

BAMX Comments on the CAISO 2018-19 Transmission Planning Process **Draft Study Plan**

The Bay Area Municipal Transmission group (BAMx)¹ appreciates the opportunity to comment on the CAISO Draft 2018-19 Transmission Planning Process (TPP) Unified Planning Assumption and Study Plan (Study Plan). The comments and questions below address the 2018-19 TPP Unified Planning Assumptions and Study Plan posted on February 22, 2018 and discussed during the February 28th stakeholder meeting. We continue to see positive enhancements to each year's plan and look forward to continuing to work with the CAISO to continuously improve the planning process.

Similar to the previous planning cycle, there continues to be much uncertainty in the current planning environment. System loads are forecast to decline and the time of peak demand is shifting, gas fired resources are facing early economic retirement, the expansion of Community Choice Aggregation (CCA) may change resource procurement patterns, the outcome of regional expansion efforts is still unknown, and impacts of efforts such transportation electrification are only just starting to come into view. In such an environment, maintaining flexibility and careful consideration of long-term investments are critical. As such, BAMx strongly supports the CAISO efforts identified on slide 28 of the stakeholder presentation² to identify corrective action plans that include lower cost alternatives to the construction of transmission facilities.

Previously Approved Projects

BAMx applauds the significant progress that the CAISO made in the prior three planning cycles in evaluating previously approved transmission projects. However, some projects still remain on hold. While the draft study plan affirms that such projects on hold will not be included in the system model used in the reliability assessment (Section 3.5.1), it is silent as to analysis to resolve the fate of these projects. While the work on three of the projects is linked to the further assessment of alternative to the Midway-Andrew Project,³ the fate to the Gates-Gregg 230 kV Project was linked to a detailed renewable integration assessment to be conducted in the 2018-2019 TPP. However, we find no such assessment identified in the draft Study Plan.

While much work has been done to evaluate previously approved projects as a one-time effort, part of the Study Plan should include a formal process to continually monitor such previously approved projects. This monitoring should include at least two aspects. 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%. Such cost increases can materially

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

² Page 38 of the February 28th CAISO presentation PDF file

³ Midway-Andrew Project, Morro Bay 230/115 kV Transformer Project and the Diablo Canyon Voltage Support Project

impact the selection of the preferred alternative or overall scope of work. During the post approval transmission project monitoring, BAMx recommends that the CAISO monitor cost escalation for both scope creep in the event that work unnecessary to the project objectives may have been added to the project and whether any such cost increase should trigger a project review as has been performed by the CAISO for the past several planning cycles.

While the CAISO’s work to date has focused on projects in the PG&E area, BAMx notes that the issue of cost escalation goes beyond the PG&E area. For example, projects approved in SCE’s service territory show large cost escalation as demonstrated in the table below:

Project Title	Approval Year	Approval Cost Estimate	2018 Q1 AB 970 Report Cost Estimate	Cost Increase
Riverside Reliability Transmission Upgrade (Jurupa 230/66kV Sub)	2007	<\$50M	\$401M-\$500M	900%
Eldorado-Lugo-Mohave Upgrade	2013-2014	\$106M	\$250.1M-\$300M	183%

BAMx encourages the ISO to monitor the projects in all the PTO’s service territories⁴ for potential cost escalation followed by a review in the scope of the project if a cost escalation has been identified. The results of such monitoring activities should be included in the annual Transmission Plan.

Also recommended for further review in this TPP cycle is the Ten West Link Project (*aka* Delaney-Colorado River Transmission Project). This project was approved in the 2013-14 TPP as an economically driven project with a benefit-to-cost ratio of 0.87 to 1.17.⁵ The project energy benefits were based upon the differential marginal fossil generation cost in Arizona versus California with an assumed capacity benefit of 200 MW to 300 MW. Some ancillary benefits associated with Imperial Valley deliverability were also identified, but were not the primary driver and may actually lower the quantified benefit-to-cost ratio.⁶ Again, the planning environment has changed since this project was initially approved. SB 350 has since been approved by the California legislature that increases the RPS and energy requirements, thereby reducing the need for accessing the out-of-State fossil fuel based generation. There have also been a number of announced coal plant retirements in the Southwest that can be expected to significantly impact the previously identified energy benefits. Furthermore, generation is exiting the California market due to the surplus of generation capacity, calling into question the attribution of capacity value to the Ten West Link Project. These factors indicate that the 2013-

⁴ Note that SDG&E’s method of reporting estimated costs in its AB 970 reports does not allow for accurate tracking of potential cost increases.

⁵ CAISO 2013-14 Transmission Plan, Tables 5.7-25 and 5.7-26.

⁶ *ibid.* p. 265

2014 analysis supporting the project should be revisited. As the project is currently undergoing a licensing proceeding at the CPUC, to be timely, this analysis needs to be completed early in the planning cycle.⁷

Loading Conditions and Applicable Equipment Ratings

With the availability of hourly loads from the CEC, the CAISO is advancing its definition of the Base Scenarios to reflect the intent to model a specific day and hour. For example, the Summer Peak 2023 and 2028 models are to reflect August 14 hour ending 19:00.⁸ The evening peak hour identified is generally consistent with previous identification of the shift of the peak load to the evening hours. With the shift in the time of peak load, the ambient conditions which impact equipment ratings also change. For example, PG&E's standard summer conductor ratings are based upon mid-day conditions reflecting an ambient temperature of 109.4° F (98.6° F in the coastal area) with full sun. As the ambient temperature falls and the sun becomes less intense, conductor capabilities rise. BAMx believes that the CAISO should lead an investigation by transmission owners of appropriate line ratings for the shifting peak hours. And, in the absence of such a wide investigation, BAMx recommends that before a capital expansion is approved using these summer peak models, a more detailed review of the area load profile and equipment ratings be undertaken for the specific area being studied for a capital addition.

Local Capacity Requirement (LCR) Studies

BAMx supports the CAISO plan to perform an analysis of existing local capacity areas. The suddenly announced plans in 2017 for the economic shut down of three gas plants necessary for local reliability is a harbinger for a potential wave of such shut downs as the State moves towards its higher RPS targets. It is important to anticipate such announcements in the planning environment to the extent possible. While BAMx fully supports the need for such work, we question some of the methodological points identified in the stakeholder meeting.

First, we recommend that for each local area to be studied that the CAISO identifies both transmission and preferred resource options for maintaining reliability. This would be modelled similar to the recent Moorpark analysis prepared by the CAISO.⁹ The CAISO would further facilitate the consideration of preferred resources by having the study identify the characteristics necessary to meet the reliability needs of the area. This could include a discussion of the capacity and energy requirements of an energy storage alternative and whether solar resource profiles would meet the reliability need.

While we agree that the second step includes an economic analysis of local generation versus transmission/preferred resources, we question the structure whereby the CAISO has the sole role in such an analysis in the planning environment. The CAISO proposal would have the CAISO evaluating the long-term cost of maintaining an existing local resource in comparing to the transmission/preferred resources. While the CAISO at times must enter into Reliability Must

⁷ During the June 2, 2017 pre-hearing conference (A.16-10-12), the CAISO representative indicated that the CAISO would be refreshing its previous economic analysis.

⁸ CAISO 2018-2019 Transmission Planning Process Draft Study Plan, Table 4.11-2

⁹ CAISO, Moorpark Sub-Area Local Capacity Alternative Study, August 16, 2017

Run (RMR) contracts to maintain system reliability, such contracts are stop gap measures rather than long term planning tools. As such, during the planning environment we believe that the other energy agencies (CPUC and CEC) should be involved, likely driving the decision process. These agencies are best equipped to look at resource needs, policy objectives and customer costs in an integrated fashion. CPUC Energy Division and several other party proposals are being discussed in the CPUC Resource Adequacy (RA) proceeding (R.17-09-020) that address RA program reforms necessary to maintain reliability while reducing potentially costly backstop procurement.¹⁰ As such BAMx recommends that while the CAISO assist in developing the options, the other energy agencies should drive the decision. An exception could be for very low cost transmission alternatives such as were identified in the 2017-2018 Transmission Plan for the *South Bay-Moss Landing* enhancements. These enhancements, with an expected cost of \$14 million that would reduce the LCR by 400 MW (\$35/kW) in an area with specific identified needs is such an example. However, such a process should not be the general case. The CAISO should work with the other energy agencies to establish criteria and thresholds before proceeding directly with such low cost, high value projects.

Additionally, BAMx recommends an additional step that would involve a risk assessment of the local area. This could be done, in part, during the process to select the areas for study. BAMx supports a more formal process that considers the capacity margins in an area, the presence of rate based generation as well as the size and ownership concentration of independent generation, the current Power Purchase Agreement expiration dates, and the lead time for implementation of transmission/preferred resources alternatives, etc. Again, this effort is larger than the one CAISO should undertake and would involve all the energy agencies in developing a risk mitigation plan.

BAMx also requests that the CAISO identify all areas where the LCR is driven by the LCR criteria of:

“No voltage collapse or dynamic instability shall be allowed for a Contingency in Category D – extreme event (any B1-4 system readjusted (Common Mode) L-2), as listed in Section 40.3.1.2.”¹¹

This criterion reflects an Extreme Event that is beyond the NERC/WECC/CAISO Planning Standards. BAMx questions its applicability beyond identification of LCRs and whether it is appropriate to use this criterion in the expansion of the system capabilities. While BAMx supports a stakeholder process to address this question, identification of local capacity areas where this is the binding criterion would inform the assessment of the criticality of the issue.

Lastly, BAMx seeks clarification of the CAISO’s intended reliance on the concept of “grid resiliency” such as was used in the Moorpark area assessment in defining LCRs. This concept is not defined in the planning standards and both the metric as well as the acceptable threshold is

¹⁰ CPUC, “Multi-Year Resource Adequacy Requirements/Central Local Capacity Procurement/RA Reform Buyer,” RA Workshop, February 22-23, 2018

¹¹ CAISO Tariff Section 40.3.1.1 (2)

unknown. If grid resiliency is anticipated to be part of the evaluation of local capacity needs, further foundation development of the concept with stakeholders is necessary.

Special Studies

In response to the February 15, 2018 letter from Robert B. Weisenmiller, Chair of the CEC and Michael Picker, President of the CPUC, the CAISO will conduct transmission sensitivity studies within the 2018-2019 transmission planning process of options to increase transfer ratings of the AC and DC interties with the Pacific Northwest, and assess what role these systems can play in displacing generation whose reliability is tied to Aliso Canyon. During the stakeholder meeting, CAISO staff indicated that an additional meeting would be held during this TPP cycle to further flesh out the scope of such a study. BAMx supports this additional stakeholder engagement for this special study. BAMx is interested in understanding the economic analysis of such an expansion¹², the effectiveness of such a solution in addressing the dependence on Aliso Canyon natural gas storage facility and whether other potential mitigation options for Aliso Canyon will be considered.

BAMx appreciates the opportunity to comment on the draft CAISO 2018-2019 TPP Study Plan. BAMx would also like to acknowledge the significant effort of the CAISO staff to develop the plan to date, as well as the staff's willingness to work with the stakeholders in the process to more fully develop it. We hope to work with the CAISO staff to continue to improve and enhance its capabilities.

I If you have any questions concerning these comments, please contact Kathleen Hughes (khughes@SantaClaraCA.gov or (408) 615-6632).

¹² The economic analysis of expansion of the AC intertie capability due to the loss of CDWR participation in the Remedial Action Scheme was reviewed in the 2014-2015 TPP cycle and was found to be uneconomic compared to using the season nomogram to manage the COI flow within the lower limit.