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Forecasting Workshop

Additional submitted attachment is included below.

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VIA ELECTRONIC FILING

California Energy Commission
Docket Unit, MS-4
Re: Docket No. 19-IEPR-0X
1516 Ninth Street
Sacramento, California 95814-5512

Re: 2019 Integrated Energy Policy Report: Comments of Pacific Gas and Electric Company on IEPR Forecasting Workshop

Pacific Gas and Electric Company (PG&E) appreciates the opportunity to submit these comments on the March 4, 2019 Forecasting Workshop held by the California Energy Commission's (CEC) as part of the 2019 Integrated Energy Policy Report (IEPR). PG&E's comments focus on three areas, only one of which was discussed at the workshop (i.e., distributed generation). PG&E supports additional forecasting discussions and refinements around Community Choice Aggregation (CCA) forecasts and Building Electrification. Both of these areas are quite dynamic and merit focused attention, given the significant impacts on procurement responsibilities for bundled and community choice customers.

A. Building Electrification Should be Included in the Forecast

At its March 4, 2019 workshop, the CEC did not directly address Building Electrification (BE) forecasting. PG&E recommends that the CEC prioritize the development of a modeling approach to quantify the impacts of increased BE on electricity demand, and that CEC include BE in its 2019 IEPR electric demand forecast. Inclusion of BE in the 2019 IEPR will provide valuable input into to the state's long-term resource planning efforts (e.g., 2020 Integrated Resource Planning) that is reflective of the mounting support for building decarbonization. The CEC's own study[1] suggests that building decarbonization measures will be needed to meet the state's long-term greenhouse gas emission reduction policy objectives. Furthermore, the state's current policy momentum (e.g., Senate Bill (SB) 1477, Assembly Bill (AB) 3232, Building Decarbonization Coalition, local Reach codes and inclusion of Building Decarbonization in the 2018 IEPR docket) suggests continued policy support for building decarbonization.

[1] https://www.ethree.com/projects/deep-decarbonization-california-cec/

B. CCA Forecast Must Capture the Dynamic Market Conditions

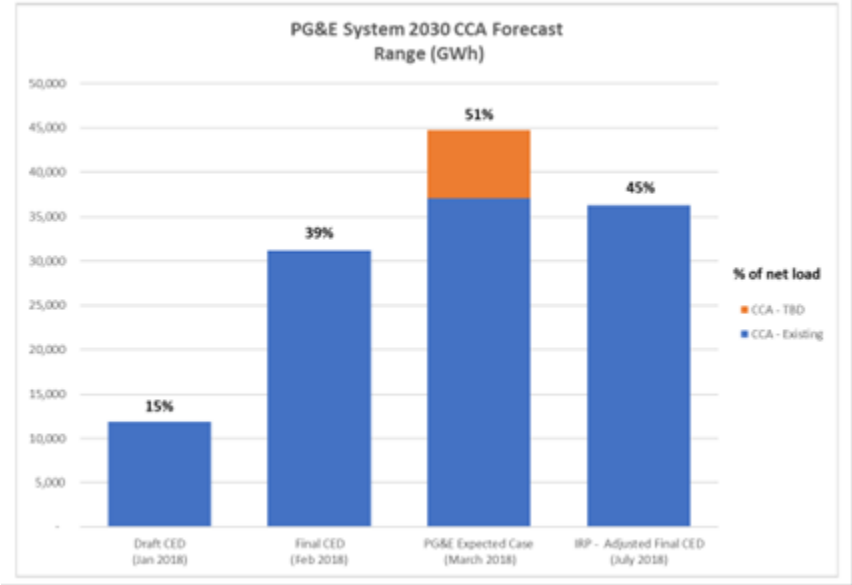
CCA forecasting was not discussed at the March 4, 2019 workshop. PG&E reiterates that a more robust and accurate representation of the uncertainty surrounding the long-term CCA forecast is critical to enable effective planning and to inform related policies. At both the July 10, 2018 workshop, and in its 2017 IEPR comments,[2] PG&E suggested that the CEC prioritize the development and adoption of a predictive modeling approach that reflects the dynamic and rapidly growing CCA market beyond the year-ahead.

In the absence of forecasts that better account for continued CCA growth, planning decisions based on the CEC's forecasts may result in PG&E procuring more energy resources than necessary for its bundled customers, adversely impacting rates if non-bypassable charges (NBC) are not effective in maintaining indifference. Adoption of a method that appropriately accounts for the uncertainty and growth potential of CCAs can mitigate potential cost shift to bundled Utility customers and community choice aggregation customers.

PG&E appreciated the CEC's willingness to collaborate and improve the near-term elements in the development of its California Energy Demand (CED) 2018-2030 Revised CCA forecasts. The drive to integrate more recent information from CCA implementation plans into that forecast resulted in strong alignment between PG&E's, CEC's, and the CCAs' most recent year-ahead forecasts (2019). However, as illustrated in Figure 1 below[3] the CEC's long-term forecast is 40% below PG&E's forecast in 2030.

[2] *TN-222421 https://efiling.energy.ca.gov/Lists/DocketLog.aspx?docketnumber=17-IEPR-03*

Figure 1. Comparison of the 2030 PG&E System CCA Load Forecast (GWh)



The disconnect in the long-term forecast results from the CEC's use of an overly conservative forecast methodology, which does not appropriately capture the dynamic CCA marketplace. The CEC applies an *ex post* deterministic forecast method that accounts only for currently established CCAs and neglects any potential for future expansion of such CCAs. It also erroneously assumes that new CCAs will not form and that existing CCAs will not expand. The CEC acknowledges in the CED 2018-2030 Revised Forecast that the current forecast method may underestimate growth, stating that "[CCA] growth [after 2019 is] set to the average for the overall planning area. Some CCAs may see significant expansion after 2019, so this is likely a conservative forecast."[3]

Table 1 (below) presents the recorded and near-term forecast of load by service provider. Table 1 shows a rapid acceleration of CCA formation from 2016-2018 and continued expansion through 2019 based on filed implementation plans. The CEC's forecasting methodology needs to exhibit a forward-looking robustness to capture the speed of the changing CCA landscape.

[3] *CED 2018-2030 Revised Forecast (p. 49)*

Table 1. Percent of PG&E System Retail Load by Service Provider[4]

	EOY 2016 (Recorded)	EOY 2017 (Recorded)	March 2018 (Recorded)	EOY 2019 (PG&E Forecast)
PGE Bundled	84%	75%	71%	46%
CCA	5%	14%	17%	42%
DA + BART	11%	11%	12%	12%

C. PV Generation Profiles Should be Updated to Reflect More Current Data

In its Distributed Generation Forecast presentation during the March 4, 2019 workshop, CEC staff stated the intention to revisit the solar PV modeling methodology. Consistent with our comments made on the 2018 IEPR forecast, 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.

In the Revised 2018-2030 California Energy Demand Forecast report (pages A-2 and A-7) the CEC cites a 2013 E3 Impact Evaluation as the basis for its solar PV capacity factor[5]. This critical input assumption is likely outdated and should be revisited given the availability of new information and exponentially more metered rooftop PV systems, which allow calibration of simulated results to actual performance data.

Comparison of the CEC's PV generation profiles to PG&E's generation profiles—which were informed by granular meteorological data and meter data from PV systems collected under the California Solar Initiative program—suggests that the CEC's generation profiles/capacity factors may significantly overestimate PV system production, at least for existing systems. Updating the load profiles can minimize the difference between the CEC and PG&E forecasts.

[4] *http://www.energy.ca.gov/2018_energypolicy/documents/2018-07-10_workshop/2018-07-10_presentations.php*

[5] 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. Report is forthcoming but staff was provided a copy of the draft report and the simulated PV production data.

A comparison of the CEC's and PG&E's calibrated load curves suggests a 15-20% difference between those curves. The CEC's own forecast of rooftop solar suggests the state will soon have more than 10GW of installed nameplate PV capacity. At this penetration level, a difference of 15% in capacity could yield a difference in forecast generation output in excess of 2,000 GWh per year. This is a significant discrepancy and warrants further discussion and investigation.

D. Conclusion

PG&E looks forward to continued participation in the CEC's IEPR process.

Sincerely,

/s/

Valerie J. Winn