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PG&E IEPR Forecast Comments

Additional submitted attachment is included below.

August 29, 2019

VIA ELECTRONIC FILING

California Energy Commission
Docket Unit, MS-4
Re: Docket No. 19-IEPR-03
1516 Ninth Street
Sacramento, California 95814-5512

Re: 2019 Integrated Energy Policy Report: Comments of Pacific Gas and Electric Company on IEPR Preliminary California Energy Demand Forecast

Pacific Gas and Electric Company (PG&E) appreciates the opportunity to submit these comments on the August 15, 2019 Forecasting Workshop held by the California Energy Commission's (CEC) as part of the 2019 Integrated Energy Policy Report (IEPR). The California Energy Demand Forecast is a critical component of the Integrated Energy Policy Report and an essential tool for planning future energy policies across numerous agencies. PG&E appreciates the continued efforts of CEC staff continue discussions and refine components of the Forecast and looks forward to future conversations.

PG&E's comments focus on four areas, including Solar PV, Electric Vehicles, Building Electrification, and Net Peak Demand.

1. Solar PV

Consistent with PG&E's comments made on March 18, 2019 regarding the March 4, 2019 Forecasting Workshop held by the CEC as part of the 2019 IEPR, PG&E supports the effort to improve the solar PV modeling and suggests that the CEC focus its efforts specifically on re-quantifying the capacity factor for solar PV. Comparison of the CEC's PV generation profiles to PG&E's generation profiles suggests that the CEC's generation profiles/capacity factors may significantly overestimate BTM PV system generation.

In the Revised 2018-2030 California Energy Demand (CED) Forecast report the CEC cites a 2013 E3 Impact Evaluation as the basis for its solar PV capacity factor¹. During the August 15, 2019

¹ CED 2018-2030 Revised Forecast p.A-2, Footnote 97 and p. A-7 Footnote 105 state: 97 Energy and Environmental Economics, Inc. November 2013. California Solar Initiative 2012 Impact Evaluation.

workshop, the CEC reiterated that this study continues to be used in the 2019-2030 Preliminary CED Forecast. This critical input assumption is likely outdated and should be revisited given the availability of more metered rooftop PV systems, which allow for simulated results to be calibrated to actual performance data. The upcoming release of the Itron study “California Solar Initiative Final Measurement and Evaluation Report” should inform the CEC’s modeling assumptions about BTM PV system generation. PG&E looks forward to collaborating with the CEC as it seeks to update its PV generation profiles.

2. Electric Vehicles

PG&E appreciates engaging with the CEC on its Electric Transportation forecast and would like to recommend three items for consideration.

First, PG&E recommends updating assumptions regarding battery prices, vehicle prices, vehicle usage (e.g. rideshare), and customer preference. Particularly, and to the extent that vehicle price is dependent on battery price in the CEC’s PEV model, PG&E recommends that the CEC reference the Bloomberg forecast for battery prices (\$62 per kWh in 2030) for the Mid case. In addition to referencing battery price inputs on the Bloomberg analysis, PG&E also recommends that the Mid scenario consider PEV price parity with conventional vehicles by 2024.

Second, PG&E recommends developing a forecasting method that includes rideshare electric vehicle in its portfolio. This light duty vehicle “usage” has a higher energy demand than standard light duty vehicles, and a different charging behavior, which could have a significant impact at the local distribution level.

Finally, PG&E recommends that the CEC update its heavy and medium duty vehicle forecast to reflect recent factors which will lead to higher long-term vehicle adoption. In December 2018, CARB set a statewide target of 100% all-electric transit buses by 2040 through the Innovative Clean Transit regulation. In addition, new long-range electric pick-up vehicles will be available to the market as soon as 2020 which will likely increase adoption. These factors are likely to result in a higher adoption of electric vehicles in the medium and heavy-duty market segments.

3. Building Electrification

PG&E encourages the CEC to include building electrification in its final energy demand forecast. While PG&E welcomes the proposed development of an Additional Achievable Fuel Substitution (AAFS) forecast, PG&E suggests that the fuel switching forecast remain independent of the existing energy efficiency (EE) forecast scenarios. AAFS will show an increase in energy load and peak demand, while EE represents energy load and peak demand savings. From the load impact point of view, netting the AAEE and the AAFS in one forecast category reduces forecast transparency and could be misleading. Instead, building electrification should be treated as a new forecast category so that the impact of fuel substitution on the electric and gas load can be explicitly measured, tracked, and benchmarked against alternative decarbonization efforts.

4. Net Peak Demand

As mentioned during the workshop, PG&E's System Net Peak Demand forecast projects no growth from 2020 through 2030, while the Preliminary CED Forecast for the PG&E TAC Area projects an annual Net Peak Demand growth of approximately 0.7% per year from 2020 through 2030. PG&E would like to dive deeper into this long-term divergence in Net Peak Demand forecasts. PG&E has identified two areas that may describe this difference. First, PG&E's forecast includes impacts of Additional Achievable Energy Efficiency and Storage, while the Preliminary CED does not. PG&E looks forward to comparing the forecasts once the CEC includes these impacts. Second, the different PV generation shapes, as described in Section 1, appear to cause a difference when accounting for the magnitude of PV generation. PG&E believes improved alignment on the PV capacity factor and generation shape would also improve alignment of the Net Peak Demand forecasts. PG&E looks forward to connecting with the CEC to discuss these differences in preparation for the revised forecast.

Thank you for the opportunity to comment on the Preliminary Forecast. PG&E looks forward to continued participation in the CEC's IEPR process and is happy to meet to further discuss these comments.

Sincerely,

Jessica M Melton