DOCKETED	
Docket Number:	23-IEPR-02
Project Title:	Electricity Resource Plans
TN #:	250918-2
Document Title:	Lancaster Choice Energy Form 4 Narrative 2023 IEPR Demand Forecast
Description:	Lancaster Choice Energy Form 4 Narrative 2023 IEPR Demand Forecast 23-IEPR-02 Forecast Methods and Models
Filer:	Alden Walden
Organization:	Pacific Energy Advisors Inc
Submitter Role:	Applicant Consultant
Submission Date:	7/3/2023 11:32:25 AM
Docketed Date:	7/3/2023

Lancaster Choice Energy ("Lancaster") utilizes its load forecasting model/methodology for three primary purposes: (1) for portfolio management and procurement; (2) for the development of financial projections; and (3) for Resource Adequacy compliance with the California Public Utilities Commission ("CPUC") and the California Independent System Operator ("CAISO"). The adopted load forecasting methodology focuses primarily on the projected customer counts within the Lancaster service territory and incorporates historical per capita usage data to derive the load forecast. The Lancaster service territory includes the City of Lancaster.

The load forecast is developed for each of the twelve major customer classes served by Lancaster. These include the following customer classes:

Load Profile Group	**Internal Forecasting Classification**	**2023 IEPR Forecast Classification**
DOM-S/M	Domestic	Residential
DOM-MM	Domestic	Residential
GS-1	Small Commercial	Commercial
GS-2	Medium Commercial	Commercial
TOU-GS	Time-of-Use, Medium Commercial	Commercial
TOU8-SEC	Time-of-Use, Large Power (Below 2kv)	Industrial
TOU8-PRI	Time-of-Use, Large Power (2kv-50kv)	Industrial
TOU8-SUB	Time-of-Use, Large Power (Above 50kv)	Industrial
St-Ltng	Street and Area Lighting	Other
TC-1	Traffic Control	Other
TOU-PA-2	Agriculture & Pumping, Time-of-Use	Other
TOU-PA-3	Agriculture & Pumping, Time-of-Use	Other

Lancaster's load forecasting process starts with a baseline-forecast of current customers by end-use classification (residential, commercial, etc.), utilizing historical usage data and customer counts. Lancaster uses historical weather data from WM J Fox Airport (KWJF) as a proxy for its current service territory, and linear regression models to estimate relationships between weather variables (heating degree days, cooling degree days, and solar insolation) and customer consumption patterns. The resulting coefficients are then applied to normalized weather conditions, over a 5-year observation period, and current customer counts to derive a forecast for the existing customer base. Potential impacts of climate change are captured by utilizing the most recent 5-years of observed weather data as the benchmark for normal weather conditions. Class hourly load profiles, created by analyzing historic recorded meter data for Lancaster's customer base, are applied to translate the monthly usage data into hourly values.

For load projections beyond the current year, Lancaster assumes a long-term annual growth rate of 0.5%, which reflects the estimated net increase in customer consumption due to economic and demographic factors. Lancaster does not have a long-term history for its current customer base with which to compare the reasonableness of the projected long-term growth rate. However, Lancaster believes that it is generally consistent with the net growth rate in the SCE service area as a whole.

Lancaster has not included the potential effects of incremental energy efficiency, demand response, distributed energy resources, and other behind-the-meter programs in its current long-term forecast. If and when Lancaster administers demand modifying customer programs, Lancaster will update its load forecast accordingly.

For Lancaster's peak demand forecast, statistical analyses are utilized to determine historical relationships between recorded monthly peaks and energy consumption for its service territory. The peak demand forecast is then estimated as a function of forecasted consumption under normalized weather conditions, based on the observed historical relationships. Class-level peak demands are estimated based on the hourly class load profiles and are scaled to Lancaster's monthly non-coincident peak forecast. A 6% distribution loss factor is also applied, which reflects the overall recorded historical average over the past three years.

Lancaster utilizes historical consumption data to calibrate and adjust its load forecast. The calibration process is run monthly and compares the most recent monthly kWh and peak kW usage data to the forecast values. The forecast is tracked relative to both the initial usage estimates (T+9) reported to the CAISO as well as the final reported usage (T+70). To the extent that the monthly forecast error exceeds a 5% threshold, Lancaster evaluates the potential causes of the variance and, if such error is deemed likely to persist, adjusts the forecast going forward.