**DATA REQUEST**

**SUBJECT: TOTAL DEMAND-RELATED DISTRIBUTION MARGINAL COST AND LOSS OF LOAD EXPECTATION (LOLE) ANALYSIS**

* 1. 1. Please describe and provide support for the methodology used to calculate the total “Feeders and Local Distribution Demand,” demand-related marginal cost of $305,948,000 located in the Chapter 5 distribution revenue allocation workpapers (Ch\_5\_WP#1\_Dist Rev Alloc\_Public.xls, tab “Distrib Marginal Revenues,” cell I54).

1. Provide the workpapers supporting the $305,948,000 value, in an Excel format with the formulas for all calculations intact, such that the result can be duplicated.
2. Does the process of calculating total system demand-related circuit costs (cell I54) and the scaling factor (cell I56) differ from the process SDG&E used in its 2016 GRC Phase 2? If so, please explain the changes and why SDG&E made them.
3. **SDG&E Response:**
4. The $305,948,000 Total Feeders & Local Distribution Demand Costs is equal to the Forecasted 2020 Distribution Planning Circuit Load of 5,877,664 kilowatts (presented in the attached “Distribution Planning Forecasted Load” workpaper source file, Cell T8) multiplied by the proposed Marginal Feeders & Local Distribution Demand Cost of $52.05261 per kW found in cells C41 and D41 of the “Distrib Marginal Cost Summary” tab of the Chapter 5 distribution revenue allocation workpapers (Ch\_5\_WP#1\_Dist Rev Alloc\_Public.xls). The attached workpaper (Ch\_5\_WP#1\_Dist Rev Alloc\_Public [Cells I54 and I66 of the Distrib Marginal Revenues tab relinked].xls) reflects the workpaper linked to the “Distribution Planning Forecasted Load” workpaper source file so that the I54 calculation is intact as requested.

 

1. No, the process of calculating the system demand-related circuit costs (Cell I54) and the scaling factor (Call I56) is the same process used to calculate the Feeders & Local Distribution Demand Marginal Cost Revenues in SDG&E’s 2016 GRC Phase 2 (A.15-04-012).
   1. 2. Please describe and provide support for the methodology used to calculate the total “Substation Demand,” demand-related marginal cost of $105,007,000 located in the Chapter 5 distribution revenue allocation workpapers (Ch\_5\_WP#1\_Dist Rev Alloc\_Public.xls, tab “Distrib Marginal Revenues,” cell I66).
2. Provide the workpapers supporting the $105,007,000 value, in an Excel format with the formulas for all calculations intact, such that the result can be duplicated.
3. Does the process of calculating total system demand-related substation costs (cell I66) and the scaling factor (cell I68) differ from the process SDG&E used in its 2016 GRC Phase 2? If so, please explain the changes and why SDG&E made them.

**SDG&E Response:**

1. The $105,007,000 Total Substation Demand Costs is equal to the Forecasted 2020 Distribution Planning Substation Load of 5,354,120 kilowatts (presented in the “Distribution Planning Forecasted Load” workpaper source file, Cell T5, attached in response to Question 1a above) multiplied by the proposed Marginal Substation Demand Cost of $19.61241 per kW found in cells C43 and D43 of the “Distrib Marginal Cost Summary” tab of the Chapter 5 distribution revenue allocation workpapers (Ch\_5\_WP#1\_Dist Rev Alloc\_Public.xls). The workpaper attached in response to Question 1a above (Ch\_5\_WP#1\_Dist Rev Alloc\_Public [Cells I54 and I66 of the Distrib Marginal Revenues tab relinked].xls) reflects the workpaper linked to the “Distribution Planning Forecasted Load” workpaper source file so that the I66 calculation is intact as requested.
2. No, the process of calculating the system demand-related substation costs (Cell I66) and the scaling factor (Call I68) is the same process used to calculate the Substation Demand Marginal Cost Revenues in SDG&E’s 2016 GRC Phase 2 (A.15-04-012).

3. Please provide the reasoning for not incorporating line loss factors when calculating the Feeders and Local Distribution and Substation demand-related marginal revenues (Ch\_5\_WP#1\_Dist Rev Alloc\_Public.xls, tab “Distrib Marginal Revenues,” cells C45 through D64).

**SDG&E Response:**

The Feeders & Local Distribution and Substation demand-related marginal revenues reflected in Cells C45 through D64 do incorporate the distribution line loss factors. The calculations in Cells C45 through D64 reflect the inclusion of the distribution line loss factors found in the “Distrib System Determinants” tab of the Chapter 5 distribution revenue allocation workpapers (Ch\_5\_WP#1\_Dist Rev Alloc\_Public.xls), Cells C82 and D82.

4. In SDG&E’s workpaper “CONFIDENTIAL\_2019 GRC P2- Marg Gen Comm Cost (Chapter 6 Workpaper).xlsx” on the tab “LOLP Summary – Combined,” when the combined 50/50 top 100 hours (column V) are filtered to 1 then the sum of the LOLPs (column S) add up to less than 15% over the year. Is this low percentage of the total LOLP risk consistent with the results of SDG&E’s LOLE analysis in its last GRC Phase 2? What factors likely contributed to the low percentage of LOLPs that are captured by the top 100 hours, e.g. increase in Renewable Portfolio Standard (RPS) generation leading to volatility in the generation profile, or increased volatility in the demand profile?

**SDG&E Response:**

In the 2016 GRC Phase 2, the LOLP analysis showed that 62% of the loss of load occurred in the top 100 hours. In 2020, 14.5% of the loss of load occurred in the top 100 hours. Many variables could explain this shift from a more concentrated loss of load in 2016 to a flatter and more consistently distributed loss of load in 2020. SDG&E’s renewable portfolio remained virtually unchanged between the 2016 and 2020 forecasts. A simple explanation is that SDG&E’s conventional portfolio has changed by approximately 200 MW (retirement of Encina 1000 MW and the addition of Carlsbad 500 MW and Pio Pico 300 MW. This would have the effect of increasing loss of load probability across all hours thereby producing the more evenly distributed loss of load in 2020.

5. Why does SDG&E perform its LOLE analysis for two regions (San Diego sub-area and Greater San Diego area) if the California Independent System Operator (CAISO) only recognizes a single local capacity area – the San Diego-Imperial Valley local capacity area?

**SDG&E Response:**

Since the addition of the Sunrise power link transmission line in June 2012 the CAISO has recognized both a local San Diego sub-area and the Greater San Diego area. The CAISO evaluates both areas in its annual LCR analysis to determine which of the areas presents the greater reliability constraint. For example, on slides 18 and 24 of the 2020 & 2024 LCR presentations, the CAISO continues to study the LCR needs of both the Greater San Diego-Imperial Valley (SD-IV) and San Diego Sub-areas to determine the greater reliability need.  <http://www.caiso.com/Documents/Presentation-Final2020and2024LCRLABasinandSanDiego-ImperialValleyLocalAreas.pdf>

If the San Diego Sub-area need is a greater need, then the CAISO would set the San Diego LCR based on that greater sub-area need.  Therefore, SDG&E’s LOLP analysis has reflected both local areas in its calculation of marginal capacity costs.

6. In SDG&E’s response to the Public Advocates Office’s master data request question 5, SDG&E refers to “the announcement of Community Choice Aggregation (CCA) activity by a number of major cities in SDG&E’s service territory.” Please provide a list of all the cities that have announced their intentions to form CCAs, as well as the expected annual loads and peak loads (or their contributions to SGD&E’s coincident peak load)

**SDG&E Response:**

* 1. The list below is for municipalities that are all planning to file their implementation plans with the CPUC by 12/31/19 to ensure a 2021 launch. The percentages illustrate the percent of SDG&E’s load each municipality accounts for.

**San Diego Regional Community Choice Energy Authority (City of San Diego Led-JPA):**

* City of San Diego (44%)
* Chula Vista (4%)
* Encinitas (1%)
* La Mesa (1%)
* Imperial Beach (<1%)

**Clean Energy Alliance (Carlsbad-led JPA):**

* Carlsbad (6%)
* Del Mar (<1%)
* Solana Beach (<1%)\*
* Santee (1%)\*\*

\*City of Solana Beach’s CCA has been operating since June 2018 and will join the Clean Energy Alliance JPA when it launches in 2021.

\*\*Santee is holding a City Council meeting on 10/23 to decide whether to join the Clean Energy Alliance, which is currently anticipated.