BAMx Comments on the Draft 2020-2021 Transmission Plan and Materials from the February 9, 2021 Stakeholder Meeting

The Bay Area Municipal Transmission group (BAMx)[1] appreciates the opportunity to comment on the draft 2020-2021 Transmission Plan (Draft Plan, hereafter) and materials presented at the February 9, 2021 stakeholder meeting. We request that the California Independent System Operator (CAISO) address the following issues in its final comprehensive Transmission Plan.

Review of Projects Currently on Hold

During the February 9th stakeholder meeting, the CAISO presented the analysis conducted on the three PG&E projects that were previously placed on hold.[2] Overall, BAMx is encouraged to see the CAISO re-evaluating projects where the primary driver for the project or estimated project cost has changed.

Wheeler Ridge Junction Project ($250-$300 million)

BAMx supports the CAISO recommended solution to the procurement of a 95MW, 168 MWh energy storage option at Lamont 115kV substation to mitigate the 115 kV issues on the Kern-Lamont 115 kV system.[3] BAMx agrees with the CAISO this was the most cost-effective option relative to the several competing options, including reconductoring of the 115 kV lines. The CAISO's battery storage option evaluation is consistent with the CPUC recommendation of including only the "incremental" interconnection cost[4] and not the full capital cost of the energy storage projects that are otherwise needed for system capacity purposes according to the CPUC-provided resource portfolios. BAMx also supports the CAISO's proposed mitigation to rely on operating solutions to address the P6 and P7 issues related to Kern-Magunden-Witco 115kV. Overall, BAMx concurs with the CAISO decision to place the *Wheeler Ridge Junction Station* project on hold pending procurement of the battery on the 115 kV system and until the evaluation of 230 kV options is completed.

Moraga-Sobrante Reconductoring ($10-$20 million)

The scope of the project is to reconductor the Moraga-Sobrante 115kV circuit with a higher ampacity conductor. The driver for the project, as identified in the CAISO February 9th presentation, is multiple P2 overloads at Sobrante 115kV substation starting in 2030.[5] The overloads only appear in 2030, which is a ten-year-out case. Therefore, there is no urgency to mitigate the identified overload. BAMx supports not approving the *Moraga-Sobrante 115kV*

[1] BAMx consists of the City of Palo Alto Utilities and City of Santa Clara, Silicon Valley Power.
[2] "Reliability Assessment Recommendations –PG&E Area Draft 2020-2021 Transmission Plan," Stakeholder Meeting, February 9, 2021.
[3] Draft Plan, p.113
[4] See CPUC Staff Report: Modeling Assumptions for the 2020-2021 Transmission Planning Process Release 1 (TPP Base Portfolios), February 21, 2020, p.14,
[5] Presentation 2020-2021 Transmission Planning Process November 17, 2020 Stakeholder Meeting Slide 212 of 216.

reconductoring project and continuing to keep it on hold due to the long-term reliability issues identified in this cycle. Furthermore, if future planning cycles continue to identify a thermal overload on the Moraga-Sobrante 115kV circuit, BAMx recommends that the CAISO consider a more cost-effective alternative, such as a generation redispatch or a smart wire reactive device to mitigate the identified overload. Either is likely to provide a more cost-effective solution to the identified reliability issue.

North of Mesa Project ($120-$150 million)

BAMx supports the CAISO-recommended procurement of a 50 MW 4-hour BESS at Mesa 115kV substation to obtain sufficient maintenance windows within winter months for facilities in the area. The existing Under Voltage Load Shedding (UVLS) scheme will address P2, P6 and P7 thermal overloads in the 115 kV system supplied from the Mesa substation.[6] BAMx agrees with the CAISO that this was the most cost-effective option relative to several competing options, including reconductoring of the 115 kV lines. As noted earlier, the CAISO's battery storage option evaluation is consistent with the CPUC recommendation of including only the incremental interconnection cost and not the full capital cost of the energy storage projects that are otherwise needed for system capacity purposes according to the CPUC-provided resource portfolios. Overall, BAMx concurs with the CAISO decision to place the *North of Mesa* project on hold pending procurement of the battery storage project.

Need for Continued Evaluation of the Previously Approved Projects

BAMx applauds the significant progress that the CAISO made in the prior four planning cycles (2015-2019) in evaluating previously approved transmission projects. However, several projects still remain on hold.

While much work has been done to evaluate previously approved projects as a one-time effort, part of the next year's Study Plan should include a formal process to continually monitor such previously approved projects. During the February 28th stakeholder meeting in the 2019-2020 TPP, the CAISO had indicated that they would do such an assessment on a case by case basis in the 2019-2020 cycle. We recommend that this monitoring should include at least two aspects going forward. First, until the project starts construction it would be monitored as to whether there have been changes that would impact the project necessity and scope. While all approved projects should be monitored, special emphasis should be targeted for those that have been delayed beyond their initially proposed on-line dates as well as those with on-line dates during the second half of the planning horizon. Second, stakeholders are seeing tremendous and chronic cost escalation after a transmission project is approved by the CAISO, at times up to 900%. Further, this historic escalation appears to have had nothing to do with the mitigation of the risk of transmission lines causing wildfires. Such cost increases can materially impact the selection of the preferred alternative or overall scope of work.

[6] Draft Plan, p.118

During the post-approval transmission project monitoring, BAMx recommends that the CAISO monitor cost escalation for both (a) scope creep in the event that work eventually deemed unnecessary to the project objectives may be kept out of, or removed from, the project, and (b) whether any such cost increase should trigger a project review as has been performed by the CAISO for the past several planning cycles. BAMx encourages the CAISO to monitor the projects in all the PTO's service territories for potential cost escalation followed by a review in the scope of the project if a significant cost escalation has been identified. The results of such monitoring activities should be included in the annual Transmission Plan. The significant increases in costs that are occurring after the CAISO approves a project makes some type of process - such as the one we suggest - extremely important.

Policy-Driven Assessment

BAMx supports the CAISO's decision of not recommending the approval of any policy-driven projects, where the need for the project is subject to change based upon assumptions that are expected to change. One such example is the revised deliverability assessment methodology that the CAISO Board unanimously approved on November 13, 2019.[7] Under the revised methodology, the on-peak deliverability assessment is expected to result in a much lower level of need for delivery network upgrades to accommodate Full Capacity Deliverability Status (FCDS) resources.[8] The CAISO's February 9th presentation indicates that "1,464 MW of battery storage in Sensitivity 1 and 3,287 MW in Sensitivity 2 was found to be undeliverable without tx upgrades." BAMx notes that simply re-mapping the undeliverable battery capacity would result in having those resources deliverable without triggering the need for transmission upgrades.

Economic Assessment Results

BAMx supports the CAISO's recommendation for not approving any transmission project as an economically driven project in this planning cycle. BAMx applauds the CAISO's battery mapping study for the Sensitivity 2 portfolio.[9] BAMx has been promoting the remapping of battery storage to a highly congested area with high renewable curtailment as this can help to reduce congestion and renewable curtailment.[10] The CAISO's comprehensive battery re-mapping studies have demonstrated not only that transmission congestion and renewable curtailment can be further reduced by remapping or allocating battery to constrained areas, but also that the latter is more effective than the transmission alternatives.[11] This lesson learned is important for studying all resource portfolios and scenarios going forward. In other words, it is pertinent to

[7] http://www.caiso.com/Documents/DecisiononDeliverabilityAssessmentMethodologyRevisionsProposal-Motion-Nov2019.pdf
[8] Deliverability Assessment Methodology Draft Final Proposal Paper Deliverability Assessment Methodology Straw Proposal Paper Stakeholder Meeting October 4, 2019, page 29 (http://www.caiso.com/Documents/Presentation-GenerationDeliverabilityAssessmentDraftFinalProposal.pdf)
[9] "Economic Assessment and Production Cost Simulation," Draft 2020-2021 Transmission Plan, 2020-2021 Transmission Planning Process Stakeholder Meeting, February 9, 2021.
[10] BAMx Comments on the CAISO 2020-2021 Transmission Plan Stakeholder Presentation Materials from November 17, 2020, December 1, 2020.
[11] Draft Plan, pp.224-232.

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 CAISO to have such processes built-in as it performs the policy-driven and economic assessments in the subsequent planning cycles.

Wildfire Impact Assessment

BAMx applauds the CAISO's modeling of the two additional scenarios, i.e., lines de-energized based on October 26, 2019 PSPS event conditions with PG&E's wildfire mitigations (10-26 PSPS-WFM) and based on potential PSPS events corresponding to historical weather conditions, and de-energization of all lines included in 25 potential events (PSPS-HWC-All).[12] We believe the addition of these two plausible scenarios provide important new information.

In addition to the transmission-connected load, there may also be a distribution-connected load that will not be served due to distribution facilities also being affected by PSPS or wildfire events. A loss of distribution-connected load may reduce the load that the transmission system needs to supply under that specific condition, which may vary depending on the nature of the specific event. BAMx encourages the CAISO to work with PG&E to also take into account plausible distribution circuit interruptions as it continues to look at likely scenarios for PSPS events.

BAMx encourages the CAISO to continue to work with PG&E to investigate 2020 PSPS events that have occurred. We hope that this effort could be undertaken as part of next year's scope.

Conclusion

BAMx appreciates the opportunity to comment on the CAISO Draft 2020-2021 Transmission Plan. BAMx also supports the CAISO being cautious in considering project approval where the need for the project is subject to change based on the assumptions that are expected to change, such as the revised deliverability assessment and resource to busbar mapping in the renewable portfolios including energy storage. BAMx also appreciates the CAISO staff's openness and willingness to work with the stakeholders in the process.

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

[12] Draft Plan, p. 425.