PGE_Demand Forecast

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Re: Docket 17-IEPR-03: Pacific Gas and Electric Company Comments on the August 3, 2017
        Integrated Energy Policy Report Workshop Regarding the California Energy Demand
        2018-2028 Preliminary Forecast

Pacific Gas and Electric Company (PG&E) appreciates the opportunity to provide comments on the August 3, 2017 Integrated Energy Policy Report (IEPR) Workshop on the 2018-2028 California Energy Demand Preliminary Forecast hosted by the California Energy Commission (CEC). PG&E's key points in response to the day's discussion include:

- PG&E commends the CEC's continued model enhancements related to the solar photovoltaic (PV) and electric vehicle (EV) forecast, but further refinements should be made.
- Assumptions regarding Community Choice Aggregation (CCAs) should be updated to reflect the current landscape in PG&E's service territory

PG&E appreciated the opportunity to participate in this workshop and looks forward to working with staff on this important effort until the adoption of the forecast and the 2017 IEPR.

I.   The EV Forecast Should Balance the Economics of Consumer Preference with Statewide Policy Targets and Goals

PG&E commends the CEC's demand forecasting office for developing a detailed model that takes into account many dynamics of consumer choice (such as consumer preference survey data, economic conditions, fuel prices, and projected technology developments[1]) which will have some effect on the level of EV adoption in California. However, after reviewing the CEC's

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[1] http://docketpublic.energy.ca.gov/PublicDocuments/17-IEPR-
    03/TN220504_20170802T083706_PEV_Forecasting_Approach.pdf

2018-2028 Preliminary Forecast, PG&E recommends that the CEC be more flexible in considering the state's policy targets and goals into their forecast, especially because policy targets may lead to more rapid market change than currently available consumer preference data may suggest.

To consider the impact of plug-in EVs on PG&E's annual energy load, PG&E leveraged: (1) aggregated EV registration data available through August 2016; (2) policy goals declared through September 2016; (3) EV adoption scenarios developed by ICF International Inc. in the California Electric Transportation Coalition's (CalETC) Transportation Electrification Assessment (TEA); and (4) inputs describing typical EV electricity consumption and charging behavior. PG&E leverages scenarios from the TEA study and statewide policy mandates and goals to develop low, moderate, high, and high bookend EV growth scenarios and runs a Monte Carlo simulation to obtain a probabilistic distribution of potential EV growth. The expected value of this distribution is presented in PG&E's 2017 IEPR submission Form 1.1a, which shows PG&E is projecting EV load to be 30 percent higher than the CEC's mid-demand case by 2028.

PG&E staff are prepared and willing to work with CEC staff through the existing Demand Analysis Working Group (DAWG) meetings or to meet and discuss these policy impacts on EV forecasting separately and in greater depth.

II. The Forecast Should Reflect the Rapid Development of Community Choice Aggregation in PG&E's Service Territory

The CEC's Preliminary Forecast reflects the existence of two Community Choice Aggregators (CCAs) in PG&E's service territory, Marin Clean Energy (MCE) and Sonoma Clean Power (SCP)[2], which collectively represents six to seven percent of the total sales in PG&E's service territory. Currently, there are six CCAs actively serving customers in PG&E's service territory: MCE, SCP, Clean Power San Francisco (CPSF), Peninsula Clean Energy (PCE), Silicon Valley Clean Energy (SVCE) and Redwood Coast Energy (RCE). Collectively, over one million customers have been enrolled in CCA programs in PG&E's service territory to date, which equates to approximately 20 percent of annualized sales in the year 2017. Further, PG&E expects as many as six additional CCAs in PG&E's service territory will begin serving customers by the end of 2018.

PG&E's 2017 IEPR submission reflects the changing landscape of load serving entities in PG&E's service territory over the next 10 years. Per PG&E's Form 1.2[3], PG&E expects CCAs to account for approximately 47 percent of total sales by the year 2028. This includes CCAs that

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[2] Form 1.1c; California Energy Demand Preliminary Forecast, 2018-2028, Mid Demand Baseline Case, No AAEE
   Savings; Electricity Deliveries to End Users by Agency (GWh).
   http://docketpublic.energy.ca.gov/PublicDocuments/17-IEPR-
   03/TN220406_20170726T161130_LSE_and_BA_Forms_CED_2017_Prel_Mid.xlsx

[3] http://docketpublic.energy.ca.gov/PublicDocuments/17-IEPR-
   03/TN217846_20170605T132255_PGE_Demand_Forms_1_1__1_2__1_5_and_2_2_Public_Versions.xlsx

already exist, CCAs that have already made commitments to begin serving, as well as a probabilistic estimate of communities in PG&E's service territory that may depart to CCA service in the future. PG&E's forecast is based on regular communication regarding load forecasts with existing and newly forming CCAs through the California Public Utility Commission (CPUC) Energy Resource Recovery Account (ERRA) application process[4], as well as gathering publicly available information on potential CCAs—including feasibility studies, implementation plans, board meetings, and news articles—to assess the likelihood that they will depart in the future.

Given the potentially transformative ramifications on future load forecasts, particularly where load forecasts are used in long-term planning venues to show LSE contribution to statewide demand, PG&E recommends that the CEC demand forecast reflect the current reality and likely future trends of CCA growth. PG&E staff are willing to work with CEC staff through the existing DAWG meetings or to meet and discuss these policy impacts on the 2018-2028 forecast separately and in greater detail.

III.   The PV Forecast's Implementation of Potential Title 24 Requirement Assumptions Needs Further Refinement

The proposed implementation of the potential Zero Net Energy (ZNE) requirements in Title 24 is inconsistent with results PG&E has developed independently. PG&E staff recognize the complexity of the PV forecast and are willing to work with CEC staff through the existing DAWG meetings or to meet and discuss these policy impacts on the 2018-2028 forecast separately and in greater detail.

IV.   Sales Forecast Results by Class are not Directly Comparable Due to Energy Efficiency Accounting and Differences in Customer Segmentation and Aggregation

PG&E's forecast for service territory sales as shown in PG&E's Form 1.1a are fully mitigated for all impacts, including future impacts of energy efficiency. As stated in PG&E's 2017 IEPR submission Form 4[5], PG&E adjusts its sales forecast for future energy efficiency savings by comparing the cumulative incremental impact of all projected EE savings to the historical level of EE savings captured by the econometric regression equations. The best comparison for PG&E's sales forecast would be to the CEC's "managed" forecast, after it has been adjusted for additional achievable energy efficiency (AAEE). Given that AAEE estimates will be updated for the CEC's revised/final forecast later this year, PG&E expects to work with the CEC staff to prepare fully managed forecasts to assess any differences that are unrelated to demand modifiers such as distributed generation (DG) and EVs.

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[4] See PG&E's 2018 ERRA Application, A.17-06-005, Chapter 2: Sales and Peak Demand Forecast, Section C.5

[5] See PG&E's 2017 IEPR submission, Form 4 at p. 13. http://docketpublic.energy.ca.gov/PublicDocuments/17-
     IEPR-03/TN217096-3_20170417T142411_PGE_Demand_Form_4.pdf

Additionally, the CEC noted in its presentation at the Demand Forecast Workshop that there were some differences in growth rates for the Industrial and Agricultural sectors compared to PG&E's forecast. PG&E notes that while the CEC aggregates its customer segments based on NAICS code, PG&E's data is segmented according to the rate schedule, which does not translate neatly one-for-one. This difference in customer classification scheme will naturally lead to different growth rates, since the starting point for the modeling is a different customer group. When aggregating across all Non-Residential sectors in both the CEC's and PG&E's forecast, the results are closer; however, there the comparison again is incomplete without the effect of AAEE on the CEC's "unmanaged" forecast. While comparisons at the customer sector level may be informative if the segmentations schemes are one-for-one, key driver comparisons at the system level, such as economic/demographic assumptions from third parties may be a more reliable test of forecast differences. As in other forecast areas, PG&E will continue to work closely with CEC staff over the remaining months of 2017 to close the gap on these sources of forecast differences.

V.   Additional Clarity is Needed on Elements of the Natural Gas Demand Forecast

Additional clarification is needed in two areas of the CEC's natural gas demand forecast - - Heating Degree Days (HDD) and AAEE.

For Heating Degree Day (HDD) assumptions, the CEC states that heating accounts for 50 percent of natural gas demand in the residential/commercial sectors. With the exception of late 2016, Northern California has been experiencing warmer than normal weather conditions in recent years, which has contributed to declining sales in PG&E's service territory for the past 3 years. It is unclear if the CEC took recent warming trends or global warming into account in developing its normal temperature assumptions. If the forecast period was held constant at historical average levels, then the expectation of load growth seems reasonable based on economic outlook for the state of California.

For AAEE impacts on future load, the CEC correctly notes that energy efficiency will be another driving factor of load loss within PG&E's service territory during the forecast period. However, without knowing the magnitude of the CEC's AAEE adjustment, the preliminary forecast could be understating energy efficiency's true effect on gas demand. During the period 2006 to 2012, PG&E's service territory experienced declining gas load, despite the fact that weather conditions were cooler than normal and PG&E's service territory population was growing. This suggests that energy efficiency was playing a strong role in declining service area loads. Given the AAEE estimates will be updated in CEC's revised version, PG&E expects to review the forecast to evaluate any differences between the two forecasts.

VI.   Conclusion

PG&E appreciates this opportunity to comment on the August 3, 2017 IEPR workshop regarding the 2018-2028 California Energy Demand Preliminary Forecast and looks forward to continued participation in this important work.

Sincerely,

/s/

Wm. Spencer Olinek