

BAMx Comments on the 2018-19 Transmission Planning Process
Preliminary Reliability Assessment Results and PTO Request Window
Submissions

The Bay Area Municipal Transmission group (BAMx)¹ appreciates the opportunity to comment during the development of the 2018-19 Transmission Plan. The comments and questions below address the material presented at the CAISO Stakeholder meeting on September 20-21, 2018.

General Comments

PTO Request Window Project Applications

General Comment on the high voltage GridLiance Request Window Submission

GridLiance has proposed four major transmission upgrades in this TPP cycle: Amargosa Valley Reliability Improvement Project, Southwest Nevada Reliability Improvement Project, Pahrump Valley Loop-In Project. In order to help stakeholders better understand the need and the driver for the projects, GridLiance should provide information on which circuits are overloaded and the scenarios where these overloads are observed. Some diagrams showing the overloads in addition to the proposed projects would be very helpful. Unfortunately, GridLiance only states that thermal overloads and voltage issues on VEA's 138kV system that serve as a driver for the three proposed projects. Also, no information was provided in regards to what year the identified overloads start to appear and if the overloads are for the summer peak or off-peak cases. Additionally, the preliminary assessment results of the VEA service area released by the CAISO seem to have little correlation with the reliability projects proposed by GridLiance. BAMx recommends that the CAISO not approve these projects until more justification information is provided.

Additionally, below are specific BAMx comments for two of the proposed projects.

Amargosa Valley Reliability Improvement Project

Based on the information provided on the slides for the Amargosa Valley Reliability Improvement Project, there is already an SPS that protects the network for the overloads mitigated by the Amargosa Valley Reliability Project. If GridLiance has identified a need to reduce its reliance on this SPS going forward, a benefit-cost analysis should be presented to justify the capital spending associated with the upgrade.

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

Pahrump Valley Loop-In Project

GridLiance prematurely rejects the alternative of building Vista-Charleston Park 138kV circuit because it does not resolve overloads at Pahrump Transformers. GridLiance should clarify why adding additional transformer capacity at Pahrump was not evaluated as part of the Vista-Charleston Park 138kV Alternative.

PG&E's Proposed Voltage Support Projects

The CAISO has shown that there are high voltage issues on PG&E's 500kV system. It appears that the retirement of Diablo Canyon is at least a contributor event to the issue. It is not clear whether the retention of the existing machine(s) at Diablo Canyon as a synchronous condenser(s) would contribute to solving the voltage problem studied. BAMx recommends that the effect/feasibility of this option be studied.

PG&E has proposed two large voltage control projects using +/- 500 MVAR STATCOM devices, one at Round Mountain and two at Gates. The choice of technology for the mitigation requires further justification. The threshold questions are the amount of reactive control needed and whether simple switchable shunt reactors would be sufficient. Concerning the amount of reactive control, PG&E did not present information on how the 500 MVAR or 1000 MVARs levels were selected. For example, are these levels in some way linked to the technology selected? Additionally, in the sizing of the amount of reactive control needed at Gates, besides studying the effect of retaining the generators for voltage support, consideration should be made for de-energizing the Diablo-Midway No. 2 or 3 500 kV line to reduce the charging MVARs generated by the lightly loaded line and increase the VARs consumed by the remaining line.

As for the technology, there are currently switchable reactors installed in many of the PG&E 500 kV stations. As the data presented show the 500 kV voltages to be consistently high, more justification is needed concerning the level of control required. In the event it can be shown that fast, continuous control is needed, BAMx recommends that the approval not be technology specific. Rather BAMx encourages the CAISO to open approved voltage support projects beyond simple switchable devices to competitive solicitations that specify the required performance characteristics. In that way the market can identify the most cost-effective technology to achieve the desired control.²

² For example, at the stakeholder meeting, a SDG&E representative suggested that PG&E consider synchronous condensers similar to what SDG&E has recently installed.

Southern California Regional LCR Reduction

SDG&E has proposed “Southern California Regional LCR Reduction” project establishing a new 230kV circuit between Mission, San Luis Rey, and San Onofre substations along with two phase shifting transformers to control the power flows. The cost estimate for the project is \$100-\$200 Million. Though SDG&E identifies the main drivers for the project to be congestion mitigation and a reduction of Local Capacity Requirements (LCR) by 315 MW, no economic justification is provided. While this information may inform both the CAISO’s economic transmission analysis and the CPUC’s Integrated Resource Planning (IRP) process for meeting local capacity needs, the identification of the transmission alternative is only the initial step in the determination of whether it is needed for either of these purposes. For example, the CAISO transmission planner identified that the congestion can be mitigated through generation redispatch and that a newly implemented Remedial Action Scheme had already provided some LCR relief. Therefore, BAMx does not think the proposed project should be approved in this planning cycle, but considered in future efforts in the IRP process at the CPUC. Such a path appears to be consistent with CAISO staff’s stated intentions during the meeting (as delineated below).

Consideration of Storage in 2018-2019 Transmission Plan

BAMx supports the CAISO statements that the CPUC IRP process is the appropriate forum to determine economic tradeoffs between retaining existing generation and reducing that need via new transmission or new local resources. Any changes to the structure of resources should be decided in concert with other resources and state policy goals, through the state’s IRP process. This IRP process is well-equipped to compare alternatives, such as the local generation, demand response, and energy storage, to transmission resources needed to address local reliability. BAMx also supports the CAISO’s statements that its first choice is to have open competitive (procurement) processes to select such preferred resources, including energy storage. In particular, the CAISO has made it clear that “the ISO’s economic-driven transmission framework is not an alternative to resource planning.”³ BAMX believes any exceptions to using the IRP as the proper forum for considering storage requires additional discussion/illustrations/examples, in addition to performance specifications on how the storage system will be operated, and capital investment expenditure assumptions applied to storage. We appreciate the CAISO’s initial attempt to provide clarification via a high-level “bookend” examples which tend to indicate a very narrow set of conditions and criteria under which energy storage may potentially be classified as a transmission asset. We concur with the CAISO’s assertion that Storage as a transmission asset must “increase the capacity, efficiency, or

³ CAISO Presentation on “Consideration of Storage in 2018-2019 Transmission Plan,” pages # 13-15, CAISO 2018-2019 TPP Stakeholder Meeting, September 21, 2018.

reliability of an existing or new transmission facility.”⁴ But BAMx requests additional discussion on this issue.

Potential Alternatives for Economic LCR Assessment

The CAISO made a presentation concerning challenges in evaluating the economic benefit of reducing the local capacity requirement. BAMx believes that CAISO efforts in this area are misplaced. The evaluation of alternatives for meeting either system or local capacity needs requires an integrated approach that considers all potential alternatives. The capacity expansion models, such as RESOLVE utilized in the CPUC IRP proceeding are more suitable for performing any economic comparison of alternatives for meeting LCR than the CAISO TPP by itself. In particular, RESOLVE includes a constraint that requires that sufficient new resource capacity must be added to meet the local needs in specific LCR areas or the transmission system be enhanced to relax the local needs. To characterize these local capacity needs, RESOLVE relies predominantly on the CAISO’s TPP.⁵ In other words, a flow of information from the CAISO’s TPP to the CPUC IRP on the local capacity needs exists today. Similarly, the determination of the least-cost best-fit alternatives to meet LCR needs the CAISO TPP needs to rely on the CPUC IRP process as it is better equipped in evaluating competing resource alternatives, such as natural gas generation, renewables, energy storage, and demand response.⁶ Therefore BAMx recommends that the CAISO’s efforts be focused on tightening the coordination between the processes and improving the quality of information flow.

For a particular area, if the timing of the CPUC IRP cycle is a constraint, then the CPUC needs to direct its relevant jurisdictional LSE to conduct a Request For Offers (RFO) specifically targeted to procuring local resources including the preferred resource options. Such a solution was suggested by the CAISO to determine the true costs of the preferred resource alternatives to the Puente Project.⁷

2018-2019 TPP Policy-Driven Assessment

BAMX has concerns about the sufficiency of the feedback loop concerning transmission constraint information between the CAISO reliability and deliverability assessment, and the CPUC’s renewable portfolio.⁸ For example, based upon the current TPP cycle, the CAISO

⁴ *Ibid.*

⁵ RESOLVE Documentation: CPUC 2017 IRP Inputs & Assumptions, September 2017, p.77.

⁶ *Ibid.*, p.29.

⁷ California Energy Commission, Docket 15-AFC-01, Testimony of Neil Millar of CAISO, Transcript of 9/14/2017 Evidentiary Hearing, (TN# 221283), p. 13.

⁸ CAISO Presentation on “2018-2019 TPP Policy-driven Assessment,” page 4. CAISO 2018-2019 TPP Stakeholder Meeting, September 21, 2018.

determines that you can accommodate 1,000 MW of Full Capacity Deliverability Status (FCDS) or Energy Only Deliverability Status (EODS) resources in the Kramer and Inyokern transmission area. Given this input, the RESOLVE model used by the CPUC in its IRP develops a renewable portfolio with 1,000MW of renewable resources in Kramer and Inyokern. This new renewable portfolio is then modeled in the CAISO's next year's TPP.

Hypothetically, suppose that for some reason, the next year's TPP finds that given the composition of resources chosen in Kramer and Inyokern, and the rest of the CAISO system, it triggers a major new transmission that was not envisioned in the earlier TPP cycles. The implication of this assessment is that this newly identified transmission project would now be identified as a Category 1 policy-driven transmission project, and therefore approved in the next year's TPP. However, if the need for this new transmission project resulting from newly found restrictions in Kramer and Inyokern was communicated to the CPUC IRP process in advance, RESOLVE would have instead selected overall more economic renewable resources⁹ elsewhere in the CAISO system that would not have triggered any additional major transmission upgrades. This example demonstrates a need to establish a more effective and timely feedback loop between the CPUC's IRP and the CAISO TPP within the same cycle. While it is presented as a hypothetical, this has actually occurred in another area of the system.

BAMx understands that the IRP *42 MMT* Scenario portfolio provided by the CPUC/CEC is being studied as a sensitivity in the 2018-2019 TPP policy-driven assessment to identify Category 2 transmission based on the CPUC IRP Reference System Plan. Therefore, by definition, even if any Category 2 transmission project is identified by the CAISO in 2018-19 TPP, it would not be "approved" as a policy-driven project. However, as described above, we are concerned about the potential for unneeded transmission being approved as policy-driven projects in the subsequent TPP cycles in the absence of a more informed feedback loop between the CPUC's renewable portfolios and TPP within the same cycle.

Conclusion

BAMx appreciates the opportunity to comment on the 2018-19 Transmission Plan Reliability Assessment Results and the PTO Request window submissions and acknowledges the significant effort of the CAISO and PTO staffs to develop this material.

If you have any questions concerning these comments, please contact **Moisés Melgoza** at mmelgoza@svpower.com or (408) 615-6656, or Erica Jue at ejue@svpower.com or (408)615-6648. .

⁹ Taking into consideration the cost of new transmission.