy-only (EO) limits incorporated into RESOLVE allow the model to build new generation in more transmission zones. These updated EO limits would be developed under the assumption that an increased amount of curtailment would be permitted in various transmission zones. The proposal is to have a *Policy-Driven Sensitivity 1*, which includes LEVEL 1 updated EO transmission capability estimates by expanding the EO transmission capability estimates for zones, which had capabilities previously marked as TBD or which required minor upgrades to accommodate EO resources. The *Policy-Driven Sensitivity 2*, in addition to LEVEL 1 energy only estimates, LEVEL 2 will increase the EO transmission capability estimates for zones with relatively low-cost upgrades by the same amount as the incremental capability provided by the corresponding upgrade. BAMx would support the *Policy-Driven Sensitivity 1* as the EO estimates do not assume any new additional transmission upgrades.

For *Policy-Driven Sensitivity* 2, BAMx recommends that the ED utilize a portfolio that is based upon the transmission input capability estimates based on the CAISO's most recent deliverability methodology.[4] In its recent review of deliverability assessment methodologies, CAISO has proposed new study scenarios that would align load levels with intermittent generation output. The CAISO-proposed new study approach recognizes that, with a diverse grid, the peak reliability need is offset by the generation profiles under certain renewable conditions and, as a result, significantly more of the resources are deliverable. Thus, this implementation of the revised methodology would result in accommodating more Full Capacity Deliverability Status (FCDS) resources in a given transmission area than under the existing methodology without triggering the need for additional transmission upgrades. The CAISO has found that several upgrades identified using the current methodology would not be needed under the new methodology.[5] Moreover, the CAISO, in its 2020-2021 TPP, is expected to use its

4 See http://www.caiso.com/Documents/DraftFinalProposal-GenerationDeliverabilityAssessment.pdf

5 CAISO Generation Deliverability Assessment Methodology Draft Final Proposal Stakeholder Call, October 4, 2019, p.29 (See http://www.caiso.com/Documents/Presentation-GenerationDeliverabilityAssessmentDraftFinalProposal.pdf)

revised deliverability assessment for the policy-driven assessment. Therefore, for consistency purposes, it makes sense to provide at least one sensitivity portfolio, if not the base portfolio itself, that is based on the transmission capability estimates utilizing the CAISO's revised deliverability assessment methodology.

21. Comment on the suggested process for seeking formal input on busbar mapping of the proposed RSP.

Historically, BAMx has expressed some serious concerns about the sufficiency of the feedback loop concerning transmission capability information between the CAISO reliability and deliverability assessment and the CPUC's renewable portfolios. BAMx has observed that the renewable portfolio resource-to-the-busbar mapping process plays a critical role in the level of renewable generation and curtailments. For example, the 42MMT sensitivity portfolio in the 2018-2019 TPP indicated renewable curtailment of more than 40,000GWh,[6] whereas the comparable 42MMT base portfolio in the latest 2019-2020 TPP shows a much lower renewable curtailment, that is, 12,812GWh.[7] We understand that in addition to the change in resource mix, a better-coordinated resource-to-the-busbar mapping process between the CPUC Integrated Resource Planning (IRP) and the CAISO 2019-2020 TPP has led to reduced, and more realistic, renewable curtailment levels.

The 2019 IRP renewable resource portfolios for the 2020-2021 TPP need to identify the locations of renewable capacity and storage. We know that the CAISO did not model the 2,00MW of Li-Ion battery storage in the 2019-2020 TPP studies as the ED did not identify their locations. With the 2019 IRP portfolios having excess of 11,000MW of Li-Ion battery storage capacity by 2030,[8] the Commission needs to take the lead in identifying the appropriate locations for all types of storage resources. BAMx has laid out the details of how the LCR Economic Assessments and the Flexible Capacity Deliverability studies performed by the CAISO in the current TPP and 2018-2019 TPP could be used in identifying the location and attributes of

[6] Economic Planning-Preliminary Production Cost Simulation Results, 2018-2019 Transmission Planning Process Stakeholder Meeting, November 16-17, 2018, page 20.
[7] Preliminary Economic Assessments Results, 2019-2020 Transmission Planning Process Stakeholder Meeting November 18, 2019, page 16.
[8] CPUC Energy Division, 2019-20 IRP: Proposed Reference System Portfolio Validation with SERVM Reliability and Production Cost Modeling, November 6, 2019, page 17.

storage resources in the CAISO's 2019-2020 TPP.[9] The massive amount of storage that is selected in the various options for a recommended reference plan raises the importance of the above requests.

BAMx is concerned about the lack of opportunity for stakeholders to review the proposed busbar mapping and to provide informed input before the final portfolios, along with resource mapping, are conveyed. It is important that the stakeholders are allowed participation in this process because of the likely profound impact of locating new storage will have on the ultimate cost of the preferred resource plan. Such stakeholder inclusion will allow better participation by the stakeholders in solving issues that may arise if the CAISO discovers issues with the proposed busbar mapping as they begin analyzing the resource portfolios in the 2020-2021 TPP cycle.

II. CONCLUSION

BAMx appreciates the opportunity to provide responses to the questions on the RSP and TPP recommendations and looks forward to continued participation in the IRP proceeding.

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Respectfully submitted,

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[9] See BAMx Comments on the CAISO 2019-20Transmission Plan Stakeholder Presentation Materials form November 18, 2019, pp.1-3, http://www.caiso.com/Documents/BAMxComments-2019-2020TransmissionPlanningProcess-Nov182019Meeting.pdf