**DATA REQUEST**

**SUBJECT: FOLLOW UP TO SDG&E’S RESPONSES TO CAL ADVOCATES DR #13 ON MARGINAL CUSTOMER COSTS**

**Question 1**. Please provide 30 recent invoices of a 25kVA transformer built to provide service at 120/140 voltage rating. Please also include invoices for transformer pad, connection and cable costs associated with installing the transformer. Please also provide invoices for any labor and transport costs involved in installing this transformer. Please also provide estimates for any overhead costs associated with procuring and installing this equipment. If no invoice is available for the latter, please provide the methodology for determining the overhead costs. Please record the prices on the invoice, the date, and the equipment the invoice covers in an excel spreadsheet. If more than 30 invoices exist for any one category of costs, please provide a random sample of 30 data points. If fewer than 30 invoices exist, please provide them all.

**Question 1a.** Please provide the number of residential customers estimated to be served on a 25kVA transformer for customers with following demand ranges. These numbers should be in line with the estimates used to inform SDG&E’s engineering estimates used to determine unit transformer costs per residential customer.

 i. 0-2kW

ii. 3-6 kW

iii. 7-12kW

**SDG&E Response to Question 1:** SDG&E does not have invoices that identify the costs of installing specific transformers. Consistent with the marginal transformer costs proposed in SDG&E’s 2019 GRC Phase 2 proceeding the cost to install a transformer is based on recent purchased prices of transformers and the costs to install transformers based on labor and overhead costs at that point in time. For this reason, the invoices requested with a detailed breakdown of the costs to install specific transformers are not available.

As explained in the SDG&E 2019 GRC Phase 2 Prepared Direct Testimony of William G. Saxe, the transformer costs are based on cost to install transformers of a given size and based on the number of customers that can be served on the transformer based on the type and size of the customer.[[1]](#footnote-2) The transformer costs reflect the SDG&E costs at the given point in time when the marginal distribution customer costs were being developed for the 2019 GRC Phase 2 proceeding. Likewise, the overhead costs associated with installing the transformers consisting of overhead costs for Purchasing & Warehouse, Exempt Material, Transportation & Yard, Local Engineering, Administration & General, and Indirect Labor costs reflect SDG&E’s overhead costs as of April 2017.

**SDG&E Response to Question 1a**. As stated above SDG&E does not have invoices that identify the installation of specific transformers to serve customers. However, based on the number and size of residential customers SDG&E currently serves, the table below provides the estimated number of residential customers served on a 25 kVA transformer for customers by demand ranges, which are all residential customers up to 25 kW taking 120/240 Volt Single Phase electric service, as identified in the “Resid Cust Fcst” tab of SDG&E’s “Ch\_5\_WP#2\_Marg Distribution Cust Costs for Non School Class\_Public” and “Ch\_5\_WP#2\_Marg Distribution Cust Costs for Class\_Public” workpapers.



**Question 1b.** Please show in excel spreadsheet how the cost of the 25kVA transformer, the number of customers estimated to be served this transformer for each demand range in question 1a and all other costs are used to derive the per customer transformer cost for each demand range used to estimate marginal customer costs. To the extent that the final unit costs of the transformer form these invoices does not match the ones estimated for use in computing SDG&E’s marginal customer costs, please explain.

**SDG&E Response to Question 1b:**

Please see the response to Question 1 above.

**Question 2**. Please provide 30 recent invoices of SmartMeters SDG&E uses to service new residential connections. Please also provide invoices for any labor, transport costs, and additional equipment costs involved in installing this SmartMeter. Please also provide estimates for any overhead costs associated with procuring and installing this equipment. If no invoice is available for the latter, please provide the methodology for determining the overhead costs. Please record the prices on the invoice, the date, and the equipment the invoice covers in an excel spreadsheet. If more than 30 invoices exist one category of costs, please provide a random sample of 30 data points. If fewer than 30 invoices exist, please provide them all.

To the extent that the final unit costs of the SmartMeter from these invoices does not match the ones estimated for use in computing SDG&E’s marginal customer costs, please explain.

**SDG&E Response to Question 2:**

SDG&E does not have invoices that identify the costs of installing specific Smart Meters. Consistent with the marginal meter costs proposed in SDG&E’s 2019 GRC Phase 2 proceeding, the cost to install a Smart Meter is based on recent purchased prices of Smart Meters and the costs to install Smart Meters based on labor and overhead costs at that point in time. For this reason, the invoices requested with a detailed breakdown of the costs to install specific Smart Meters are not available.

As explained in the SDG&E 2019 GRC Phase 2 Prepared Direct Testimony of William G. Saxe, the meter costs are based on cost to install meters to serve customers of a particular size and type.[[2]](#footnote-3) The meter costs reflect the SDG&E costs at the given point in time when the marginal distribution customer costs were being developed for the 2019 GRC Phase 2 proceeding. Likewise, the overhead costs associated with installing the meters consisting of overhead costs for Purchasing & Warehouse, Exempt Material, Transportation & Yard, Local Engineering, Administration & General, and Indirect Labor costs reflect SDG&E’s overhead costs as of April 2017.

* 1. **Question 3.** With regards to transformers serving both residential and non-residential customers;
	2. **Question 3a.** Does SDG&E determine the size of the transformer required based on the combined non-coincident demands of non-residential and residential customers that would take service on the transformer?
	3. **Question 3b.** Does SDG&E account for some load diversity between the two classes to determine transformer size? That is, does SDG&E account for the fact that residential and commercial load profiles are different (for example, differences in timing of maximum demand between residential and non-residential customers on the same transformer)?

**SDG&E Response to Question 3a and 3b:**

1. Yes. SDG&E sizes the transformer based on the residential diversified demand added to the estimated demand of the non-residential load.
2. Yes, if a transformer is being designed to serve both non-residential and residential customers, the size of the transformer needed takes into consideration the maximum demands of both the non-residential and residential customer that would be taking service on this transformer. SDG&E does not account for differences in residential and commercial load profiles when determining the transformer size. The present practice is to determine the residential load by using a diversity factor. The commercial load demand is then calculated based on building size and type of load. The two loads are then added together to determine the total load and the transformer size is determined based on the total.

**Question 4**. What is the line extension allowance for customer connection costs for residential customers?

**SDG&E Response to Question 4:**

The line extension allowance for residential customers is currently $3,241, as stated in the Chapter 5 Prepared Direct Testimony of William G. Saxe[[3]](#footnote-4), which is presented in SDG&E’s Rule 15.[[4]](#footnote-5)

* 1. **Question 4a.** How does SDG&E calculate the allowances for non-residential customers? Please provide the formula for determining how much ratepayers must subsidize. Please provide a hypothetical example with inputs and outputs properly linked in Excel format.

**SDG&E Response to Question 4a:**

1. As stated in the SDG&E 2019 GRC Phase 2 Prepared Direct Testimony of William G. Saxe, the TSM allowances for non-residential customers are calculated on a customer specific basis.[[5]](#footnote-6) The non-residential customer specific allowances are developed based on the net revenues expected to be collected from the non-residential customer. SDG&E’s Rule 15 states the following regarding the non-residential allowance:

*“Non-Residential Allowances: The allowance for Distribution Line Extensions, Service Extensions, or a combination thereof, for Permanent Non-Residential Service is determined by utility using the formula in Section C.2. The utility, at its election, may apply a Non-Residential Allowance Net Revenue Multiplier as defined in Section J.”*

Section C.2 presents the following formula:

*ALLOWANCE =                NET REVENUE*

*COST OF SERVICE FACTOR*

*Net Revenue: That portion of the total rate revenues that supports utility's distribution line and service extension costs and excludes such items as energy, transmission, Competition Transition Charge (CTC), public purpose programs, revenue cycle services revenues, and other revenues that do not support the Distribution Line and Service Extension costs. For residential line extensions the net revenue is a fixed amount calculated from the annual total residential distribution rate revenue divided by the number of residential customers with a deduction for revenue cycle service credits.*

*Cost of Service Factor (COS): the factor that is divided into the Net Revenue to determine the Utility’s investment in distribution facilities. The COS Factor includes depreciation, return, income taxes, property taxes, Operating and Maintenance (O&M), Administrative and General (A&G), Franchise Fees and Uncollectible Expenses (FF&U) and replacement of facilities for 60 years at no additional cost to customer. For the purpose of calculating residential allowances, a COS Factor of 14.63% will be used.*

*Non-Residential Allowance Net Revenue Multiplier: This is a revenue-supported factor determined by the utility that is applied to the net revenues expected from non-residential load to determine nonresidential allowances.*

As requested, the attached file (CalPA DR-016, Question 4a) provides a hypothetical example of the non-residential allowance calculation based on applying a Non-Residential Allowance Net Revenue Multiplier, as SDG&E does in calculating non-residential allowances:



* 1. **Question 4b**. Please provide the ratio, for each class, of how much of connection costs are *typically* covered by the line extension allowances (i.e. covered by ratepayers) and how much are paid for by the applicants.

**SDG&E Response to Question 4b:**

1. The percentages of non-residential customer connection costs paid covered by the line-extension allowance versus being paid by the customer is not known by customer class. For this reason, as stated in the Chapter 5 Prepared Direct Testimony of William G. Saxe SDG&E proposed using the percentages for the non-residential customers as a whole based on historical data, which was 81% cover by the line-extension allowance and the remaining 19% paid by the customer.[[6]](#footnote-7)
1. 2019 GRC Phase 2 Prepared Direct Testimony of William G. Saxe (Chapter 5), p. WGS-7 and WGS-8. [↑](#footnote-ref-2)
2. 2019 GRC Phase 2 Prepared Direct Testimony of William G. Saxe (Chapter 5), pp. WGS-7 and WGS-8. [↑](#footnote-ref-3)
3. 2019 GRC Phase 2 Prepared Direct Testimony of William G. Saxe (Chapter 5), p. WGS-8, lines 9-12. [↑](#footnote-ref-4)
4. SDG&E Rule 15 Tariff, Sheet 4 (effective October 20, 2017) at Section C3. [↑](#footnote-ref-5)
5. 2019 GRC Phase 2 Prepared Direct Testimony of William G. Saxe (Chapter 5), p. WGS-8, lines 12-13. [↑](#footnote-ref-6)
6. 2019 GRC Phase 2 Prepared Direct Testimony of William G. Saxe (Chapter 5), p. WGS-8, lines 12-15. [↑](#footnote-ref-7)