

BAMx Comments on the CAISO 2016-17 TPP 50% RPS Special Study Portfolios

The Bay Area Municipal Transmission group (BAMx)¹ appreciates the opportunity to comment on the CAISO 50% Special Study performed as part of the 2016-2017 Transmission Planning Process (Special Study). The comments and questions below address the Special Study objective, scope, methodology, and portfolios discussed during the June 20th public webinar.

Special Studies – 50% Renewable Energy Goal for 2030

BAMx supports the effort in this planning cycle to better understand the potential impacts that a California 50% renewable energy requirement may have on the electric transmission infrastructure needs. The effort can provide valuable information as to where infrastructure improvements may be required, but it also provides guidance to the procurement process as to how some potentially costly upgrades may be avoided.

It is very important to understand that this Special Study should develop information to improve the assumptions made by the RPS Calculator to be used in selecting proper renewable resource portfolios for detailed studies of the need for transmission infrastructure in the next planning cycle. BAMx believes that the RPS calculator is the best available tool to decide whether to build additional transmission infrastructure in order to accommodate more renewables in a particular location and to decide whether such resources should be energy-only or fully deliverable. It is a sophisticated tool, but it relies upon the transmission capability estimates developed by the CAISO as an input. The upcoming Special Study is a valuable opportunity to use power system and production cost (congestion) analysis tools to provide this important information to the RPS Calculator, which has the ultimate job of deciding appropriate renewable portfolios for additional detailed study.

Communication of the study results will be highly important. 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, results and recommendations from the transmission study in this cycle must be carefully crafted so that all audiences are 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 the remaining portion of these comments, BAMx suggests some changes to the Special Study study plan proposed during the June 20th public webinar.

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

Special Study Portfolios Recommendations

During the June 20th public Webinar, the CPUC Energy Division (ED) and the CAISO proposed the following four portfolios.

1. **Portfolio #1: In-State Full Capacity Deliverability Status (FCDS)** that includes only “fully deliverable” In-State resources; and
2. **Portfolio #2: In-State EO** that includes a possible mix of “fully deliverable and energy only” In-State resources.
3. **Portfolio #3: Out-of-State (OOS) FCDS** that includes only “fully deliverable” In-State resources and a “set aside” of “fully deliverable” 2,000 MW of Wyoming wind and 2,000 MW of New Mexico wind; and
4. **Portfolio #4: OOS EO** that includes a possible mix of “fully deliverable and energy only” In-State resources and a “set aside” of “energy-only” 2,000 MW of Wyoming wind and 2,000 MW of New Mexico wind.

Ultimately, BAMx would favor studying a WECC-wide portfolio that includes a possible mix of “fully deliverable and energy only” resources, as determined from a least-cost best-fit perspective using the RPS Calculator version 6.2. To identify the most economical portfolios, BAMx does not see any rationale for applying any artificial restriction to procure only In-State renewable resources or assuming that all the 50% RPS resources need to be FCDS. However, as stated above, given that the primary objective of the Special Study is to identify the constraints that would form the basis for the transmission inputs to the RPS calculator for future use, we appreciate the design of the proposed four portfolios. For example, it is important to know what the additional transmission upgrades that would be needed, if any, at the Gateway CREZs, such as Mountain Pass to accommodate the incremental FCDS (or EO) OOS resources delivered at Eldorado. BAMx believes that this was exactly the CAISO’s logic in setting aside 4,000 MW of OOS wind resources in portfolios #3 and #4. Please confirm and provide clarification, if any.

BAMx requests the CAISO and the CPUC ED to revise the Special Study portfolios to take into account the full capability of existing transmission in accessing OOS resources and to export energy. Currently, the RPS Calculator assumes that no existing transmission is available (e.g., new transmission must always be built) to access OOS renewable projects. BAMx believes that studying this particular assumption should be a high priority for the Special Study. There needs to be a better understanding among the policymakers and stakeholders regarding the level of OOS renewable resources that can be imported into and exported out of California on the existing transmission infrastructure. Moreover, this information is a very important input to the RPS Calculator. There is clearly some amount of energy that can be imported over the existing transmission system. The SB 350 study assumes that nearly 3,000 MW of external medium-quality wind and solar resources would be available over the existing transmission system at the proximity to the existing delivery points into California.² BAMx is not aware of the detailed

² http://www.caiso.com/Documents/Presentation-May24_2016-SenateBill350Study-PreliminaryResults.pdf, CAISO Public Workshop, slide #38, May 24, 2016.

reasons for the zero or for the 3,000 MW assumption or why the study should include any *particular* number.

However, there is strong evidence that the number should be at least 2,000 MW. BAMx strongly encourages the study plan to include an analysis of what level of import should be assumed as an input in the RPS Calculator version 6.2. The currently proposed portfolios assume that the CAISO's net export capability is limited to only 2,000 MW. The CAISO's 2015-16 TPP Special Study has clearly demonstrated that net exports are highly effective in addressing over-generation and in reducing the potential renewable curtailments.³ The SB 350 studies have assumed two different levels of net exports, 2,000 MW and 8,000 MW.⁴ It is reasonable to expect that even with the existing market structure, neighboring balancing authorities would enter into transactions to purchase negatively priced energy in excess of the historically observed 2,000 MW upon which the net export limit assumed in the Study Plan and SB 350 studies is based. BAMx hopes the CAISO will develop the proper assumptions and good analysis as backup for the capability to export from the existing CAISO grid to be included in the Special Study.

BAMx appreciates the opportunity to comment on the Special Study. BAMx would also like to acknowledge the significant effort of the CPUC ED and the CAISO staff to develop the study plan to date, as well as the staff's willingness to work with the stakeholders in the process to more fully develop it.

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

³ 50% RPS Special Study, 2015-2016 Transmission Planning Process Stakeholder Meeting February 18, 2016.

⁴ CAISO Public Workshop, slide #25, May 24, 2016.