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PG&E Comments SB 100 Technologies and Scenarios Workshop

Additional submitted attachment is included below.



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California Energy Commission
Docket Unit, MS-4
Re: Docket No. 19-SB-100
1516 Ninth Street
Sacramento, CA 95814-5512

Re: PACIFIC GAS AND ELECTRIC COMPANY COMMENTS ON SB 100 TECHNOLOGIES AND SCENARIOS WORKSHOP

Pacific Gas and Electric Company (PG&E) appreciates the opportunity to provide comments on the California Energy Commission's (CEC) Senate Bill 100 (SB 100) Technologies and Scenarios Workshop. PG&E recognizes the importance of the Joint Agency Report, required by SB 100, as a critical energy policy report to inform the future implementation of SB 100.

PG&E supports California's clean energy goals, and is committed to partnering with the CEC, California Public Utilities Commission (CPUC), California Air Resources Board (CARB) and other energy agencies to chart a cost-effective and sustainable path to SB 100's goal of meeting 100 percent of the state's retail sales with renewable and zero-carbon resources by 2045. The Joint Agency Report required by SB 100 is a critical step in working to achieve SB 100's goal in a cost-effective manner, and PG&E recognizes that meeting these targets will require more coordination and planning than before.

I. Reliability

At the Technical Workshop, CEC staff presented their plan to leverage the CPUC's Renewable Energy Solutions (RESOLVE) modeling framework and to expand it for capacity expansion studies of the entire California footprint. PG&E agrees this is a reasonable initial step. However, PG&E recommends that the CEC's RESOLVE modeling work be supplemented by a more robust reliability assessment, to surface reliability issues that may have been overlooked by a capacity expansion tool.

At a minimum, PG&E recommends the CEC study leverage the reliability modeling improvements made by the CPUC in its 2019/2020 Integrated Resource Plan cycle (e.g., validate RESOLVE portfolio under a production cost modeling tool such as Strategic Energy Risk Valuation Model (SERVM) develop and assign more accurate reliability contribution factors – in the form of Effective Load Carrying Capability (ELCC) value - to storage resources as a function of the overall amount of storage penetration on the system).

II. Defining Eligible Resources

At the SB 100 Technologies and Scenarios Workshop, CARB staff presented options for defining eligible resources. CARB staff described two potential resource scenarios: Scenario 1 “RPS+” and Scenario 2 “No Combustion.” PG&E believes Scenario 1 “RPS+” most closely aligns with the language in SB 100, which states that, “It is the policy of the state that eligible renewable energy resources and zero-carbon resources supply 100 percent of all retail sales of electricity to California end-use customers and 100 percent of electricity procured to serve all state agencies by December 31, 2045.”¹ Scenario 1 “RPS+” includes all RPS-eligible resources, plus resources that are considered to have zero emissions, such as large hydroelectric, nuclear, and natural gas with carbon capture and storage (CCS). By allowing for a broader set of renewable and zero-carbon resources, Scenario 1 will help mitigate the cost impact on electric customers of implementing SB 100.

Additionally, PG&E believes it is crucial for the Joint Agencies to maintain flexibility in defining eligible resource definitions for the purposes of implementing SB 100. For example, allowing for out-of-state renewable and zero-carbon resources will help maintain a reliable electric grid while keeping electric rates affordable for customers. Moreover, PG&E feels strongly that SB 100 should be technology neutral, which will allow for future technology innovations and avoid specific carve-outs that predetermine the state’s resource portfolio.

III. Planned SB 100 Analysis

PG&E generally supports the Joint Agencies’ plan to leverage existing studies, including those performed for the CEC and the CPUC. PG&E encourages the CEC to align its modeling assumptions for eligible resources with our above comments emphasizing technology neutrality in defining eligible resources. In particular, we encourage the CEC to include natural gas with CCS as a candidate technology eligible for selection by RESOLVE in at least some cases. We note that assumptions for natural gas with CCS are available from the National Renewable Energy Laboratory’s Annual Technology Baseline², which is the core source for electric generation technology cost assumptions in the CPUC IRP modeling. Recent research (Sepulveda et al 2018³) highlights the important role of firm low-carbon resources such as natural gas with CCS in cost-effectively achieving deep decarbonization, but these options have not been well studied by existing state agency analyses.

IV. Conclusion

PG&E appreciates the opportunity to comment on the first technical workshop and looks forward to continued engagement in the development of this report.

Sincerely,

Jessica M Melton

¹ Public Utilities Code Section 454.53 (a)

² Available at: <https://atb.nrel.gov/>

³ Nestor A. Sepulveda, Jesse D. Jenkins, Fernando J. de Sisternes, Richard K. Lester. The Role of Firm Low-Carbon Electricity Resources in Deep Decarbonization of Power Generation. *Joule*: Volume 2, Issue, 11, November 2018, Pages 2403-2420. Available at: <https://doi.org/10.1016/j.joule.2018.08.006>