CFC DATA REQUEST
CFC-Sempra-2019 #9
SOCALGAS 2019 GRC – A.17-10-008
SDG&E 2019 GRC – A.17-10-007
DATE RECEIVED: MARCH 27, 2018
DATE RESPONDED: APRIL 10, 2018

1. SCG-01, page JBL-12, introduces the need for funding to address abnormal operating conditions:

> "As discussed in the Customer Services Field & Meter Reading testimony of Gwen Marelli (Exhibit SCG-18), incremental funding is also needed for ongoing and enhanced compliance with PHMSA-required meter set assembly (MSA) inspections and to remediate atmospheric corrosion and abnormal operating conditions identified during the MSA inspections. SoCalGas projects an average of over 2 million annual MSA inspections conducted during the GRC period."
>
> SCG-04, page GOM-23, comments on the link between personnel training and abnormal operating conditions:
>
> "SoCalGas trains and qualifies personnel working on pipelines in compliance with federal and state OpQual requirements. This training and qualification provides employees with the tools to understand operating procedures and recognize and address abnormal operating conditions."
> Page RFG-21 of SCG-17 discusses the role of Advanced Meters in detecting potential abnormal operating conditions:
>
> "Leveraging the AMI network and data can result in faster identification of abnormally high gas usage, which assists with investigating and responding to potential safety related situations more quickly. In addition, by discovering abnormally high gas usage and notifying customers, SoCalGas can reduce methane emissions at those facilities, saving energy and improving air quality while also reducing the potential financial burden resulting from higher usage."
>
> a. What proportion of abnormal operating conditions are attributable to leaks downstream of the customer meter, and what proportion upstream of the customer meter? Please explain. (For a reference time frame, please use the years 2012 through 2016.)

SDG&E and SoCalGas Response 01:

SoCalGas does not track what proportion of abnormal operating conditions are attributable to leaks.

During the period of 2012 through 2016, there were a total of 1.59 million leak orders handled by Customer Services – Field. Of this volume, 7.6% were leaks found at the MSA upstream of the gas meter, 0.8% were leaks found at the MSA downstream of the gas meter, and 0.1% were leaks found at the MSA both upstream and downstream of the gas meter leaks found at the MSA

SDG&E and SoCalGas Response 01 Continued:

are attributable to abnormal operating conditions. Leaks found at the MSA are attributable to abnormal operating conditions.

During the period of 2012 through 2016, there were approximately 20,400 leak orders handled by Gas Distribution Measurement & Regulation. Gas Distribution does not track whether the leaks were found upstream or downstream of the customer meter.

2. SCG-04, page GOM-5, discusses the impact of dealing with Aging Infrastructure:

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"SoCalGas has a long history of delivering safe and reliable natural gas service, notwithstanding the fact that a significant portion of the pipeline infrastructure has been in service for more than 50 years. Good maintenance practices have allowed SoCalGas to safely and reliably operate these pipeline facilities for this extended period, but this cannot continue forever. As the Company's pipeline infrastructure continues to age, it requires higher levels of maintenance, which results in higher costs. This eventually manifests itself in the need for capital replacement of those pipelines. SoCalGas attempts to maintain a reasonable balance between increased maintenance needs and eventual replacement."

a. As of the end of 2016, what were the average ages of each of a) SCG Mains, b) SCG Service Lines? By the end of 2021, if the replacements proposed in the Application are all carried out, what will be the average ages of each of a) SCG Mains, and b) SCG Service Lines?

SDG&E and SoCalGas Response 02:

SoCalGas objects to all portions of this question requesting 2021 forecasts under Rule 10.1 of the Commission's Rules of Practice and Procedure to the extent it seeks the production of information that is outside the scope of this GRC proceeding. Subject to and without waiving these objections, SoCalGas responds as follows: SoCalGas' filed application follows the Rate Case Plan, which identifies forecasts for a Test Year of 2019. SoCalGas has not forecasted for any period beyond 2019, which is addressed by the attrition mechanism.

SoCalGas forecasted its funding requirement for main replacements by using a five-year historical average from 2012-2016 and a five-year trend for service pipe replacements. SoCalGas did not forecast average ages of SCG Mains and SCG Service Lines. For the purpose of responding to the request, please see the table provided below containing SCG Mains and SCG Services data by decade of installation (age). that was extracted from the "Annual Report for Calendar Year 2016 Gas Distribution System," filed annually with the DOT. This table shows the age of active SCG Mains and SCG Service Lines by decade, along with the portion of the SCG Mains and SCG Services in that age category, as of the end of 2016.

As an example, to calculate the "average age" of mains in the decade encompassing 1980 to 1989, use the average of 1985. The difference between 1985 and 2016 is 31 years. Thus, the portion of mains at age 31 years is (9,576/50,356=) 19% of the total miles of main. The same calculations can be made with regards to SCG Service lines based on the table below.

SDG&E and SoCalGas Response 02 Continued:

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Miles of Gas Mains and Services by Decade of Installation [1] - (End of Year 2016)

	UNKNOWN	PRE-1940	1940-1949	1950-1959	1960-1969	1970-1979	1980-1989	1990-1999	2000-2009	2010-2019	TOTAL Miles	Average Age
Miles of Main	0	2,354	2,942	8,263	7,065	7,102	9,576	5,513	6,327	1,214	50,356	41
Number of Services [1]	0	58,168	124,734	599,536	587,800	700,235	1,066,470	525,030	595,200	174,129	4,431,302	36

Notes
1/Data Source - Annual Report for Calendar Year 2016-Gas Distribution System SCG, DOT Report OMB NO: 2137-0629
2/Miles calculated using the verage service length - 59 feet from the 2016 DOT Report

For the year 2021, SoCalGas cannot determine an average age of pipeline infrastructure because the age of the pipeline infrastructure to be replaced is unknown until actual replacement decisions are made. Moreover, as part of the ongoing maintenance of its system, SoCalGas replaces mains and services for reasons other than the age of its pipelines.

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3. SCG-04, page GOM-5, discusses the distinctions between gas distribution expenditures caused by aging infrastructure, system expansion and customer base growth:

a. Please tabulate the proposed O&M and capital costs that are associated with each of aging infrastructure, system expansion and customer base growth, over the years 2019 through 2021 (during the GRC term).

SDG&E and SoCalGas Response 03:

SoCalGas objects to the portion of this question requesting 2020-2021 forecasts under Rule 10.1 of the Commission's Rules of Practice and Procedure to the extent it seeks the production of information that is neither relevant to the subject matter involved in the pending proceeding nor is likely reasonably calculated to lead to the discovery of admissible evidence, and is outside the scope of this proceeding. Subject to and without waiving these objections, SoCalGas responds as follows:

SoCalGas' filed application follows the Rate Case Plan, which identifies forecasted costs for a Test Year of 2019. SoCalGas has not forecasted specific funding for the period beyond 2019, which is addressed by the attrition mechanism. Please see the tables below for the TY 2019 forecasted costs associated with O&M and Capital. SoCalGas interprets the costs below in Table 1 to be the forecasted O&M and Capital related expenses for aging infrastructure and the costs in Table 2 as the forecasted capital costs related to system expansion/customer base growth. SoCalGas interprets both categories to be the same because system expansion directly correlates with our customer base growth. The categories listed under Capital were chosen because they best represent the cost associated with system expansion/customer base growth.

*These categories capture expenses related to aging infrastructure and system expansion/customer base growth.

Table 1 – Aging Infrastructure (O&M)

Gas Distribution O&M (In thousands of 2016 $)	
Field Operations & Maintenance	**2019**
Locate & Mark	16,050
Leak Survey	10,711
Measurement & Regulation	14,888
Cathodic Protection	18,322
Main Maintenance	20,772
Service Maintenance	16,997
Field Support	21,069
Tools Fittings & Materials	10,307
Total	129,116

SDG&E and SoCalGas Response 03 Continued:

Gas Distribution Capital (In thousands of 2016 $)	
	2019
Main Replacements	33,711
Service Replacements	34,403
Supply Lines	4,209
Regulator Stations*	19,436
Cathodic Protection	9,511
Measurement & Regulation Devices*	37,037
Total	138,307

Table 2 – System Expansion/Customer Base Growth (Capital)

Gas Distribution Capital (In thousands of 2016 $)	
System Expansion	**2019**
New Business	50,393
Pressure Betterments	23,088
Regulator Stations*	19,436
Cathodic Protection	9,511
Measurement & Regulation Devices*	37,037
Field Capital Support	74,618
Total	214,083

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4. SCG-04, page GOM-53, discusses leak repair expenses, and notes that...

"SoCalGas has forecasted in this TY 2019 GRC an increase in the number of incremental leak repairs in 2017 and 2018 to 2,800 and 4,870, respectively for a total of 7,670 over this two-year period because the inventory has gone up since those assumptions were made in 2014. As such, anything incremental to those assumptions would require additional funding beyond the levels authorized in the TY 2016 GRC Decision (D.) 16-06-054. SoCalGas anticipates an incremental expense of approximately $19.2 million over these two years to complete the incremental work."

a. What were the leading 3 causes of hazardous leaks, for each of i) Mains and ii) Services, in each of 2016 and 2017?

b. What were the leading 3 causes of non-hazardous leaks, for each of i) Mains and ii) Services, in each of 2016 and 2017?

c. What is the base expenditure, above which the $19.2M is incremental?

SoCalGas Response 04:

a. Hazardous Leaks

i. The three leading causes for hazardous leaks on mains in 2016 and 2017 were Excavation Damage, Corrosion, and Pipe, Weld, or Joint Failure.

ii. The three leading causes for hazardous leaks on services in 2016 and 2017 were Corrosion, Excavation Damage, and Equipment Failure.

b. Non-Hazardous Leaks

i. The three leading causes for non-hazardous leaks on mains in 2016 were Corrosion, Incorrect Operations, and Pipe, Weld, or Joint Failure. The three leading causes in 2017 were Corrosion, Equipment Failure and Pipe, Weld, or Joint Failure.

ii. The three leading causes for non-hazardous leaks on services in 2016 and 2017 were Corrosion, Equipment Failure, and Pipe, Weld, or Joint Failure.

c. Please refer to column I of the supplemental workpaper located on page 68 of SCG-04-WP_GDIST for the base expenditures in 2017 and 2018.

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5. Page 57 of SCG-04-CWP, describes the forecast method for the Non-Labor cost components of Service Replacements:

> "The non-labor expenditures were also calculated using the historical five-year (2012 through 2016) linear trend. This methodology was selected because it complements the labor component in that it best represents the volume of work performed by pipeline contracts and third-party services. It also captures the increasing cost in paving services, municipal permit and inspector fees, and materials cost."
>
> a. Please explain whether Sempra has observed that the costs for each of i) paving, ii) permitting and inspections, and iii) materials have demonstrated that they are increasing at approximately 10% per year.

SoCalGas Response 05:

SoCalGas used a five year historical (2012-2016) linear trend to forecast the non-labor expenditures related to service replacements. The costs for paving, permitting and inspection are included in this base forecast; therefore, SoCalGas anticipates these costs to continue to increase at the rate of service over the five-year historical period (2012-2016). SoCalGas did not use the 10% incremental factor referenced in the question above nor is it aware how it was determined.
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6. The response to CFC-DR#1-Q23a refers to SCG-04-R, pages GOM-103 through -106:

"SoCalGas chose the five-year (2012 through 2016) linear trend to forecast the funding requirement for the years 2017 through 2019. Please refer to Ex. SCG-04-R, pages GOM-103-106 and Ex. SCG-04-CWP, pages 56-57 for further details."

Page GOM-104 of SCG-04-R, explains that...

"In general, older pipelines and pipe without cathodic protection tend to have higher levels of leakage. As of the end of 2016, SoCalGas had approximately 58,168 pre-1940 service lines and approximately 853,405 service lines without cathodic protection. Although these service line categories are not the only pipelines where replacements occur, they highlight the need to continue to focus on service replacements. Furthermore, SoCalGas' effort to significantly reduce the non-hazardous leak inventory will result in the need to replace more service lines with the purpose of mitigating further leakage."

a. How many pre-1940 service lines were there at the end of 2013?

b. At the current rate of replacement, at what future year will all pre-1940 services lines have been replaced?

SoCalGas Response 06:

a. Per the 2013 SoCalGas Distribution DOT Report, there were approximately 49,291 pre-1940 service lines.

b. SoCalGas did not specifically forecast a rate of replacement where all pre-1940 services lines would be replaced. Please refer to page MTM-26, lines 3-13 under the direct testimony of Ms. Maria Martinez for additional details on the Bare Steel Replacement Plan (BSRP) that focuses on the replacement of bare steel pipe.