**QUESTION 1:**

**Subject: Revised A.15-07-014 Prepared Direct Testimony of Mr. Chaudhury and**

**Revised Workpapers**

In the Revised Workpapers for Mr. Chaudhury, specifically in the Excel file SCG 2017 TCAP LRMC Customer Costs, in the Tab “Meter Cost Detail,” SoCalGas shows the hardwired numbers by meter size for the average labor cost (in $/meter), average meter cost ( in $/meter), and average regulator cost (in $/meter) in Excel columns F, G, and H respectively, starting at Excel rows 5 through 28. Immediately below the “Meter Cost Detail” line at Excel row 1, the “Source” is shown as “Table 12, 13, 14, and 15, xxx MSA.” Further, at Excel row 32 Column E, SoCalGas shows the hardwired numbers of the “Sample Size” by meter size.

(a) Please explain how the average numbers were derived, including a description of the specific calculation details and all the elements included in the calculation for each of the average labor, average meter, and average regulator cost shown in the columns.

(b) Please identify and explain the “Source” that is being referenced below the “Meter Cost Detail” line at Excel row 1, and provide the “Source” tables as shown in active Excel format.

(c) Please explain the meaning of the numbers shown under Excel column C labelled “Meter Size” which are shown as numbers 1 through 12 and describe the different meter sizes these numbers represent.

(d) Please explain the meaning of the number shown under Excel column D labelled “Above Std” which are shown as numbers “1” and “0” and describe what these numbers represent.

(e) Please explain whether the “Meter Cost Detail” represent meter costs for SoCalGas’ gas distribution function only. If not, please explain.

(f) Please explain the underlying criteria for the “Sample Size” and what determines the

appropriate “Sample Size” for each meter size.

(g) Please explain whether the data shown in the Tab “Meter Cost Detail” includes all of

SoCalGas’ gas customers at the end-use level. If not, please explain.

**RESPONSE 1:**

(a) The average labor cost by meter size was calculated by multiplying total labor cost by the percent of total hours spent installing meters of that particular meter size and then dividing by the number of meters of that size. See the first attached Excel file for the derivation of average labor cost. The average costs of meters and regulators by size were calculated by the total costs of meters (regulators) divided by the associated number of meters (regulators). See the second attached Excel file for the derivation of average meter and regulator cost by size.

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(b) The source being referenced contains detailed MSA cost components by meter size. Please see the attached file for the requested tables.



(c) The numbers signify the size of the meters. Numbers 1 through 3 represent small meters, 4 and 5 are medium size meters and 6 through 10 represent large meters.

(d) The variable “Above Std” is meant to identify whether there is provision for gas delivery at above standard pressure for that particular meter size.  The value of “0” means not above standard pressure and “1” means above standard pressure.

(e) Meter Cost Detail for SoCalGas’ gas customers reflects the reality that some customers are hooked up to the distribution system and others are hooked up to the transmission system.

(f) Sample Size means the number of customers with each particular configuration of meter type by customer class. Since customers in a customer class can be connected to different size meters, it is important to capture the distribution of meter sizes in a customer class to calculate average customer customer-related capital cost for that particular customer class. For residential, core commercial and industrial customers, the sample includes only new customers (premises that initial gas service started between 2009-2013) while all the other rate classes covers the entire population (existing and new customers to ensure adequate number of observations).

(g) See response to 1 (f). The data shown in the Tab “Meter Cost Detail” include new customer additions (not all customers) over a five-year period for residential, small commercial and industrial customers. For other customer classes, all of SoCalGas’ gas customers are included.

**QUESTION 2:**

In the Revised Workpapers for Mr. Chaudhury, specifically in the Excel file SCG 2017 TCAP LRMC Customer Costs, in the Tab “Service Cost Detail,” SoCalGas shows the hardwired numbers by code, pipe diameter size (in inches) and pipe type for new business (in $/ft) and replacement ($/ft) in Excel columns H and I respectively, starting at Excel rows 5 through 24. Immediately below the “Service Cost Detail” line at Excel row 1, the “Source” is shown as “Table 11.” Further, starting at Excel row 29, SoCalGas shows the hardwired numbers for “Pipe frac”, “# New Customers last 5 years,” and “Avg Length (in feet)” by pipe diameter and pipe type.

(a) Please explain what the data information shown in the column marked “Code,” “Pipe

frac” and the letters shown in the column marked “Pipe Type” represent.

(b) Please identify and explain the “Source” that is being referenced below the “Service Cost Detail” line at Excel row 1, and provide the “Source” Table 11 in active Excel format.

(c) Please explain the meaning of the numbers shown under the columns marked “New

Business” and “Replacement” and what these numbers represent and describe how

SoCalGas derived these numbers.

(d) Please explain the meaning of the numbers shown under the columns marked “# New Customers last 5 years” and “Avg Length” and what these numbers represent and describe how SoCalGas derived these numbers. In addition, please identify which 5-year period were included in the data.

(e) Please explain whether the “Service Cost Detail” represents service costs for SoCalGas’ gas distribution function only. If not, please explain.

(f) Please explain whether the data shown in the Tab “Service Cost Detail” includes all of SoCalGas’ gas customers at the end-use level. If not, please explain.

**RESPONSE 2:**

(a)The column marked “code” shows Pipe type and pipe diameter size. In “pipe type” column, **P** means plastic and **S** means steel. “Pipe fraction” is a code for the pipe size—the codes 12, 34, and 25 represent .5, .75, and .25 inch diameter pipes, respectively.

(b) The source data contain service line cost per foot for new business and replacement projects by pipe type and size. The attached file contains the source table.



(c) New Business is newly installed pipe, and Replacement is when we replace existing pipe. The costs represent the unit cost that is the best representation of the cost per foot, by pipe size and pipe material, to install New Business service pipe and Replacement service pipe on the Gas Distribution system.

(d) The “# of new customers” represents new customers added to SoCalGas’ system in the past 5 years. For residential, core commercial and industrial customers, new customer data were used (premises that initial gas service started between 2009-2013) while all the other rate classes cover the entire population that service line history could be matched by premise as very few large new customers are added to SoCalGas system each year. The average length was computed by dividing the total service line footage by rate class, line diameter, and pipe type by the number of customers used in the analysis (values in column F).

(e) See response to 1(e).

(f) See response to 1(g).

**QUESTION 3:**

In the Revised Workpapers for Mr. Chaudhury, specifically in the Excel file SCG 2017 TCAP LRMC Customer Costs, in the Tab “cust 6 exclusive use,” SoCalGas shows the hardwired exclusive use meter cost (in $/meter) and the number of meters for turbine meters, rotary meters, and ultrasonic meters for retail noncore customers. The heading at Excel row 3 in the Tab includes the descriptive phrase “Big GEMS Investment by Customer Class for Retail Noncore (exclusive use on Cust MC).

(a) Please explain what the average cost information shown in Excel rows 28 through 30 represent for turbine meters, rotary meters, and ultrasonic meters represent and describe how SoCalGas derived these average meter, labor, and contract cost numbers.

(b) Please explain what the “Materials,” “Regulator Cost,” and “GEMS Device Cost”

information shown in Excel rows 31 through 33 represent for turbine meters, rotary

meters, and ultrasonic meters and describe how SoCalGas derived these average cost

numbers.

(c) Please explain the source of the cost and meter number information shown in this Tab and provide the source table (if applicable) in active Excel format.

(d) Please explain whether the number of meters shown in Excel rows 8 through 10 represent the number of existing meters for exclusive use customers or of only new meters for exclusive use customers.

(e) Please clarify whether the number of meters for exclusive use customers are excluded from those shown in the “Meter Cost Detail” Tab.

(f) Please describe the relevant existing Commission policy (if any) regarding the customer costs of exclusive use retail noncore customers and cite the reference decision.

**RESPONSE 3:**

1. The average meter cost represents the average cost of purchasing the meter. The labor costs represent SoCalGas’ direct and indirect labor costs. The contract costs represent the contract services, e.g. for meter set installation and electrical installation. The average meter cost, labor and contract are the 2013 average costs from the Work Order Authorizations.
2. The “Materials” represents the material costs, e.g., valves, dry gas filter, and indirect material costs. The “Regulator Cost” represents the regulator cost. Regulators reduce and modulate gas pressure. The “GEMS Device Cost” is the average cost of the GEMS Device, which is an indicating device used for meter reads. The “Materials,” “Regulator Cost,” and “GEMS Device Cost” are the 2013 average costs based on the Work Order Authorizations for the turbine meters, rotary meters, and ultrasonic meters.
3. The cost information was provided by the Gas Engineering department. The meter numbers for the Wholesale customers were provided by the Measurement group based on the Measurement Collection System. The other noncore customers, Noncore Commercial & Industrial (G-30), Electric Generation (G-50) and EOR (G-40) meter numbers are from the Customer Information System.
4. The numbers of existing meters for exclusive use customers are listed for exclusive use customers, which are SoCalGas’ largest customers.
5. Yes, the numbers of meters for exclusive use customers are excluded from those shown in the “Meter Cost Detail” Tab.
6. Consistent with D.92-12-058, the marginal capital cost reflects the facilities and equipment for: a) meters, regulators, and Meter Set Assemblies (MSAs), b) service lines, and c) exclusive‑use facilities. See D.92-12-058, page 41.