

BAMx Comments on the Draft 2019-2020 Transmission Plan and Materials from the February 7, 2020 Stakeholder Meeting

The Bay Area Municipal Transmission group (BAMx)¹ appreciates the opportunity to comment on the draft 2019-2020 Transmission Plan (Draft Plan, hereafter) and materials presented at the February 7th, 2020 stakeholder meeting. We request that the California Independent System Operator (CAISO) address the following issues in its final comprehensive Transmission Plan.

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 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, 2019.² 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.³ This methodology is expected to be effective as early as January 2020 subject to FERC approval. Similarly, BAMx also supports the CAISO not recommending any policy-driven transmission projects that could be avoided simply by changing the intra-zonal generation resource mapping distribution.⁴

CPUC IRP and CAISO TPP Feedback Loop

Historically, BAMx has expressed 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 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 40TWh,⁵ whereas the comparable 42MMT base portfolio in the latest 2019-2020 TPP shows a much lower renewable curtailment, that is, 12.12TWh.⁶ 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)

¹ BAMx consists of City of Palo Alto Utilities and City of Santa Clara, Silicon Valley Power.

² <http://www.caiso.com/Documents/DecisiononDeliverabilityAssessmentMethodologyRevisionsProposal-Motion-Nov2019.pdf>

³ 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>)

⁴ 2019-2020 TPP Policy-driven Assessment, 2019-2020 Transmission Planning Process Stakeholder Meeting, February 7, 2020, page #24-31.

⁵ Economic Planning-Preliminary Production Cost Simulation Results, 2018-2019 Transmission Planning Process Stakeholder Meeting, November 16-17, 2018, page 20.

⁶ Economic Assessment, Draft 2019-2020 Transmission Plan, 2019-2020 Transmission Planning Process Stakeholder Meeting, February 7, 2020, page 6.

and the CAISO 2019-2020 TPP has led to reduced and more realistic renewable curtailment levels.

There is a continued need for a timely and robust feedback loop between the 2019 IRP and 2020-2021 TPP along with periodic opportunities for the stakeholders to provide meaningful feedback. For example, the 2019 IRP renewable resource portfolios currently under development for the 2020-2021 TPP need to identify the locations of the storage capacity with some degree of granularity. The 2017 IRP portfolio entailed approximately 2,000MW of Li-Ion battery storage resources by 2030. However, the 2019-2020 TPP did not model them at all as CPUC did not identify their general locations. The 2019 IRP portfolios are expected to have more than 11,000MW of Li-Ion battery storage capacity by 2030.⁷ Therefore, it is critical that in addition to providing the updated zonal transmission capability estimates, the CAISO plays a key role in helping the CPUC and the California Energy Commission (CEC) in identifying appropriate locations and types of storage resources. Although the need for energy storage is driven by system needs, such storage presents a major opportunity to reduce the need for future transmission. With the recognized goal of decreasing the need for gas-fired generation, it is important to find locations in load pockets that will allow for its replacement without driving the need for expensive transmission solutions. BAMx encourages the CAISO to engage stakeholders with further related discussions in the 2020-2021 TPP and through the CAISO's continued participation in the CPUC IRP process.

Flexible Capacity Deliverability and LCR Reduction Studies

BAMx believes that the Flexible Capacity Deliverability studies and LCR Economic Assessments performed by the CAISO in the current TPP and 2018-2019 TPP are very useful in identifying the location and attributes of storage resources. In particular, the Flexible Capacity Deliverability Assessment performed by the CAISO in the current TPP⁸ - as summarized in Table 1 - could provide a good guideline for the CPUC in locating the selected 2019 IRP storage resources in different *generation pockets*.

⁷ CPUC Energy Division, 2019-20 IRP: Proposed Reference System Portfolio Validation with SERVM Reliability and Production Cost Modeling, November 6, 2019, page 17.

⁸ Flexible Capacity Deliverability Assessment, 2019-2020 Transmission Planning Process Stakeholder Meeting, November 18, 2019, pp.20-29.

Table 1: Potential Storage Capacity in Generation Pockets As Determined by the CAISO 2019-2020 TPP Flexible Capacity Deliverability Assessment

Generation Pocket	Energy storage could be added without hitting the transmission limit (MW)
North of Fresno Constraint	~700MW
North of Fresno Constraint # 2	New upgrade could provide high amounts
SCE North of Lugo Constraint	280MW
SCE North of Magunden Constraint	500MW
SCE Blythe Constraint	70MW
SDG&E Doublet Tap-Friars Constraint	More than 500MW
SDG&E Silvergate-Bay Boulevard Constraint	More than 500MW

Similarly, the CAISO’s LCR Economic Assessments should inform the amount of battery storage that could be located in the various load pockets. The ability of storage to reduce the reliance on existing gas-fired resources in the local areas and sub-areas needs to be a priority when locating the storage resources. Another important consideration to map storage resources is to site them, to the extent possible, at the same location as the existing or new renewable resources while ensuring that the total of the qualifying capacities of the renewable resource and battery does not exceed the capacity at the point of interconnection.⁹ BAMx observes that nearly 60% of storage capacity currently in the queue is hybrid, i.e., coupled with either solar or wind resources. Therefore, it is highly likely that such storage mapping would be consistent with commercial interest. The LCR reduction studies are also very informative in identifying the attributes of the required storage resources. The CAISO should provide guidance on defining an adequate amount of utility-side (front-of-the-meter) solar resources which could be co-located with storage resources in local areas or sub-areas to ensure that there is adequate generation available to charge the battery storage. 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 appreciates the CAISO’s significant efforts on the LCR Reduction study included in the draft 2019-2020 Transmission Plan. BAMx finds these informational studies to be very helpful in reviewing the options to maintain local reliability. We endorse the CAISO’s comprehensive approach that not only considers (i) the reliability benefits of competing mitigation solutions including transmission and storage resources,¹⁰ but also assesses (ii) the production benefits and

⁹ For example, the CAISO allows the interconnecting projects to add energy storage to their interconnection request or operating Generating Facility. See “Opportunities for Adding Storage at Existing or New Generation Sites,” CAISO Stakeholder Call, October 10, 2019.

¹⁰ We have noted in our previous comments, we request that demand-side options such as slow demand response be also considered in all areas where such measures would address the identified reliability constraints.

(iii) the local capacity benefits. BAMx also supports the consideration of preferred resources and energy storage as mitigation solutions for potential reliability issues in all LCR areas and sub-areas. In particular, we found that the distributed generation, existing and planned fast-response demand response and storage were used in all LCR areas studied in the current TPP cycle, but not in the remaining LCR areas/sub-areas (except for San Diego Imperial Valley Area and San Diego subarea) studied in the 2018-2019 TPP. BAMx requests that such demand-side options be considered in all areas where such measures would address the identified reliability constraints.

Recommended Reliability-Driven Projects

Tulucay-Napa #2 Circuit

The Draft Transmission Plan recommends for approval of the Tulucay-Napa 60kV #2 Circuit upgrade. The scope of the project is to replace the limiting jumpers and switches in order to increase the rating of the circuit. BAMx has submitted comments suggesting the CAISO should evaluate an operating solution of closing the second Tulucay-Napa 60kV circuit, which could relieve the identified overload. The CAISO's response was that "Closing the normally open switch addresses the P0 contingency but results in reliability constraints under P1 contingencies.¹¹" BAMx appreciates CAISO staff taking the time to review the BAMx proposed configuration. However, BAMx believes that with the CAISO's proposed configuration of keeping the Tulucay JCT switch normally open, the entire Basalt Substation will be completely de-energized for the loss of Tulucay-Napa #2 circuit. Although these circuits are not considered to be part of the Bulk Electric System (BES) and load dropping is allowed following a single (P1) contingency event, a more cost-effective solution could be to close the normally open switch on Basalt-Tulucay #1 circuit, and operate Basalt Substation split so some of the load is served via Tulucay-Napa #1 and the rest from the Tulucay-Napa #2 circuit. Under this configuration, neither circuit will overload under normal (P0) condition and the entire Basalt Substation will not be lost for an outage of Tulucay-Napa #2 circuit.

Maintenance Projects

BAMx very much appreciates that the CAISO will review the assumptions used for the escalation of O&M costs and capital maintenance as a percentage of gross plant, in addition to other capital costs that do not require CAISO approval as part of their efforts of updating the HV TAC estimating tool.¹² BAMx observes that the share of maintenance-related capital projects that are not subject to the CAISO-approval is ever-increasing. For instance, BAMx calculation of the PG&E TO 20 capital forecast breakdown for combined years 2018 and 2019 indicate that roughly 70% of PG&E's forecasted electric transmission capital expenditures receive no external review.¹³ BAMx has also noticed that some of the PTO request window projects that were not approved in the Draft Plan are now being classified as maintenance projects.

¹¹ ISO Responses to Comments 2019-2020 Transmission Planning Process November 18th Stakeholder Meeting, Page 9 of 31

¹² Draft Transmission Plan, p. 402.

¹³ Attachment PGE-0009-1, Capital Expenditures Forecast, PG&E TO 20 Filing.

BAMx believes that the distinction between maintenance projects and capital improvement projects is not well defined. All capital projects affect maintenance costs. And many, if not most, projects being defined by PTOs as maintenance projects have major implications in terms of load-serving capability, an attribute of most capital improvement projects proposed to the CAISO to mitigate reliability issues. Therefore, it is incumbent on the CAISO to review all maintenance projects or at least those that have load-serving capability implications.

Even though the TPP is a CAISO-led process, the PTOs are important stakeholders in that process. So even though it is the CAISO that approves increases in the capability of the control area transmission system, the PTOs also identify deficiencies in the load-serving capability of the existing transmission system and suggest projects through request window submissions to mitigate any deficiencies of the existing grid. The PTOs, therefore, have a major role in what gets approved by the CAISO in its TPP. The PTOs use that approval in their justification to FERC for cost recovery for those capital improvement projects the PTO constructs. BAMx contends that the CAISO should have no less of a role in defining maintenance projects that the PTOs ultimately apply to FERC for cost recovery.

Conclusion

BAMx appreciates the opportunity to comment on the CAISO Draft 2019-2020 Transmission Plan. BAMx also supports the CAISO being cautious in considering seeking project approval, where the need for the project is subject to change based upon 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 urges the CAISO to play a more active role in the review of maintenance projects. BAMx also appreciates the CAISO staff's openness and willingness to work with the stakeholders in the process. We look forward to working with the CAISO staff to continue to improve the TPP.

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