

## **BAMX Comments on the CAISO 2016-17 Transmission Plan Stakeholder Presentation Materials from November 16, 2016**

The Bay Area Municipal Transmission group (BAMx)<sup>1</sup> appreciates the opportunity to comment on the development of the CAISO 2016-17 Transmission Plan (TP) and the *Transmission Economic Assessment Methodology (TEAM) methodology* discussed during the November 16<sup>th</sup> stakeholder meeting. We request that the CAISO address these issues in its draft comprehensive Transmission Plan expected in January 2017.

### **General Process Concern**

The efforts in this transmission cycle have been focused on many special studies. This is understandable, as the most recent load forecasts show a decline in future requirements that reduce the need to expand the transmission system for reliability. Many of the analyses presented are interim products requiring additional work before findings and recommendations are available. BAMx understands the timeline to include final recommendations in late January, discussion in February, and comments due also in February.

We are concerned that this late release of the CAISO staff's findings and recommendations significantly diminishes the ability of stakeholders to influence the TP presented to the CAISO Board. With a stakeholder meeting in mid-February and stakeholder comments due at the end of February, there is very little time for the CAISO staff to address stakeholder comments, much less to potentially augment any studies, before posting the draft TP for Board consideration in mid-March. Postponing the disclosure of the CAISO's findings until the draft TP is a process that is appropriate to use only rarely for narrow circumstances. As a general practice, stakeholders should have had the opportunity to review and comment on proposed transmission projects prior to the issuance of the draft TP.

For the current TP, BAMx recommends that the process be more transparent. For all cases where the draft TP may include the recommendation of either including or cancelling (or deciding not to cancel) TP capital projects in the TP, the CAISO should hold a December web-conference to review such findings and answer questions by the stakeholder group. This would allow stakeholders to have a meaningful opportunity to provide comments that can be fully considered in the final draft TP that will later be considered by the CAISO Board.

### **Economic Planning-TEAM Overview and Review of Updated Documentation**

#### **The Update of TEAM Documentation is Long Overdue**

BAMx recognizes the tremendous amount of effort over that past several years toward improving the production cost database and analysis used in the TEAM economic assessment. The CAISO staff's efforts in modeling additions/changes to the TEPPC database as well as

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

developing the sensitivities involving loads, hydro conditions, natural gas prices, GHG models and California RPS portfolios are commendable.

BAMx also appreciates the CAISO presentation providing an overview of the elements that will be included in the upcoming updated TEAM documentation. This is long overdue. The CAISO proposes to remove obsolete contents of the original TEAM, and clarify and update components to reflect current practices and circumstances. BAMx encourages the CAISO to consider the stakeholder input in determining the criteria that make certain elements of TEAM obsolete.

### **Need for a Separate Stakeholder Process**

Over the last several Transmission Planning Process (TPP) cycles, BAMx has indicated several concerns with applying the decade old TEAM methodology and has urged the CAISO to review and revise TEAM via a separate comprehensive stakeholder initiative. These concerns include the following:

- The scope is too narrow: As the CAISO has made it amply clear during the November 16<sup>th</sup> stakeholder meeting, current CAISO’s efforts are limited to a TEAM documentation update only. No methodology review is being contemplated.
- Several key elements of the original TEAM that developed in 2004-05 timeframe merit review: For example, the capacity benefits methodology that was determined under TEAM is outdated due to significantly changed circumstances, since the TEAM approach was originally developed more than a decade ago.<sup>2</sup> These changed circumstances include increased renewable generation, relative adequacy of system capacity and need for greater flexible capacity in California. Moreover, for the last two major transmission projects approved by the CAISO as economic-driven, the capacity benefits constituted a significant portion of the overall benefit, essentially justifying the transmission projects’ economic viability. This increased role for capacity value in overall project benefits demands that several sensitivity analyses be performed, similar to the work that the CAISO has done for the production benefits. Additional capacity benefits sensitivity calculations are not burdensome, as such analyses will likely take relatively less effort and time than production costs. These calculations do not require deployment of the resource intensive production cost tool and analysis. The capacity benefits assumed in the TEAM methodology are based upon a projection of the need for capacity at the ends of a new line and the cost to build new capacity when there is a need. The CAISO is not the primary regulatory agency that makes decisions as to when and what generation capacity needs to be built. Therefore, the CAISO should defer to the CPUC for the IOU’s and to the LRA’s within California for the other LSE’s to determine the capacity value. If regional expansion occurs, this determination should be by some body that represents the LSE’s from the included states in the expanded regional footprint.
- Different analyses to assess project benefits and analyses for cost allocation: The TEAM approach to date is done to determine whether the overall benefits of any given

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<sup>2</sup> Source: Economic Evaluation of the Palo Verde-Devers Line No. 2 (PVD2), CAISO, February 24, 2005.

transmission facility under consideration exceeds its cost. However, in the Regional Transmission Access Charge (TAC) Options stakeholder initiative, TEAM is proposed to have an additional role as the key cost allocation tool. In other words, TEAM would be used to determine sub-regional shares of economic benefits associated with regional transmission projects.

- Lack of stakeholder review: The stakeholders need to have an opportunity to provide input into the determination of both the quantifiable and non-quantifiable benefit categories utilized under TEAM. Furthermore, the stakeholders participating in the Regionalization initiatives are unfamiliar with TEAM and have never had an opportunity to influence TEAM’s development.

For the above-mentioned reasons, BAMx urges the CAISO to begin a separate comprehensive stakeholder process to review TEAM.

### **BAMx Recommendations on TEAM Documentation and Review**

In the table below, we provide some suggestions on the TEAM documentation update for the CAISO’s consideration. BAMx recognizes that some suggestions below constitute a TEAM methodology update must be explored as part of a separate stakeholder process.

<b>TEAM ELEMENT/ DESCRIPTION</b>	<b>BAMX RECOMMENDATION</b>
Use of Social Discount Rate to calculate the net present value (NPV) of the benefit of transmission expansion	Using a social discount rate can create a discrepancy between the revenue requirements funded at the borrowing entity’s cost of capital, and the benefits, which are valued at a different discount rate. Historically, the CAISO has used 5% and 7% real discount rates as two alternatives. <sup>3</sup> The CAISO needs to justify to stakeholders the use of social discount rates or sensitivity thereof.
NPV Calculations	The CAISO typically calculates the production benefits in two distinct (5 and 10) years. The CAISO then typically interpolates these benefits for the intervening years and assumes a flat benefit of certain amount in the outer years. BAMx has repeatedly questioned the CAISO’s rationale for such extrapolation of economic benefit, and has demonstrated that different methods of extrapolation of the benefits yield vastly different results, and in turn, benefit to cost ratios. <sup>4</sup> The CAISO needs to justify to stakeholders its current practice in performing the extrapolation of the benefits in the outer years of the study period and include sensitivities to alternate forecast methods.
Sensitivity cases performed	There is a need to clearly document the CAISO’s current practice of

<sup>3</sup> Cost-benefit analysis of the proposed Delaney – Colorado River 500 kV under the CAISO 2013-2014 ISO Transmission Plan, March 25, 2014, pp.265-66.

<sup>4</sup> BAMx Comments on the CAISO 2013-14 Transmission Plan: Policy Driven and Economic Assessment, December 5, 2013, pp.4-5.

TEAM ELEMENT/ DESCRIPTION	BAMX RECOMMENDATION
to test the robustness of the economic assessment results	running sensitivity cases by varying the most critical assumptions for the project under evaluation such as, loads, hydro conditions, natural gas prices, etc. The CAISO needs to add specifics on some relevant additional sensitivities involving varying levels of In-State and Out-of-State renewable development to meet the RPS goals and GHG emissions (CO2 tax) scenarios, etc. As mentioned above, there is a need to perform several sensitivity analyses to evaluate the capacity benefits, similar to the work that the CAISO has done for the production benefits.
Quantification of Benefits Under Multiple Categories	The CAISO has identified transmission loss saving benefit as a separate benefit category. However, the past CAISO studies have not separately quantified such a benefit. As explained in the November 16 <sup>th</sup> stakeholder meeting, the CAISO’s production cost model internally calculates energy savings associated with transmission losses embedded in the production cost simulation results. Per the CAISO, the peak savings benefit associated with the transmission losses can be translated to capacity benefit. If that is indeed the case, such benefit should be itemized separately from the remaining system capacity benefit.
Other Benefits	During the November 16 <sup>th</sup> meeting, the CAISO identified several other benefits beyond the production cost and capacity benefits such as, Public Policy benefits, renewable integration benefits and avoided cost of other projects, etc. In the TEAM documentation, the CAISO should clearly identify which of these benefits are quantifiable and which are not. For instance, if any economic project improves reliability by increasing options for recovering from supply disruptions and transmission outages, then the CAISO needs to determine a method to quantify those benefits. If there is no specific guide to quantify such benefits, they cannot be used to tip the scale in favor of justifying the transmission project if the economic benefits benefit-to-cost ratio is very close to 1.0.
Benefit-to-Cost Ratio	Given future uncertainties, BAMx recommends the CAISO discuss with stakeholders why it uses the lower bound of the benefit-cost ratio (“BCR”) allowed by FERC. Retaining an unduly low threshold for economic projects may result in the approval of potentially costly new projects and the accompanying long term financing costs without any assurances that the projected savings will be achieved. Not only could benefits calculations shift in subsequent years, but any cost overruns will reduce the BCR. <i>It is important to recognize that costs are real and benefits are speculative.</i>

### **Policy Driven Planning Deliverability Assessment**

BAMx supports the CAISO's direction to recommend no transmission improvements increasing the deliverability from the Imperial Valley, given the modest shortfall in deliverability from this area

### **Economic Planning-Preliminary Results of Congestion and Economic Assessments**

While detailed production cost simulations and economic analyses have not yet been performed, if the CAISO decides to perform an economic assessment for either the Bob SS (VEA)-Mead S 230 kV line or Path 45, more information should be provided concerning the historic congestion on these paths. If the CAISO expects an increase in future congestion, rationales for such increases should be thoroughly explained.

### **50% RPS Special Study Update**

BAMx supports the CAISO's efforts to increase the information available concerning the potential for utilizing Out-of-state (OOS) resources in meeting California's 50% RPS requirement as well as the ability to export excess in-state resources. The information presented in the bar charts on slide 59 of the CAISO presentation show significant potential for in-state resource curtailment due to an assumed 2,000 MW export limit. Such findings support the need to expend additional effort to understand the impediments to exports of California surpluses as well as a coordinated effort among state agencies to determine whether incentives within California are properly aligned.

For example, during times of surplus are California consumers given price signals similar to those given to external entities, allowing California consumers an opportunity to utilize and fully benefit from the renewable resources for which they are paying? If California consumers were to see zero or negative prices during surplus periods, would the need for higher exports or potential renewable generation curtailment still exist?

BAMx also notes that the preliminary curtailment results shown during the November 16<sup>th</sup> meeting are higher than the comparable results shared in the 2015-16 TPP. For instance, the latest In-state EO portfolio showed 11,890 GWh (or 13.62% of total renewable potential) of curtailment under a 2,000 MW of net export limit, whereas the same portfolio and export limit combination found to have only 8,439 MW (or 9.65% of total renewable potential) in the 2015-16 transmission plan.<sup>5</sup> If the renewable portfolios have remained largely unchanged since the last year, it would be helpful to understand the drivers behind these apparent differences in the curtailed renewable energy levels.

BAMx supports the study of Energy Only (EO) for both In-State and OOS resources, as this allows for informed choices. Through the TAC Options stakeholder process, BAMx also supports the allocation of transmission costs associated with implementing the Load Serving

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<sup>5</sup> Source: Figure 3.4-5: Total wind and solar curtailment Vs Export assumption – In-state portfolio, 2015-16 Transmission Plan, March 28, 2016, p. 216.

Entities' (LSE) plans to the Local Regulatory Authorities (LRA). This linkage is critical for ensuring that cost allocation is consistent with cost causation. Cost allocation by the CAISO should be more discerning with respect to cost causation, particularly in the case of policy-driven projects needed to implement the resource plans approved by LRAs.

Regarding the CAISO's "first attempt to incorporate Effective Load Carrying Capacity (ELCC) data into deliverability assessment," this proposal would calculate the expected renewable generation within a three-hour window around the shifted system peak due to behind-the-meter generation. We understand the CAISO would then apply its current exceedance-based deliverability methodology to the resultant expected renewable generation during this three-hour window. As an initial matter, while the proposal is a step toward reflecting the impact of the time shift in the system peak load in the deliverability determination, it does not itself incorporate any probabilistic reliability modeling inherent in an ELCC calculation. As such, the documentation must carefully and properly ensure that the description of the CAISO studies make clear that deliverability methodology itself is not ELCC based.

The transition to ELCC resource counting reflects the shortcomings of the existing exceedance methodology for RA counting as the renewable penetration increases.<sup>6</sup> Therefore, BAMx is concerned that the CAISO proposes to maintain the exceedance methodology contained in its general deliverability methodology even while transitioning the resource counting used as an input to the CAISO studies. CAISO needs to address why, in order to comply with this state mandate, the deliverability methodology is not also being transitioned away from an exceedance-based calculation.

### **2016-2017 TPP Gas-Electric Coordination Study**

BAMx offers no comment at this time.

### **Review of Previously Approved Transmission Projects**

BAMx strongly supports the CAISO's efforts to review previously approved projects in light of the significant changes in the planning environment, especially in the load forecasts due to both increasing energy efficiency and BTM generation. The fifteen (15) lower voltage projects for which it has been identified that any mitigation is no longer needed represents a reduction in capital expenditures of \$176 million to \$335 million without a significant adverse impact on reliability. The potential deferral or cancelation of the Gates-Gregg 230 kV project represents a net reduction of additional \$150 million, representing a total reduction potentially approaching almost half a billion dollars.

BAMx supports the CAISO's analytic method used to evaluate the Gates-Gregg 230 kV project whereby initial assumptions favorable to the transmission project were tested to assess project viability. As the project is not justified even under such assumptions, there is a high level of

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<sup>6</sup> Effective Load Carrying Capacity and Qualifying Capacity Calculations Methodology for Wind and Solar Resources, Staff Proposal, Resource Adequacy Proceeding R.11-10-023 California Public Utilities Commission – Energy Division January 16, 2014.

confidence that the CAISO's previous approval of the project should be rescinded.<sup>7</sup> If the CAISO chooses to defer rather than cancel the project, BAMx requests that:

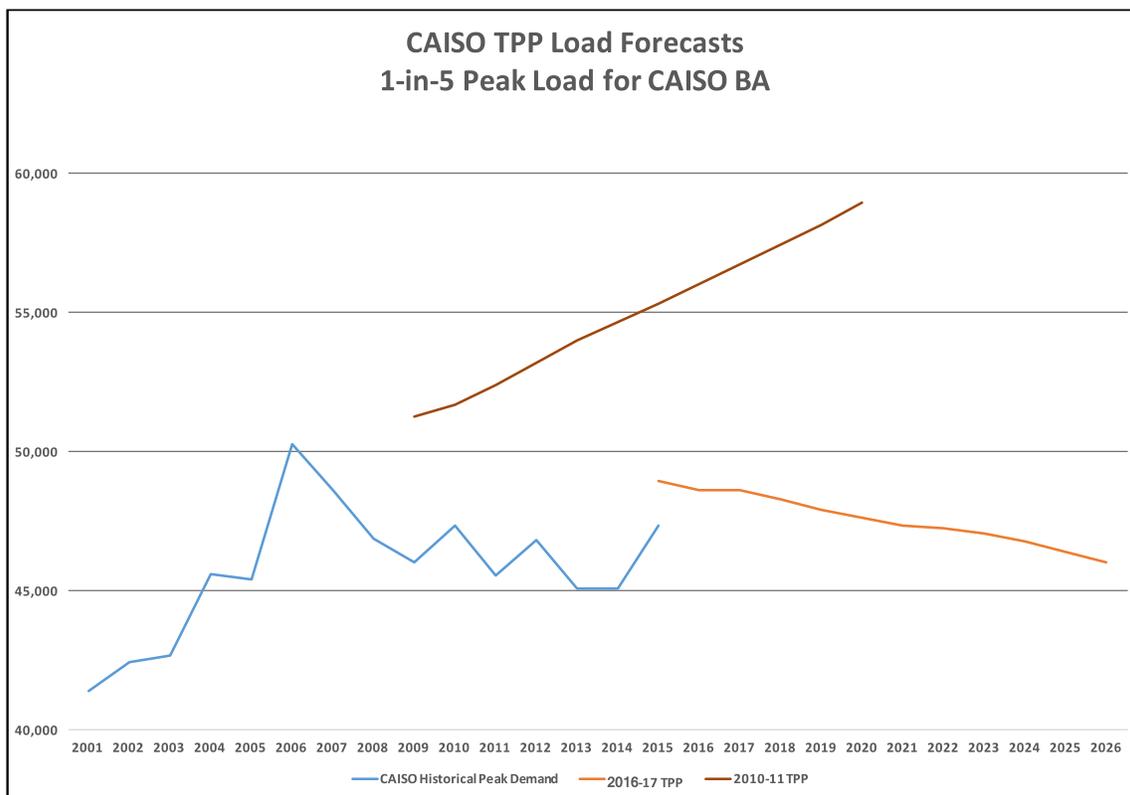
- Controls be implemented to minimize costs to the project to no more than those required for an orderly suspension of work.
- A future review date be established whereby a final decision to either proceed or cancel the project will be made so that the project expenditures to date will not continue to accumulate Allowance for Funds Used During Construction (AFUDC).

BAMx also requests that the TPP documentation include more information of the review process to date. The documentation should include a list of all transmission projects currently in the CAISO's approved transmission plan that were originally justified in whole or in part based upon the reliability of service to load. Given the forecasted long-term reduction of load at the system level, for each project not cancelled, a description should be provided as to why the existing system is inadequate to serve the load. Additionally, the CAISO's focus under this review should not be limited to transmission projects approved before 2010-11 transmission plan. Such a review and the list described above must properly include all load growth related approved projects. As can be seen from the graph below, there has been a substantial change in the CEC load growth forecast for the CAISO Balancing Area between the 2010-11 and the 2016-17 transmission planning cycles. Even the latest lower load forecast does not include expected reductions due to the impacts of increased energy efficiency under SB 350. Therefore, there is ample reason to expect that transmission projects approved within the last six years may also no longer be needed.

The list of projects being reassessed appears to be confined to projects in the PG&E service territory with no explanation for that restriction. BAMx encourages a broader assessment encompassing all previously approved projects be undertaken with no area or approval date restrictions.

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<sup>7</sup> If the project would have been justified under such favorable assumptions, this would only indicated that more detailed analysis is warranted and would not serve as justification for the project.



## **Conclusion**

BAMx appreciates the opportunity to comment on the 2016-17 Transmission Plan Stakeholder Meeting materials and acknowledges the significant effort of the CAISO staff to both develop this material and to adjust its planning process to reflect the numerous changes affecting the industry.

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