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BAMx Comments on RETI 2.0

Attached please accept the Bay Area Municipal Transmission Group's (BAMx) comments on the proposed Renewable Energy Transmission Initiative 2.0 (RETI 2.0) that was introduced at the California Energy Commission (CEC) and California Public Utilities Commission (CPUC) Joint Workshop on September 10, 2015.

Additional submitted attachment is included below.

Bay Area Municipal Transmission Group's Comments on the Renewable Energy Transmission Initiative 2.0

September 24, 2015

The Bay Area Municipal Transmission Group¹ (BAMx) appreciates the opportunity to comment on the proposed Renewable Energy Transmission Initiative 2.0 (RETI 2.0) that was introduced at a California Energy Commission (CEC) and California Public Utilities Commission (CPUC) Joint Workshop on September 10, 2015.

BAMx Applauds State Agency Cooperation and Transparency

The State agencies are to be commended for continuing to coordinate in an unprecedented manner on the issue of providing for a reliable electric grid that can help achieve the State's GHG emissions reduction goals in a cost effective manner. The September 10th workshop was a good step in that direction. It is important that the State agencies make transparent their knowledge of progress towards meeting the State's goals. Therefore, we are encouraged to hear about the CEC's development of the several work products and tools, such as the Renewable Energy Generation Scenario Tool². The CEC's work is important in making sure that all of the State's environmental goals are accounted for. We need to make sure that the new renewable generation projects and the potential accompanying transmission do not unnecessarily harm the environment. We are glad to see that the CEC will maintain its past practice of keeping the public informed on the development of the tool and the details of analyses generated by the tool.

RETI 2.0 Should Carefully Complement the Efforts Already Underway

Billions of customer dollars have been spent, and are planned to be spent, in building transmission infrastructure to access the full capacity of renewable generation. It is extremely important that everyone recognizes that the adopted State Renewables Portfolio Standard (RPS) goals are energy goals, not capacity goals. Too often concepts like "to deliver renewable projects" are used and understood to mean that new transmission is needed to obtain the

BAMx consists of Alameda Municipal Power, City of Palo Alto Utilities, Port of Oakland, and the City of Santa Clara's Silicon Valley Power.

² The CEC staff presentation on "An Approach to Environmental Analysis for the Support of Statewide Renewable Energy Planning" at the Joint Agency Workshop Renewable Energy Transmission Initiative 2.0, on September 10, 2015.

environmental benefit of energy generated by renewable projects, which is usually incorrect. Most renewable projects can deliver their energy to the grid without the construction of major new transmission lines that are both expensive and environmentally damaging. Typically, deliverability upgrades are only needed to obtain the capacity credit from renewable projects. Costly expenditures are often driven by stringent CAISO “deliverability” requirements without any analysis of the need for the capacity or a determination of whether the cost of transmission needed to obtain that capacity is justified by the benefit derived. Without such analysis, we do not know if the economic benefits provided by these transmission infrastructure projects exceed the costs to customers.

It is necessary to study the transmission infrastructure that will be needed to achieve a 50% renewables target. The good news is that the CPUC Energy Division, in coordination with the CEC and CAISO, has developed very sophisticated tools that were not available when RETI was originally formed. It is very important that this joint agency effort fully recognizes and builds off of these tools. BAMx is in agreement with the discussion during the September 10th workshop in regards to the need for optimizing the use of existing transmission and the critical role that the existing tools, such as the RPS Calculator, and current CPUC and the CAISO processes that can play in that regard.

RPS Calculator

BAMx strongly supports the CPUC Energy Division’s revised version of the RPS Calculator model, which, for the first time, performs an assessment to determine whether the transmission needed to satisfy the strict deliverability criteria for those generators seeking capacity credit is economically justified. The past assumption that transmission is needed for deliverability if capacity credit is desired by generation developers has historically driven excessive and unneeded large-scale transmission projects. The CAISO and several other stakeholders recognize that the concern is the deliverability assignment for resources that allows buyers of a renewable project’s output to count the generator’s capacity toward their Resource Adequacy (RA) requirements. With the new versions of the RPS Calculator, the costs and benefits of building expensive transmission to acquire the RA credit from Variable Energy Resources (VER) can be studied. Full Capacity Deliverability Service (FCDS) is a value-added element for generators so that their capacity may potentially count towards the Load Serving Entities (LSE’s) RA requirements. Though most of the renewable power projects in the past have requested FCDS transmission service, this does not mean that such a service is in California’s or the ratepayers’ best interest.

California is not in need of additional system resource capacity. The CPUC 2014 LTPP has not identified need for new system capacity before 2033.³ In addition to this lack of need for RA capacity, the ability of intermittent resources such as solar generation to contribute dependable capacity is expected to significantly diminish as California transitions to the Effective Load Carrying Capability (ELCC) methodology of resource counting as required by State law⁴. The CPUC's RPS Calculator indicates that, based on the ELCC metric, a solar PV resource would have its net qualifying capacity (NQC) value reduced from 85%-90% to about 15%-30% of its nameplate capacity as solar penetration increases.⁵ As solar generation continues to be the dominant technology pursued by developers of renewable resources, this ELCC will be an ever important factor.

California's current and future mandates for electric retail sellers to procure specific percentages of their electric supply from eligible renewable resources are energy-based requirements. As such, whether the energy from a specific renewable generator has received FCDS does not impact how the energy output counts toward either the retail sellers' procurement goals or the State's environmental goals. Also, whether a generator has received FCDS does not impact the ability of a generator to connect to the electric system in a safe and reliable manner.

The earlier versions of the RPS Calculator have been used for a number of years to identify the various portfolios of renewables that should be studied in detail under the CAISO tariff provisions to identify the need for new transmission. We are hopeful that the latest version of the RPS Calculator is the start of an effort to obtain a better assessment of the most cost-effective and environmentally appropriate methods to meet our RPS goals.

This analysis needs to be thoroughly vetted with Stakeholders before the CEC and CPUC send those portfolios to the CAISO.

Economic Assessment of Additional Transmission Needs

A better metric to assess whether renewable energy can reach the system load and count towards the State and Federal renewable energy goals is congestion. Congestion on a path indicates that

³ CPUC Energy Division 2014 LTPP Scenario Tool for R.13-12-010 (Scenario tab row# 51), March 2015.

⁴ Senate Bill 2 (1X) (Simitian, Stats. 2011, ch.1)

⁵ See CPUC RPS Calculator v6.1 at <http://www.cpuc.ca.gov/PUC/energy/Procurement/LTPP/2012+LTPP+Tools+and+Spreadsheets.htm>

generation had to be reduced⁶ and not delivered. An electric system designed to be economically and environmentally sensitive will experience some level of congestion, as it is not in consumer's (ratepayer's) interest to overbuild an electric system to such excess capacity that all potential generation pattern options can be accommodated under all conditions.

Historically RETI 1.0 and its successor transmission planning forum, California Transmission Planning Group (CTPG), primarily relied on a power flow model as the primary assessment tool. Such a model is widely used in transmission system reliability assessments to determine the maximum transfer capability of a portion of the electric system. However, such a model only provides a snapshot of how the system would perform under an assumed single system condition. The system condition modeled is commonly selected so as to assume generation levels that greatly stress the portion of the system under study even though those generation levels may represent a very unlikely scenario. Therefore, it provides little insight into how frequently, if ever, such conditions might exist or the amount of energy that may be impacted by a transmission constraint. A superior industry tool for investigating congestion is a security-constrained production cost simulation model. Such a model looks at multiple hours in a time period, the spatial system loads, the capacity of the transmission system, and the production cost curve of each generator to develop a simulation of how the system would operate over the course of a year. Levels of congestion and the changes in congestion associated with system improvements can then be assessed. Furthermore, it can be determined whether and to what extent renewable generators in area may be curtailed.

The CAISO should play a key role in determining whether any transmission is justified to accommodate the renewables contained in the portfolios. Each year staff uses a security-constrained production cost tool to study whether transmission should be built to economically reduce congestion on the transmission system. Therefore, this tool is ideally used to study the levels of congestion expected based upon the portfolios supplied to the CAISO. In conjunction with the CPUC Energy Division's latest efforts in refining the RPS calculator, the CAISO is in the process of performing a special study of the transmission system using a security constrained production cost simulations model in the current (2015-16) transmission planning cycle. The results of this study will inform Track 1 of the RPS Calculator overhaul process in the CPUC's RPS Proceeding.⁷ BAMx believes that RETI 2.0 should recognize this progress and seeks to carefully complement the above-mentioned efforts that are currently underway. We are hopeful

⁶ In this particular circumstance, the energy could be scheduled east towards Arizona rather than curtailed. However, such rescheduling would not support California's renewable energy goals.

⁷ CPUC RPS Proceeding (R.15-02-020), "RPS Calculator Land Use and Portfolio Selection Staff Paper," dated August 25, 2015, p. 11

that the proposed RETI 2.0 work plan developed by the Joint Agencies builds upon the resources from the important ongoing processes.

Thank you for the opportunity to comment. We look forward to this Joint Agency effort to investigate the requirements of the transmission system under assumed penetration of renewables beyond 33% and encourage the use of this new forum to further involve Stakeholders in the continued efforts of the CPUC Energy Division, CEC, and the CAISO in studying impact of increased renewables on California's transmission system.

If you have any questions concerning these comments, please contact Barry Flynn (888-634-7516 and brflynn@flynnrci.com) or Dr. Pushkar Waglé (888-634-3339 and pushkarwagle@flynnrci.com)