ORA DATA REQUEST
ORA-SDGE-105-MRK
SDG&E 2019 GRC – A.17-10-007
SDG&E RESPONSE
DATE RECEIVED: JANUARY 26, 2018
DATE RESPONDED: FEBRUARY 8, 2018

Exhibit Reference: SDG&E-38
SDG&E Witness: Kenneth Schiermeyer
Subject: Electric Customer Forecast

Please provide the following:

1. Referring to SDG&E's response to data request ORA-SDGE-006-MRK Q.2, ORA requested that SDG&E provide detailed statistical models and equations backing up every number in Table KES-1. SDG&E responded by referring ORA to its response to Q.4 in the ORA Master Data Request "Section D –Other Items, Chapter 29 Customer Forecast (RPayan-K Schiermeyer)." The response to Q.4 in the ORA Master Data Request "Section D –Other Items, Chapter 29 Customer Forecast (R Payan-K Schiermeyer)" contains no models or equations, but in turn refers ORA to the Excel version pages 41, 46, and 49.

However pages 41, 46, and 49 do not contain explicit equations explaining the regression models used to derive SDG&E's customer forecasts, while Q.6 in the ORA Master Data Request "Section D –Other Items, Chapter 29 Customer Forecast (R Payan-K Schiermeyer)" contains equations whose relation to SDG&E's customer forecasts is not explained.

ORA requests that SDG&E now provide more explicit documentation explaining the relationship of the equations in Q.6 to each and every one of SDG&E's customer forecasts.

SDG&E Response 01:

As another way to provide explicit documentation, SDG&E suggests ORA begin working with the most recent Excel spreadsheet provided to ORA in response to ORA-SDGE-100-MRK ("DR ORA-SDG&E-100 Q1Attachment_SDG&E-38-WP WithFormulasAnnualTab.xlsx").

Customers are forecasted for 22 rate schedules, as shown in Columns C-X on the "M-Cust(HistAndFcast)" tab. One can look at the equations referenced in Row 63, which explicitly document exactly how each rate schedule is forecasted.

A more general guideline to the forecasting process is as follows:

a) As noted in Row 1 on the "M-Cust(HistAndFcast)" tab, and as the Excel formulas indicate in Row 63, 11 rate schedules are forecasted to be held constant at their 2016:12 values. These 11 rate schedules are: DSLI, DT, DTLI, DWL, PA, PATOU, PAT1, ALTOUI, A6TOU, LS2, and RESALE.

b) As noted in Row 1 on the "M-Cust(HistAndFcast)" tab, and as the Excel formulas indicate in Row 63, 7 rates schedules are forecasted using a five-year exponential trend. These trends can visually be seen on the "TrendG5" tab, and the trend factor is also calculated on the "Trend%" tab.

SDG&E Response 01 continued:

c) The forecasts for the 2 main residential rate schedules, DR and DRLI, are derived from the residential regression model (tab "ResRegAndFcastQ") and are then converted to a monthly format in tab "ResRegFcastM." The result is a forecast of DR and DRLI combined customers (hence, the acronym "DRDRLI"). As mentioned in a previous response to an ORA data request (ORA-SDGE-53-MRK, Q3), the regressions model's coefficients establish a forecast for San Diego County DRDRLI customers (SD), and the small portion of Orange County (OC) that SDG&E serves is then added (see Column P on tab "ResRegAndFcastQ"), to create total DRDRLI customers for the entire SDG&E service territory (SDGE). For the forecast period, schedule DRLI customers are assumed to remain the same percentage of total DRDRLI customers as the last historical ratio from December 2016. The remaining residential customers are therefore assumed to be included in schedule DR, which also includes schedule EV customers. The above-mentioned DR and DRLI customer equations can be found in Excel formula form beginning in Row 63 in the "M-Cust(HistAndFcast)" tab.

d) The forecasts for the 2 remaining non-residential rate schedules, A and ALTOUC are derived from the "NonResFcast" and "SchAFactor" tabs. The non-residential rate schedules included in the "NonResFcast" forecast tab are: A, AD, ALTOUC, PAT1, and ALTOUI. Once this total non-residential aggregated customer concept is forecasted, a ratio of rate schedule A growth relative to the total non-residential aggregated growth is derived in the "SchAFactor" tab, using the most recent 5-year period, 2012-2016. This ratio is then applied to total non-residential growth to determine schedule A customer growth, as can be seen in the Excel formula in the schedule A forecast column on the "M-Cust(HistAndFcast)" tab. Lastly, ALTOUI is the residual, as can also be seen in the Excel formula on the "M-Cust(HistAndFcast)" tab.

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2. SDG&E's response to data request ORA-SDGE-006-MRK Q.1 included the working spreadsheet "DR ORA-SDG&E-006 Q1Attachment _SDG&E-38-WP WithFormulas.xlsx". Regarding tab ResRegAndFcastQ in that spreadsheet, SDG&E should explain if and how the variables in that tab were used in computing its residential customer forecast. If variables other than those in the tab ResRegAndFcastQ were used in computing its residential customer forecast, SDG&E should specify these variables and explain how they were used in computing its residential customer forecast.

SDG&E Response 02:

Please see the response to Question 1.c above.

On the "ResRegAndFcastQ" tab, the regression uses 1990-2016 quarterly data (specifically, cells F28-K136). The quarterly forecast of NewDRDRLI-SD (see cells F137-FF148) uses the coefficients from the regression model, as the Excel formula indicates. NewDRDRLI-SD is the dependent variable, and Q2, Q3, Q4, Q4_2003Fire and WGT_HUSTS are the independent variables. These are the only variables used in developing the residential NewDRDRLI-SD forecast. As mentioned in the response to Question 1.c above, the small portion of Orange County that SDG&E serves is then calculated/forecasted in Column P (Model DRDRLI (OC)). San Diego County (SD) and the small portion of Orange County (OC) are then added to obtain total SDG&E total service territory customers (SDGE) customers (Column S).