BAMX Comments on the CAISO 2016-17 Transmission Planning Process Draft Study Plan

The Bay Area Municipal Transmission group (BAMx)[1] appreciates the opportunity to comment on the CAISO Draft 2015-16 Transmission Planning Process (TPP) Unified Planning Assumption and Study Plan (Study Plan). The comments and questions below address the 2016-2017 TPP Unified Planning Assumptions and Study Plan posted on February 22, 2016 and discussed during the February 29th 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.

Scope and Schedule for the 2016-2017 Planning Cycle

BAMX continues to request that Table 2-1 of the Study Plan be enhanced. The table does not delineate when the CAISO responds to each round of Stakeholder comments. BAMx believes that stakeholder review process and comments and the CAISO's resulting responses and changes to the Study Plan are integral to creating this ever improving process, but this important aspect has not received as much attention in the past as it should have. BAMx requests that CAISO acknowledge the improvements to the process that this ongoing feedback provides and that Table 2-1 should be expanded to identify when such responses would be available.

It is also important that stakeholders understand the options for solutions to reliability deficiencies that have been identified in the assessment. An important source for potential alternative solutions is the project submittals made through the Non-PTO Request Window. Therefore, BAMx requests that Table 2-1 be expanded to specifically identify a timely posting of Non-PTO Request Window projects.

Previously Approved Projects

In last year's TPP the CAISO analyzed whether previously approved PG&E projects are still required. We commend the CAISO for doing so. While some projects were cancelled, no information was provided as to why other projects were still deemed necessary. We request that the CAISO continue analysis in this planning cycle and additional information be provided on projects whose analysis confirmed a continuing need. With the passage of SB350 and its requirements for increased energy efficiency, it is incumbent for the CAISO to re-evaluate previously approved projects from all PTOs that have not started construction.

[1] BAMx consists of Alameda Municipal Power, City of Palo Alto Utilities, Port of Oakland, and City of Santa Clara, Silicon Valley Power.

Generation Assumptions

Northern California Natural Gas Fueled Generation

While there has been much focus on the retirement/repower of the OTC units in Southern California, the early retirement of SONGS, and the potential impacts of recent events at Aliso Canyon gas storage facility on southern California generation and system reliability, the reliance on natural gas fueled generation in northern California should be studied as well. For example, prior planning cycles have shown the importance of maintaining some generation at the Moss Landing site after the OTC compliance period. As was seen most recently in the case of the Coolwater Power Plant, current owners can make quick decisions to shut down existing power plants if there is no longer a viable business case for them going forward, without necessarily considering the impacts to system reliability. With these considerations in mind, BAMx supports that in addition to including the shut down of the Pittsburg Power Plant and Moss Landing 6 and 7, there should be an assessment of the impacts on reliability if other Bay Area gas fueled units or entire power plants were to become commercially unviable due to increased penetration of renewable resources leading to potential surplus natural gas fired generation capacity or other market changes. It is important to understand the impacts to the system sufficiently in advance to allow consideration of a full range of options in the case that the absence of any specific power plant could lead to reliability issues. Obtaining this information at the earliest date will provide opportunity to evaluate how new local resources, such as new preferred resources or new gas fired generation, might be able to manage any reliability impacts.

As part of its OTC compliance plan, the study plan assumes that Moss Landing 1 & 2 will be limited to a maximum of 85% of their current capacity. It is not clear whether this reduction represents a ceiling on the maximum generation or an increase in plant auxillary load. If it is the former, BAMx recommends that the CAISO investigate the opportunity for increased reactive power capability that could be achieved with reduced generation. If such capability would be useful in maintaining system reliability, discussions with the generation owner concerning increasing the reactive capability should be considered.

Qualifying Facility (QF) Generation Retirements

Similar to natural gas fueled generation discussed above, QFs may also become commercially unviable upon the expiration of their contracts necessitating study of the local reliability impact of such loss of generation. In the event reliability issues are identified, the findings should be presented sufficiently in advance for a full range of options to be considered, including targeted procurement within the CPUC Long Term Procurement Plan (LTPP) of preferred resources or recontracting with the QF in comparison to transmission expansion.

Other (non-QF) Generation Retirements

Section 4.7.5 identifies that, unless otherwise noted, specific generator retirements assumptions are based upon a resource age of 40 years or more. BAMx requests that Tables A1-1 through A1-4 in the Study Plan be expanded to include the initial in-service date for all non-hydroelectric generators and which generators reach a life of 40 years during the planning horizon. For those that will reach 40 years of service within the planning horizon, identify specifically which will be assumed to retire and which will be assumed to remain operational. For those assumed to remain

operation beyond 40 years, the project specific rationale supporting the assumption should be identified. Similar to above statements concerning Northern California generation, BAMx recommends that in the event reliability issues are identified associated with any such retirement assumptions throughout the CAISO system, the findings should be presented sufficiently in advance for a full range of options to be considered, including targeted procurement within the CPUC Long Term Procurement Plan (LTPP).

Preferred Resources

BAMx is highly supportive of the major strides made by the CAISO in prior TPP cycles in identifying the likely impact of preferred resources on the transmission grid in the LA Basin and San Diego area following the shut down of SONGS. Additonally, we also support the current explicit modeling of preferred resources in the power flow base cases. A next step in increasing the value of preferred resources is to geographically target their implementation so as to improve their value to the system. We discussed above the necessity for studying such resources as potential solutions for any retirement in generation in Northern California.

In line with the above, BAMx is concerned that there is especially an information gap when it comes to preferred sites for energy storage. The CPUC has authorized a procurement target of 1,325 MW installed capacity of new energy storage and further energy storage may be considered. While these can be valuable resources for integrating renewable resources, they have the potential to increase the utilization of the exsiting transmission system and to avoid the need for expansion. Battery systems have a wide degree of flexibility in siting, but little information beyond the OTC/SONGS related work in southern California is available to assist both developers and LSEs in targetting the installation of energy storage devices. BAMx believes that this is a lost opportunity and encourages the CAISO to develop locations in the TPP where energy storage devices would not only assist in renewable energy integration, but would also avoid the potential for system upgrades.

In summary, BAMx recommends that the 2016-2017 TPP cycle include a discussion of areas with emerging reliability issues that would benefit from targetted development of preferred resources.

Load Forecasts and Assumptions

Due to the lag in the development of input assumptions, load forecast and distributed generation assumptions in this planning cycle do not appear to include the full impact of the recent passage of SB 350. While this is understandable, BAMx recommends that the study plan include a process whereby before a reliability project is recommended for approval in this planning cycle, an assessment be made as to the potential for this new legislation to either defer or eliminate the need for the reliability project under consideration. If such an assessment supports a potential delay in need, it should be deferred to next year's planning cycle when this new legislation can be accounted for in new load forecasts.

The identified sensitivity studies include a 2026 summer peak case that has no behind-the-meter PV. The value of such an extreme case is unclear, especially given level of adoption currently

being seen in California. BAMx recommends instead that the personnel resources used to develop and analyze this case be used elsewhere in the Study plan.

Section 4.6.3 of the draft Study Plan includes discussions of the power factor assumptions for SCE and SDG&E. This discussion should be expanded to include all the PTOs. Furthermore, the project recommendations from the previous planning cycle included a number of voltage control projects to better control high voltages. As such voltage issues typically arise during light load system conditions, the power factor assumptions should be expanded to include the power factor assumptions under such light load conditions. If any system issues arise because of these assumptions, an investigation of the economics of altering the power factors of the load that the CAISO grid experiences should be investigated. Lastly, the actual real time performance should be compared to both the assumptions and CAISO Tariff requirements.

Special Studies – 50% Renewable Energy Goal for 2030

BAMx is very supportive of the investigative study that the CAISO made in the previous planning cycle on the impacts of the greater reliance on In-State Energy Only resources to meet the recently increased RPS goals. BAMx encourages the CAISO to continue to expand this work to provide stakeholders more detailed information quantifying potential congestion or curtailment observed.

In addition to close coordination with the CPUC on the RPS calculator and the development of resource portfolios, the current studies being performed as part of the SB 350 benefits assessment should also inform the TPP analysis. For example, the SB 350 work has shown that reflecting the capability of the existing interties to support renewable energy imports has a significant impact on renewable resource portfolio options and lessens the need for remote Out-of-State (OOS) resources. BAMx recommends that the TPP studies likewise include imports over the existing interties when analyzing this increased RPS goal. To further the SB 350 work that only included a single estimate of the existing transmission system capability, more analysis of the system capability would better inform the CPUC's portfolio development.

BAMx requests that the base cases for the incremental 50% RPS portfolio be included in the materials made available to stakeholders. To faciliate understanding of these cases, the resources making up the 33% RPS base portfolio should be distinguished from the incremental resources necessary for the 50% renewable portfolio.[2]

Communication of the study results will be highly important. The study findings of the 50% renewable portfolios should be fed to the latest version of the RPS Caluclator in a timely fashion for the CPUC Energy Disvision (ED) to update the transmission availability data in order to develop the renewable portfoliso for the 2017-18 TPP. There needs to be adequate time for stakeholders to weigh-in on the information provided by the CAISO to CPUC ED. In particular,

[2] This is particularly important as the version of the CPUC RPS calculator used to develop the 33% RPS and the one proposed to be used for the 50% renewable portfolio are different in its resource selection methodology and nomenclature.

we request the CAISO provide its findings associated with the 50% RPS special study during the public stakeholder meeting #3 scheduled on November 16, 2016 (Table 2-1 schedule in the Study Plan). This schedule will provide the stakeholders adequate time to participate more meaningfully at the CPUC's RPS Calculator and portfolio workshop sometime in December 2016. There are many aspects associated with the safe and reliable operation of the California electric system. While electric infrastructure is a critical component necessary to integrate higher levels of renewable generation, other aspects such as resource integration, disturbance performance (including governor response, inertia, short circuit current, etc.) and cost are similarly important. Therefore, communication concerning the results of the transmission study in this TPP cycle must be carefully crafted so that the audience is aware that this analysis addresses only a fraction of the considerations necessary for an electric system to be sufficiently flexible to accommodate a higher level of renewable generation. In summary, the forums and timelines for addressing any other identified considerations should be discussed.

FERC Order 1000 Process

This year will launch the first full cycle of the biennal FERC Order 1000 interregional coordination process for collaborating with neighboring planning regions on large, interregional transmission projects. The precise implementation of project accessment process is not clear and all parties likely have much to learn in this initial cycle. In order to help stakeholders better understand the timing of the FERC Order 1000 coordination activities and how they mesh with the CAISO TPP, BAMx recommends that Table 2-1 schedule in the Study Plan be expanded to include descriptions of the activities that support the FERC Order 1000 process including interregional meetings and when materials would be available to stakeholders as the process unfolds.

BAMx appreciates the opportunity to comment on the draft CAISO 2016-17 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.

If you have any questions concerning these comments, please contact Joyce Kinnear (jkinnear@santaclaraca.gov or (408) 615-6656)