June 11, 2019

Golden State Clean Energy ("GSCE") provides the following comments on the California Independent System Operator's ("CAISO") white paper, *Transmission Capability Estimates as an input to the CPUC Integrated Resource Plan Portfolio Development* ("White Paper"), dated May 20, 2019, and the corresponding stakeholder call held on May 28, 2019.

I. Introduction

GSCE is a renewable energy developer that is currently developing the Westlands Solar Park, a 20,000+ acre and 2,700 MW master planned renewable energy park located in the only competitive renewable energy zone in the Central Valley, which is in the southern part of the Westlands Water District. GSCE has been an active participant in the CAISO interconnection process under the Westlands Solar Park name, and we currently have over 1,000 MW of generation projects in the CAISO queue proceeding to commercial operation.

The development of viable resource portfolios that will lead to significant carbon reduction and support the electrification of California's economy is critical for California to lead the global fight against climate change. GSCE understands the role of the CPUC in developing the portfolios and the CAISO's White Paper illustrates the key role that the CAISO plays, not only in evaluating the viability and grid requirements of the CPUC portfolios, but also in providing inputs regarding the anticipated transmission capability in the key transmission zones and sub-zones within California.

II. Comments

A. Planning Scenarios

As the CAISO is aware, the CPUC is considering multiple 2045 framing study scenarios whose results may inform "least regrets" scenarios for 2030 and beyond. GSCE fully supports this type of longer-term planning approach being pursued by the CPUC. We strongly encourage the CAISO to work with the CPUC in assessing the current transmission capabilities and limitations, not only for meeting California's 2030 requirements, but also for meeting, or at a minimum putting California on a pathway for the requirements for 2045 and beyond.

In addition to the CPUC's three proposed framing scenarios (2045 high electrification scenario, 2045 high biofuel scenario, and 2045 high hydrogen scenario), GSCE submitted comments in the IRP proceeding urging the CPUC to consider a high electrification scenario with a

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geographically balanced renewable build-out in California. Such a scenario should fully utilize existing bulk storage facilities (e.g., Helms) for renewable integration and long-term storage. We believe the CAISO should support the CPUC with data needed to test such a scenario and to help facilitate this effort. This proposed scenario will promote California's GHG reduction goals and provide direct benefits for disadvantaged communities by reducing gas-fired generation in Northern California and the Central Valley.

California's energy agencies need to model the grid for how the future will look, meaning a future with little to no fossil generation; more long duration energy storage; significantly more solar generation dispersed across the entire State; a fully electrified economy in commercial buildings, homes, and transportation; and more redundancy in the system to account for wildfire hazard and climate change impacts. The CAISO should use its authority under Order 1000 and in the TPP to study scenarios that include all the above future conditions. The planning for investment in new transmission has to begin now even though during the interim we will have to rely on more curtailment of solar as a solution to manage overgeneration. The CAISO cannot only rely on curtailment and energy-only solar development as a long-term solution since these tools are only interim band aids for our low or no carbon future.

GSCE also supported a stakeholder proposal in the IRP proceeding that the CPUC include a sensitivity analysis for full capacity deliverability service ("FCDS").[1] We share a concern that without an FCDS sensitivity analysis, the total system costs may be missing important assumptions about transmission upgrades needed to support renewable energy development within the state.

B. Transmission Needs

For California to successfully meet the critical (but still aspirational) targets of 100 percent carbon-free electricity by 2045, a significant electrical system build-out is required over the next 25 years. GSCE has the experience to appreciate the challenges and timing requirements for large-scale resource development. It is not too early to begin planning and identifying trunk line transmission required for the next 25 years. Given it can take a decade or longer to develop linear infrastructure projects, GSCE believes the time is now to act on California's transmission needs.

Table 2-1 in the White Paper represents an excellent starting point regarding what the current transmission system may be able to do to meet future California renewable energy development. But as the CAISO correctly identifies, "before the 2019-2020 TPP, the last official renewable portfolio transmitted to the ISO was the 33% RPS portfolio."[2] Understanding how

[1] *Comments of the Large-scale Solar Association on Proposed Scenarios for 2019-2020 Reference System Portfolio*, March 5, 2019, p. 2.

[2] White Paper at 9, available at: http://www.caiso.com/Documents/WhitePaper-TransmissionCapabilityEstimates-InputtoCPUCIntegratedResourcePlanPortfolioDevelopment.pdf.

the existing and currently planned transmission grid can and will meet California's statutorily required 60% RPS by 2030 is of upmost importance to all market participants.

GSCE believes it is important for the CAISO to help California regulators understand the limitations of the current transmission system for meeting California's policy and demand needs, and that it is also important to help them understand the development difficulties and timing requirements of the corresponding build-out. If a significant build-out of the intra- or inter-state grid is required to meet the State's 2045 objectives, GSCE fears current planning in the TPP-IRP space is not adequately ramping up and preparing for such a build-out. Our concern is that the significant and laudable efforts to plan for California's 33% RPS have not transitioned quickly enough to meet the increased RPS requirements, and that planning for this next phase will require even more lead time to plan and develop new transmission corridors. Planning cannot lag behind; developers need to know what California requires over the next two plus decades.

In addition to our concerns for transmission planning, several hurdles exist that will slow the end goal of building more renewable generation that is procured to serve California's load. For one, the impact of new market participants that serve load and procure energy has created some uncertainty in the market. Irrespective of this, we know that more renewable energy will need to be developed to serve California's load and meet California's 2045 requirements. Establishing more certainty on the resource development side (i.e., transmission and generation) should only benefit LSEs that are determining what and when to procure. Another hurdle is the uncertainty around understanding and modelling intertie limitations for out-of-state ("OOS") projects. There are extreme challenges with new OOS transmission, including cost allocation issues, and stakeholders need to better understand if proposed OOS transmission projects help or hinder California's efforts.

III. Conclusion

Thank you for your consideration of these comments.

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