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Exhibit Reference: SCG-4, Gas Distribution O&M and Capital

Subject: Meters and AMI

Please provide the following:

1. Referring to SoCalGas' discussion of excluding Advanced Metering Infrastructure (AMI) from its gas distribution forecasts for the 2016 General Rate Case (GRC) on page FBA-12, please provide the following information:
    a. The number of AMI meters installed for (1) new business, (2) routine meter change-outs, and (3) planned meter change-outs for 2010-2014 YTD.
    b. The labor and non-labor expenses for each category of AMI meter installed (from 1a, above) from 2010-2914 YTD.
    c. The labor and non-labor savings achieved for meters purchased for New Business Construction and for Measurement and Regulation Devices as a result of AMI deployment from 2010-2014 YTD.

SoCalGas Response 01:

ORA is expected to issue a revised Question 1, to which SoCalGas will provide its response.

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2. Please explain the differences between SoCalGas' labor and non-labor requests for "New Business Meters" under New Business Construction discussed on pages FBA-89 to FBA-90, and SCG-FBA-CAP-SUP-001 on page 13 of the workpapers, and "New Business Meters" under Measurement and Regulation Devices discussed on pages FBA-124 to FBA-126 and SCG-FBA-CAP-SUP-009 on pages 171 to 172 of the workpapers.

SoCalGas Response 02:

As stated on pages FBA-124 – FBA-125 of Exhibit SCG-04, the Meters category includes the non-labor cost of the meters and the labor associated with warehouse handling, technical evaluations, and quality assurance for the purchase of meters:

> The expenditures included in the Meters work category are for materials, warehouse handling, technical evaluations, and quality assurance for the purchase of small meters, typical of residential and small business applications, and larger meters, typical of non-residential applications.

The Meters category includes all of these costs associated with replacement meters in addition to the new business meters.

The New Business Construction category includes the labor associated with the installation of new business meters. As stated on page FBA-89, the New Business Construction totals exclude the materials (non-labor) costs of new meters:

The materials cost of meters and regulators are addressed under the Measurement and Regulation Units work category.

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3. Referring to page FBA-125, lines 17-24, please explain the correlation between meter capacity, size, class performance, commercial and industrial meter sets, residential, small commercial, and small meters, with the size of meters SoCalGas proposes to purchase (size 1-3 and size 4+) on pages 171 and 172 of the workpapers.

SoCalGas Response 03:

"Meter capacity" is the maximum volumetric flow rate through the meter at a specified pressure. "Meter size" refers to a group of meters that have similar capacity ranges. "Meter class performance," as used on page FBA-125, refers to a group of meters that are anticipated to have similar performance, such as a specific meter model.

As stated on page 163 of Exhibit SCG-04-CWP:

> Meters are grouped into two sizing groups, where the small and medium size meters are referred to as "size 1 through 3" meters, and the other being the large size meters referred to as "size 4 and above" meters. Size 1 through 3 meters are typical of residential and small commercial customers. The size 4 and above are typical of large commercial and industrial customers.

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4. Please respond to the following:
    a. Provide the 2009-2014 YTD labor and non-labor expenses and the number of meters replaced associated with SoCalGas' planned small meter replacement program as referenced on lines 23-24 of page FBA-125.
    b. When did SoCalGas first begin to capture field labor expenses for the small meter replacement program with Customer Services Field Department?
    c. Is the small meter replacement program different and separate from the Planned Meter Change-outs Program (PMC) or the Routine Meter Change-Outs Program (RMC)? Please identify and explain why there is a separation between this program and the PMC or RMC in SoCalGas forecasts.

SoCalGas Response 04:

NOTE: This question raises issues that extend beyond the scope and subject matter expertise of the Gas Distribution area. As stated on page FBA-125 of Exhibit SCG-04, "Field labor costs associated with SoCalGas' planned small meter replacement program are covered in the prepared direct testimony of Sara Franke, Exhibit SCG-10." As such, SoCalGas' response has been bifurcated as such:

- response to 4a was prepared by the Customer Services Field and AMI Policy witnesses (Sara Franke and Rene Garcia);
- response to 4b was prepared by Customer Services Field;
- response to 4c was prepared by Gas Distribution.

Any further inquiries should therefore be addressed to the responsible witness areas.

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Response to Question 4.a.:

Prepared by Customer Services Field (SCG-10) and AMI Policy (SCG-39):

Customer Services Field (CSF) can provide the number of meter replacements for 2009-2013, but does not track expenses at the level of detail requested. Notwithstanding, to provide some estimate of associated labor expenses for those years, please see below. Estimates of non-labor expenses are not available. 2014 data is not available.

Small Meter Replacements Completed by CSF					
	2009	2010	2011	2012	2013
Number of Small Meter Replacements*	160,715	163,639	137,864	116,196	77,899
Estimated CSF Labor Costs** (Shown in Thousands of 2013 Dollars)	$3,461	$3,612	$2,933	$2,475	$2,173

*Small meter replacements include planned meter changes (PMCs) and routine meter changes (RMCs).

** The estimated labor expenses for the small meter replacements completed by CSF are derived by using the average recorded on premise time per small meter change and the average 2013 labor rate for CSF technicians who perform small meter replacements. The costs exclude drive time and other ancillary costs not associated with the time to perform the activity. In 2009-2012 all labor was charged to O&M. Beginning in 2013, for curb meter replacements only, labor was split 50/50 between O&M and capital. Labor is charged 50/50 capital/O&M for curb meter replacements because the existing curb meters are incompatible with AMI technology.

Note, in addition to CSF-completed small meter replacements, the Advanced Metering Infrastructure (AMI) project team has also been performing small meter replacements in order to fully integrate with the scheduling and routing of AMI deployment. The number of small meter changes completed by CSF in 2013 excludes a total of 241,041 small meter changes that were completed as part of SoCalGas' Advanced Metering Infrastructure (AMI) implementation.

In order to adhere to the AMI implementation schedule, beginning in 2013, the AMI project assumed responsibility for above-ground PMCs, including both planned and accelerated meter changes, and CSF shifted its focus to curb meter changes. This trade-off (i.e., the AMI project team focusing on above-ground meters and CSF focusing on curb meters) enabled a better match between the work and employee skill sets. Over the course of the AMI deployment period (2013-2017), all GRC- and AMI-funded PMCs will be completed.

Please refer to the testimony and workpapers of witness Sara Franke, Ex. SCG-10 and SCG-10-WP, CSF and Meter Reading, for additional information regarding forecasted CSF meter changes (testimony pages SAF-9, SAF-11, and workpaper pages 52-54).

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Response to Question 4.b.:

Prepared by Customer Services Field (SCG-10):

With the exception of the small meter changes done as part of the AMI project, Customer Services Field has always performed small meter changes (sizes 1 through 3), whether part of the PMC program or routine meter changes (RMC). Explicit and direct labor expenses have never been tracked for each individual work order. However, CSF does track the on premise time to perform each and every work order, including meter change-out orders.

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Response to Question 4.c.:

Prepared by Gas Distribution (SCG-04):

The small meter replacements (sizes 1 through 3) include both planned meter change-outs and routine meter change-outs. Size 4 and larger meters are also replaced through both planned meter change-outs and routine meter change-outs. Planned meter change-outs are performed on a pre-determined replacement cycle, based on meter capacity, size, and meter class performance (meter family or group). Routine meter change-outs are a result of Company or customer-identified problems due to meter accuracy, age, or operation.

The size 1 – 3 meter forecasts were not separated in Gas Distribution's workpapers. They are combined, as shown in column [L] of Table 2 on page 171 of Exhibit SCG-04-CWP. Please see the response to question 5.b. below for more information.

Planned meter change-outs and routine meter change-outs were forecasted separately for the size 4 and larger meters. These forecasts and calculations are shown in columns [M] and [N] of Table 2 on page 171 of Exhibit SCG-04-CWP. The forecast for planned meter change-outs is based on meters currently scheduled for replacement (10-year replacement cycle). The forecast for routine meter change-outs is based on the five-year (2009-2013) average number of units replaced each year.

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5. Referring to page 171 of the workpapers, please provide the following:
    a. An explanation for the significant increase from 91,107 meters SoCalGas replaced in 2013 and the utility's forecast of 180,000 replacement each year from 2014-2016. Please include any and all workpapers and/or calculations used to support SoCalGas' forecasts.
    b. Provide a breakdown of the 180,000 size 1-3 meter replacements planned for each year from 2014-2016 for the (i) RMC and (ii) the PMC.
    c. Did SoCalGas perform any replacement of size 4+ meters as part of its PMC program? If yes, please provide the number of size 4+ meters replaced each year from 2009-2014 YTD as part of the PMC program. If no, please explain why it has not done so in previous years.
    d. Did SoCalGas perform any replacement of size 1-3 meters as part of its PMC program? If yes, please provide the number of size 1-3 meters replaced as part of its PMC program. If no, please explain why it has not done so in previous years.

SoCalGas Response 05:

NOTE: This question raises issues that extend beyond the scope and subject matter expertise of the Gas Distribution area. As stated on page FBA-125 of Exhibit SCG-04, "Field labor costs associated with SoCalGas' planned small meter replacement program are covered in the prepared direct testimony of Sara Franke, Exhibit SCG-10." As such, SoCalGas' response has been bifurcated as such:

- response to 5a was prepared by the Customer Services Field and AMI Policy witnesses (Sara Franke and Rene Garcia);
- responses to 5b and 5d were prepared by Customer Services Field;
- response to 5c was prepared by Gas Distribution.

Any further inquiries should therefore be addressed to the responsible witness areas.

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Response to Question 5.a.:

Prepared by Customer Services Field (SCG-10) and AMI Policy (SCG-39):

To clarify, the 91,107 meters shown in column [D] of Table 1 on page 171 of SCG-04-CWP are the number of meters purchased in 2013 with GRC capital funding. This is different than the number of small meters that were replaced in 2013. The number of meters replaced varies from year to year but, on average, SoCalGas expects to incur the cost of replacing approximately 180,000 meters per year, which consists of approximately 130,000 PMCs and 50,000 RMCs. The forecast is consistent with projected meter failure/replacement rates adopted by the Commission in Decision 13-05-010.

As explained in response to question 4.a. above, the vast majority of small meters replaced in 2013 were performed by the AMI project team. In addition, the majority of the small meters that were purchased in 2013 were funded by AMI. While AMI funded the purchase of more meters in 2013 and the GRC funded fewer meters in 2013, the timing of the purchases will ultimately balance out during the AMI deployment period (2013-2017) such that AMI will fund only the AMI authorized 650,000 meter replacements (explained below) and GRC will fund a comparable 650,000.

AMI was authorized funding to replace 650,000 “accelerated” PMCs in Decision (D.) 10-04-027. These accelerated PMCs are meters that would normally have been replaced in the 5 year period following AMI deployment (2018 through 2022) or approximately 130,000 accelerated PMCs each year of deployment. In conjunction with this, SoCalGas was authorized funding to replace 130,000 small meters (PMCs) annually in the 2012 GRC. In 2013, AMI purchased the majority of the meters, however, AMI will fund no more than the 650,000 meters that were authorized in D.10-04-027 and the GRC will fund the purchase of 650,000 “current” year PMCs over the 5-year deployment period (approximately 130,000 each year). The following tables provide an illustration of this.

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SoCalGas Response to Question 5.a., (Continued):

Prepared by Customer Services Field (SCG-10) and AMI Policy (SCG-39):

Authorized or Forecasted Small Meter Replacements

	2013	2014	2015	2016	2017	Total
GRC- PMCs	130,000	130,000	130,000	130,000	130,000	650,000
GRC- RMCs	50,000	50,000	50,000	50,000	50,000	250,000
GRC Total	180,000	180,000	180,000	180,000	180,000	900,000
AMI- Accelerated PMCs (2018-2022)	130,000	130,000	130,000	130,000	130,000	650,000

Actual or Estimated Small Meter Purchases for Meter Replacements *

	Actual	Estimated				
	2013	2014	2015	2016	2017	Total
GRC Funded	91,107	160,000	216,298	216,298	216,298	900,000
AMI Funded	288,232	195,000	166,768	-	-	650,000

* GRC meters purchased in 2013 include size 4 meters which are typically purchased in small volumes

Note: Currently, AMI funded meters are used to replace current year PMCs and accelerated PMCs that are completed by AMI. Once the AMI funding for the total number of accelerated PMC meters that was authorized in SoCalGas' AMI D.10-04-027 is exhausted, GRC will fund the remaining small meter replacements (current year PMCs and RMCs and the accelerated PMCs that have not been completed).

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Response to Question 5.b.:

Prepared by Customer Services Field (SCG-10):

The forecast of 180,000 meter changes per year includes 50,000 RMCs and 130,000 PMCs.

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Response to Question 5.c.:

Prepared by Gas Distribution (SCG-04):

Please note that the numbers shown in column [D] of Table 1 on page 171 of SCG-04-WP, labeled "Historical PMCs & Size 1-3 RMCs," correspond to meter purchases, which is not the same as meter installations / replacements. The table below shows the size 4 and larger meters replaced through planned meter change-outs in the years 2009 through 2013. The 2014 year-to-date PMCs is not readily available.

Year	2009	2010	2011	2012	2013
Size 4+ PMCs Completed	3,463	3,917	3,799	6,043	6,346

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Response to Question 5.d.:

Prepared by Customer Services Field (SCG-10):

The number of size 1-3 meters changed as part of the scheduled PMC program for the years 2009 through 2013 is provided in the following table. The number of 2014 YTD PMCs is not yet available.

Year	2009	2010	2011	2012	2013
Size 1-3 PMCs Completed	115,061	129,653	100,559	70,720	119,765

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6. Page 13 of the workpapers identifies the number of new meter set installations for years 2011-2013. Please provide the number of new meter set installations for 2009-2010 and 2014 YTD.

SoCalGas Response 06:

The historical new meter set installations are shown in Table FBA-21 on page FBA-90 of Exhibit SCG-04:

TABLE FBA-21
Southern California Gas Company
New Business Meter Installation History and Forecast

Year	2009	2010	2011	2012	2013	2014F	2015F	2016F
Number of New Meter Set Installations	31,828	26,585	18,764	21,898	26,787	35,089	40,339	44,894

As of the end of October 2014, SoCalGas has installed 25,445 new meter sets this year.