**DATA REQUEST**

* + 1. The following table summarizes average residential TSM costs pulled from this GRC phase 2 (A.19-03-002) and the preceding two GRCs for SDG&E. These figures are based on SDG&E’s engineering estimates. Please describe in detail any changes in assumptions regarding customer load profiles TSM configurations, labor cost, material cost, etc. that led to the following observed patterns.

|  |
| --- |
| SDG&E |
|  | 2020 | 2016 | 2012 |
| Transformers | $ 680.52 | $ 525.25 | $ 356.16 |
| Services | $ 167.42 | $ 84.30 | $ 78.55 |
| Meters | $ 267.48 | $ 269.42 | $ 174.01 |
| Total | $1115.43 | $878.98 | $608.72 |

* + - 1. 91% increase in per customer transformer cost between 2012 and 2020.
			2. 113% increase in services cost between 2012 and 2020.
			3. 56% increase in meter costs between 2012 and 2020.

**SDG&E Response:**

1. Transformer costs for each GRC Phase 2 proceeding are based on the transformer unit prices at the time of the GRC Phase 2 proceeding filing (2009 costs for the 2012 GRC Phase 2, 2013 costs for the 2016 GRC Phase 2, and 2017 costs for the 2019 GRC Phase 2), the current number of customers by customer class type and kW size that SDG&E is serving at the time, and the engineering design estimates for the type and number of customers that can be served on each transformer to take electric service. The main driver of the transformer cost change between the 2016 GRC Phase 2 and 2012 GRC Phase 2 is the change in transformer pad, connection and cable costs that went up more than 150%.
2. Services costs for each GRC Phase 2 proceeding are based on the service unit costs at that time of the GRC Phase 2 filing (2009 costs for the 2012 GRC Phase 2, 2013 costs for the 2016 GRC Phase 2, and 2017 costs for the 2019 GRC Phase 2), the current number of customers by customer class type and kW size that SDG&E is serving at the time, and the engineering design estimates for the type and length of service wire that each customer type needs to take electric service. One change that was made in the development of the service costs was that in the 2019 GRC Phase 2 SDG&E realized that the fully loaded services costs had been reflecting the cost of the wire but not the slip-fit connectors used to connect the wires. The slip-fit connectors reflect more than 50% of the services costs. Leaving out the slip-fit costs in the 2019 GRC Phase 2 filing would have resulted in average residential services costs of $78.70 instead of $167.42.
3. Meter costs for each GRC Phase 2 proceeding are based on the meter unit prices at the time of the GRC Phase 2 proceeding filing (2009 costs for the 2012 GRC Phase 2, 2013 costs for the 2016 GRC Phase 2, and 2017 costs for the 2019 GRC Phase 2), the current number of customers by customer class type and kW size that SDG&E is serving at the time, and the engineering design estimates for the type of meter each customer needs to take electric service. No change was made to the design assumptions regarding the calculation of marginal meter costs over these three GRC Phase 2 proceedings. Please note that smart meters were first installed for SDG&E’s customers in 2009. For this reason, the meter costs used in the 2012 GRC Phase 2 were based on actual installation costs for a limited number of 2009 smart meter installations.

* + 1. When SDG&E performed engineering estimates to develop TSM unit costs, did SDG&E consider the fact that many residential customers would share transformers with non-residential customers? If so, please describe how SDG&E accounted for this. If not, why not?

**SDG&E Response:**

The engineering estimates that SDG&E used to develop the marginal distribution TSM unit costs assumes that all customers served on the transformer are of the same customer class. The reason SDG&E did not take into account that some transformers serve both residential and non-residential customers is because this would complicate the calculation since it would require SDG&E to determine what portion of the transformer costs is associated with each customer class. SDG&E believes that its approach of calculating marginal transformer costs assuming the transformer only serves one given type of customer develops the most accurate marginal transformer costs because the costs can easily be calculated per customer.

* + 1. When SDG&E performed engineering estimates to develop TSM unit costs by customer size, does SDG&E assume that all customers have the same load profile shapes? Is so, please describe the reasoning behind this decision. If not, please describe how SDG&E accounted different load profiles when estimating TSM unit costs by customer size.

**SDG&E Response:**

Yes, the engineering estimates SDG&E used to develop marginal TSM unit costs assumes that all customers that are from the same customer class and have the same load shape. As described in the response to Question 2, SDG&E assumes all customers served on a transformer are of the same customer class and have the same maximum kW demand, in order to correctly develop the marginal transformer cost per customer. Assuming that different types of customers would be served on a transformer would only complicate the marginal transformer cost calculation, and SDG&E believes it would result in less accurate marginal cost results.

* + 1. What is the discount rate used to calculate the RECC factors used to calculate SDG&E’s marginal customer costs using the rental method?

**SDG&E Response:**

The discount rate used to calculate the RECC factors used to develop SDG&E’s marginal distribution customer costs in the 2019 GRC Phase 2 under the Rental Method is 7.55%.

* + 1. Please describe the residential customers the fall into the following groupings. For each grouping, please indicate how many of such customers share transformers with non-residential customers. Please describe the ***range*** of dwelling arrangements in which such customers reside. Please also describe what kind of dwelling arrangements in which such customers ***typically*** reside. Which of these dwelling arrangements does SDG&E assume in its engineering estimates used to estimate TSM unit costs for each grouping?
			1. Customers with maximum annual demand (kW) between 0-2kW.
			2. Customers with maximum annual demand (kW) between 3-6kW.
			3. Customers with maximum annual demand (kW) between 7-12kW.

**SDG&E Response:**

Based on the 2016 customer counts used to develop the marginal customer costs in SDG&E’s 2019 GRC Phase 2 filing, there were:

1. 359,004 residential customers with maximum annual demand between 0-2 kW;
2. 637,386 residential customers with maximum annual demand between 3-6 kW; and
3. 237,646 residential customers with maximum annual demand between 7-12 kW.

SDG&E does not track the number of customers in each range that share a transformer with non-residential customers or the type of dwelling arrangements the customers reside.

* + 1. Please describe how SDG&E developed its replacement rate of 3.03%?

**SDG&E Response:**

Consistent with SDG&E’s 2016 GRC Phase 2 rebuttal testimony, SDG&E proposed a replacement rate of 3.03% for use in calculating marginal distribution customer costs under the NCO Method.[[1]](#footnote-2) The 3.03% replacement rate was based on the book life of final line transformers of 33 years. Because transformers represent the majority of TSM costs, SDG&E proposed to base the replacement rate on the book life of transformers. When responding to this question, SDG&E realized that the book life of transformers increased from 33 years in the 2016 GRC Phase 2 to 34 years in the 2019 GRC Phase 2. If the book life of transformers is used to calculate the NCO Method replacement rate, the change in the book life of transformers from 33 years to 34 years would result in a change in the replacement rate from 3.03% to 2.94%, respectively.

1. D.15-04-012, Rebuttal Testimony of William G. Saxe, Chapter 5, pp. WGS-25 and WGS-26. [↑](#footnote-ref-2)