CUE DATA REQUEST
CUE-SCG-DR-03
SOCALGAS 2019 GRC – A.17-10-008
SOCALGAS FOLLOW-UP RESPONSE
DATE RECEIVED: MARCH 20, 2018
DATE RESPONDED: FEBRUARY 8, 2018
SUPPLEMENTAL: APRIL 6, 2018

176. Ex. SDGE-04, p. 3, says that SDG&E has approximately "385 distribution employees" who are responsible for "maintaining safe and reliable operation of the gas distribution system."

a. Is there a corresponding number for SCG in its GRC filing? If so, Please identify where it can be found.

b. For year end 2012-2017, inclusive, please provide:

i. The number of SCG employees who "are responsible for maintaining safe and reliable operation of the gas distribution system"

ii. The number of customers on the SCG gas distribution system.

iii. The ratio of customers per SCG employee for the SCG gas distribution system

c. On a forecast basis, for year end 2018-2022 (i.e., through the proposed GRC period), please provide SCG's forecast of:

i. The number of SCG employees "responsible for maintaining safe and reliable operation of the gas distribution system"

ii. The number of customers on the SCG gas distribution system.

iii. The ratio of customers per SCG employee for the SCG gas distribution system

SoCalGas Supplemental Response 176:

The corresponding tables provided below represent the FTEs in SoCalGas Gas Distribution. The FTEs are calculated by taking the total annual hours worked (straight-time and overtime hours) and dividing this number by the total annual hours in that year.

The FTE values in Table 176-1 represent the employees in field related activities from the following O&M workpapers: Field Support, Leak Survey, Locate & Mark, Main Maintenance, Service Maintenance, Measurement & Regulation, and Cathodic Protection, Asset Management, and Operations Management FTEs. The following categories are separated by O&M field and office operations.

The FTEs for Capital represent the values from BC 903, which include technical planning, local engineering, scheduling, dispatch, field management, and supervision.

SoCalGas Supplemental Response 176 Continued:

Also provided below in Table 176-2 are the SoCalGas Gas Distribution headcounts representing responding field personnel. This includes: lead construction tech, construction tech, energy tech, System protection specialist, system protection tech, system protection specialist planner lead measurement and regulation tech, measurement & regulation tech #1, and measurement & regulation tech #2. It is not possible to breakdown these headcounts into O&M and Capital because their job duties may often overlap between the two.

Table 176-1: SoCalGas Gas Distribution FTEs 2012-TY2019

	Actuals						Forecast	
	2012	2013	2014	2015	2016	2017	2018	2019
Number of SoCalGas Gas Distribution Field O&M FTEs	782.8	793.3	856.6	838.5	850.2	905.9	1004.8	1069.8
Number of SoCalGas Gas Distribution Asset and Operations Management FTEs	99.9	105.2	114.3	108.4	100.1	94.6	107.9	93.0
Number of SoCalGas Gas Distribution Capital BC903 FTEs	480.5	517.4	558.6	638.5	692.9	683.8	782.3	831
Total Number of SoCalGas Gas Distribution FTEs	1263.3	1310.7	1415.2	1477	1543.1	1589.7	1787.1	1900.8

Table 176-2: SoCalGas Gas Distribution Headcount 2012-2017

	Actuals					
	2012	2013	2014	2015	2016	2017
Number of SoCalGas Gas Distribution Field Headcount	949	925	922	920	933	952
Total Number of SoCalGas Gas Distribution Headcount	1,725	1,704	1,743	1,818	1,915	1,881

SoCalGas Original Response 176:

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a. Please refer to the revised testimony of Gina Orozco-Mejia Ex. SCG-04-R on page GOM-4, line 1 for number of distribution employees.
b. Please see the table below for the requested values and ratios.
   i. The value provided in the table below represents the number of SoCalGas Gas Distribution employees. This does not include the organizations that support the Gas Distribution organization.
   ii. The number of customers on the SoCalGas Gas Distribution system is represented by the total of historical active meters from 2012-2016 provided from the testimony of Rose-Marie Payan Ex. SCG-39. The value for 2017 is the forecasted number from Ex. SCG-39.

	Actuals					
	2012	2013	2014	2015	2016	2017
(i) Number of SoCalGas Gas Distribution Employees	1,725	1,704	1,743	1,818	1,915	1,881
(ii) Number of Active Meters	5,576,355	5,606,113	5,639,161	5,667,128	5,700,917	5,743,853
(iii)Active meters/SoCal Gas Distribution Employee	3,233	3,290	3,235	3,117	2,977	3,054

c. SoCalGas objects to all portions of this question requesting 2020-2022 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: This data is not available. 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 years beyond 2019, which is addressed by the attrition mechanism. SoCalGas has forecasted Gas Distribution Operations and Maintenance (O&M) expenses for 2017-2019 necessary to support the TY 2019 GRC filing, as presented in Ex SCG-04-WP and the direct revised testimony of Gina Orozco-Mejia Ex. SCG-04-R.

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179. Ex. SCG-4, p. 5:11-12 indicates that maintenance cost increases with pipeline infrastructure age. Please provide:

a. As of the end of each year from 2012-17, inclusive, the average age of SCG's pipeline infrastructure.

b. For each year from 2012-2017, the maintenance expenditures for pipeline infrastructure.

c. SCG's forecast of the average age of its pipeline infrastructure as of the end of each year from 2018-2022, inclusive.

d. SCG's forecast of its annual expenditures for maintenance of its pipeline infrastructure for each year from 2018-22, inclusive.

e. SCG's best estimate(s) of the elasticity it describes in its testimony. In other words, what is the percentage increase in maintenance costs per percent increase in pipeline infrastructure age?

SoCalGas Supplemental Response 179:
Part a: The DOT Distribution reports are attached for years 2012-2016 under the files named, "CUE-03-DR-Q179-SUPP-DOT-Report-2012", "CUE-03-DR-Q179-SUPP-DOT-Report-2013", "CUE-03-DR-Q179-SUPP-DOT-Report-2014", "CUE-03-DR-Q179-SUPP-DOT-Report-2015", "CUE-03-DR-Q179-SUPP-DOT-Report-2016", and "CUE-03-DR-Q179-SUPP-DOT-Report-2017." The 2017 DOT report is broken down by miles installed per year for mains and services provided in attachment "CUE-02 Supplemental."

Part c:
For years 2017-2019, SoCalGas did not forecast the miles of mains and services to be replaced. However, 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. For the purpose of responding to the request for a forecast of pipe replacements for the years 2017 – 2019, one could assume a five-year average for main pipe and a five year-trend for service pipe. Please see Table 179 below. For years 2018-2022, 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.

Table 179 – Forecasted Miles of Replacement

Forecasted Miles of Replacement	2017	2018	2019
Mains	34	34	34
Services [1]	140.8	149.5	158.2

[1]Note: Services to be an estimated 60 ft per service per 2017 DOT Report

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SoCalGas Original Response 179:

SoCalGas objects to all portions of this question requesting 2020-2022 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 years beyond 2019, which is addressed by the attrition mechanism.

a. SoCalGas objects to this request under Rule 10.1 of the Commission's Rules of Practice and Procedure on the grounds that the burden, expense and intrusiveness of this request clearly outweigh the likelihood that the information sought will lead to the discovery of admissible evidence. Subject to and without waiving the foregoing objection, SoCalGas responds as follows: The "average age" of the infrastructure for a specific year from 2012 through 2017 is not information that can be derived, as the data is not readily available or is in a format that does not allow an accurate assessment. As a substitute for this request, the following information is offered:

   For purposes of this response, SoCalGas will define the pipeline infrastructure as the total miles of pipeline mains and services. Referring to the table below, which is pipeline data by decade of installation (age) and available in the "Annual Report for Calendar Year 2016 Gas Distribution System" filed annually with the DOT, the sum of miles of mains and services (pipeline infrastructure) are shown. This table will therefore present the age of the active infrastructure in decades along with the portion of the infrastructure at that age.
   As an example, calculation to find the "average age" of the infrastructure in the 1980 to 1989 decade, use the average of 1985. 2016-1985 = 31 years. And to calculate the portion of the infrastructure at that age = 21,493/99,872 = 21.5% of the infrastructure is 31 years old.

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 of Main	-	2,354	2,942	8,263	7,065	7,102	9,576	5,513	6,327	1,214	50,356
Miles of Services [2]	-	650	1,394	6,699	6,568	7,825	11,917	5,867	6,651	1,946	49,516
Total Services and Mains	-	3,004	4,336	14,962	13,633	14,927	21,493	11,380	12,978	3,160	99,872

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

SoCalGas Original Response 179 Continued:

b. Historical Operations and Maintenance (O&M) expense for the period 2012 through 2016 can be found in workgroups 2GD000.000 through 2GD004.000 of Exhibit SCG-04-WP. This contains historical data for the complete set of the gas distribution workpapers. With the breakdown in O&M historical expense in these 10 groups, specific expenses of interest can be found by group. Financial data for year-end 2017 is not yet available

c. SoCalGas does not forecast the average age of its pipeline infrastructure.

d. Forecasted Operations and Maintenance (O&M) expense for the period 2017 through 2019 can be found in workgroups 2GD000.000 through 2GD004.000 of Exhibit SCG-04-WP. This contains the forecasts for the complete set of the gas distribution workpapers. With the breakdown in O&M expense forecasts in these 10 groups, specific forecasts of interest can be found by group. SoCalGas did not explicitly forecast expenses for maintenance of pipeline infrastructure beyond TY 2019. Please see the testimony of Jawaad Malik Exhibit SCG-44, which describes SoCalGas' proposal to provide an appropriate level of authorized revenues in 2020, 2021, and 2022.

e. SoCalGas does not forecast the percentage increase in maintenance costs per percent increase in pipeline infrastructure age.

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189. Ex. SCG-4, pp. 52:27-54:4, discusses Leak Repairs.

a. Is it correct that SB 1371 work is focused on Grade 3 leaks and this section of SCG's testimony addresses repairs to Grade 1 and 2 leaks, so that there is no overlap between the two sets of leak repair costs? If not, please explain.

b. To clarify SCG's discussion of backlogged leak repairs, and the additional data regarding leak repair quantities in Ex. SCG-04, p. 85:21-24) please provide a table showing the following data for each year from 2012-17, inclusive (actuals) and 2018-22, inclusive (forecast):

i. Start of year backlog of known-but-not-yet repaired leaks, by Grade
ii. Number of those already-known leaks repaired during the year, by Grade

iii. New leaks detected that year, by Grade

iv. Number of those newly detected leaks repaired during that same year that they were detected

v. If disaggregated data requested in subparts (ii) and (iv) is not available, please provide the total number of leaks repaired during the year, by Grade

vi. Average cost per leak repaired, by grade if available and otherwise in aggregate, for that year

c. Please confirm that the forecast data provided in response to subpart (b) of this question accounts for changes in leak find rates expected to occur due to changes in leak inspection cycles.

d. Please describe any planned changes in leak detection technologies, and their expected impacts on the leak detection rates and leak repair rates provided in the responses to subpart (b) of this question.

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SoCalGas Supplemental Response 189:

For years 2017-2019, SoCalGas did not forecast total number of leaks to be repaired, instead the funding requirement was calculated using a five-year (2012 – 2016) historical trend. For the purpose of responding to the request for a forecast of leaks for the years 2017 – 2019, one could make the following assumptions to estimate the figures provided in the table below: parts (i) and (iii) are based on a five-year linear historical trend. The data provided for part (ii) was calculated by assuming that the base forecast amount found on workpaper 2GD000.003, Main Maintenance, represents all leaks and dividing the forecast by the leak repair unit cost, $2,500. This includes both leaks associated with the base forecast and incremental activities.

While forecasts past this GRC cycle are not required, and SoCalGas would consider such forecasts to be speculative, one simplistic method is a continuation of the five-year linear trend for additional future years.

	Actuals	**Forecasted**		
Number of leaks Forecasted	**2017**	**2017**	**2018**	**2019**
(i) Total # of leaks in inventory	10,653	9,778	10,150	10,521
(ii) Total # of leak repairs	5,001	8,678	11,012	8,806
(iii) Total # of new leak indications detected	18,170	18,242	19,132	20,023

SoCalGas Original Response 189:

a. In general, the best practices addressed by SB 1371 focus on methane emission reductions, while the GRC request for Gas Distribution focuses on SoCalGas' funding forecast required to operate and maintain its natural gas distribution system and construct new gas distribution facilities. There is no overlap between the best practices proposed as part of SB 1371 and the funding request for Gas Distribution in the TY 2019 GRC. SB 1371 Rulemaking 15-01-008, is a separate proceeding being handled outside of the GRC proceeding. The request in the GRC includes leak repairs for all code types found during the routine work as well as the incremental work addressing the leak inventory. SB 1371 includes incremental leaks associated with the proposed best practices and could be leaks of any code. This work is not included in the GRC request.

b.

i. Please see the table below regarding the inventory of known-but-not-yet repaired leaks by grade for 2012 through 2017.

Grade of Leak	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**
Code 1	160	144	244	281	284	211
Code 2	988	482	497	543	539	586
Code 3	7,132	7,287	7,997	7,604	8,764	9,777

AG Hazardous	-	-	-	35	51	22
AG Non-Hazardous	-	-	-	133	157	57
Total	8,280	7,913	8,738	8,596	9,795	10,653

ii. Please see the table below regarding the number of already-known leaks repaired by grade for the years of 2012 through 2017.

Grade of Leak	2012	2013	2014	2015	2016	2017
Code 1	143	139	235	262	271	185
Code 2	975	473	493	526	530	551
Code 3	2,235	2,436	3,737	2,388	2,490	4,189
AG Hazardous	-	-	-	29	49	21
AG Non-Hazardous	-	-	-	129	157	55
Total	3,353	3,048	4,465	3,334	3,497	5,001

iii. Please see the table below regarding the number of new leaks detected by grade for 2012 through 2017.

Grade of Leak	2012	2013	2014	2015	2016	2017
Code 1	6,698	6,839	6,499	5,842	5,790	6,908
Code 2	2,925	3,263	2,224	1,309	1,266	1,583
Code 3	3,090	4,680	5,318	4,750	4,497	4,836
AG Hazardous	-	-	1,010	1,772	1,591	1,419
AG Non-Hazardous	-	-	2,098	3,620	2,767	3,424
Total	12,713	14,782	17,149	17,293	15,911	18,170

iv. Please see the table below regarding the number of newly detected leaks repaired within the same year of detection during 2012 through 2017.

2012	2013	2014	2015	2016	2017
9,727	10,909	12,826	12,760	11,556	13,066

v. Please see the table below for the total number or leaks repaired during 2012 through 2017 by grade.

Grade of Leak	2012	2013	2014	2015	2016	2017
Code 1	6,714	6,739	6,462	5,839	5,863	6,604
Code 2	3,431	3,248	2,178	1,313	1,219	1,308
Code 3	2,935	3,970	5,711	3,590	3,484	5,495
AG Hazardous	-	-	975	1,756	1,620	1,423
AG Non-Hazardous	-	-	1,965	3,596	2,867	3,237
Total	13,080	13,957	17,291	16,094	15,053	18,067

vi. Please see the table below.

Average Unit Cost	2012	2013	2014	2015	2016	2017
Leak Repair - Main	$1,998	$1,885	$ 2,031	$ 2,531	$ 2,634	$ 2,703
Leak Repair - Service	$ 615	$ 554	$ 541	$ 593	$ 658	$ 826

c. SoCalGas objects to all portions of this question requesting 2020-2022 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 years beyond 2019, which is addressed by the attrition mechanism. SoCalGas used the historical (2012-2016) five-year expense trend plus incremental to forecast the amount of expenditures needed to address the growing number of leaks in the system for 2017-2019.

d. SoCalGas objects to this request as overly broad, unduly burdensome, vague and ambiguous with respect to the phrase "planned changes in leak detection technologies," and exceeding the scope of permissible discovery under Rule 10.1, of the Commission's Rules of Practice and Procedure. SoCalGas further objects to the request in that it seeks information that may be outside the scope of this proceeding, as changes in leak detection technologies, and their expected impacts on the leak detection rates and leak repair rates are part of the scope of the SB 1371 Rulemaking 15-01-008. Subject to and without waiving the foregoing objection, SoCalGas responds as follows:
SoCalGas has no plans to change the current leak detection technologies at this time; however, on an ongoing basis, SoCalGas conducts testing of available technologies.

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192. Ex. SCG-4, p. 98:9-11, SCG's "Supply Line Replacements" testimony says that SCG gas has 3700 miles of "supply lines," some built as long ago as the 1920s, which operate at pressures greater than 60 psi.

a. Please confirm that SCG uses the term "supply lines" to refer to gas pipelines that are part of the SCG distribution system, but are considered high pressure lines because they operate at above 60 psi. If that is not correct, provide SCG's definition of a "supply line"

b. Please provide a table, in Excel format, showing for each year from 1920 through 2017, inclusive, the number of miles of supply line built in that year that were still in service as of the end of 2017.

c. If the sum of the mileages listed in the response to subpart (b) of this question is not approximately 3700 miles, please provide a quantitative reconciliation with SCG's claim that it has "approximately 3700 miles" of supply lines.

d. For each year from 2012-2017, inclusive, please provide the number of miles of supply lines that were replaced that year, split between proactive replacements and reactive replacements after in-service failures (if any).

e. For each year from 2018-2022, inclusive, please identify the number of miles of supply lines that SCG intends to replace that year, split between proactive and reactive replacements.

f. What is SCG's best estimate of the average service life for a supply line?

g. What is SCG's best estimate for the maximum life expectancy for a supply line?

SoCalGas Supplemental Response 192:
Part b.: please see the attached Excel sheet “CUE-02 Supplemental” for the 2017 DOT regulated Distribution high-pressure mains installed by year.

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SoCalGas Original Response 192:

a. Yes, the term "supply lines" refers to SoCalGas pipelines operating over 60 psi, managed by Gas Distribution.

b. From the DOT Reports required by CFR 192, please see line five (5) in the table provided below regarding the number of supply lines in service. To calculate the miles of supply line installed by decade that is currently in service, apply the percentage provided in line five (5) to the respective cell in line three (3). As an example, the calculation to find the miles of pre-1940 supply lines installed that is currently in service is: 0.09 x 2354 = 219.9 miles of pre-1940 supply lines that are still in service as of the end of 2016. This calculation applies to all responses in this data request to translate percentage to miles using the data in the table below.

SCG 2016 DOT Distribution Report, Part B Section 1

		STEEL										
		UNPROTECTED		CATHODICALLY PROTECTED								
		BARE	COATED	BARE	COATED	PLASTIC	CAST/WROUGHT IRON	DUCTILE IRON	COPPER	OTHER	RECONDITIONED CAST IRON	SYSTEM TOTAL
1	MILES OF MAIN	3,287	4,667	0	18,198	24,204	0	0	0	0	0	50,356
2	NO. OF SERVICES	139	853,266	20	736,634	2,841,243	0	0	0	0	0	4,431,302

SCG 2016 DOT Distribution Report, Part B Section 4

		UNKNOWN	PRE-1940	1940-1949	1950-1959	1960-1969	1970-1979	1980-1989	1990-1999	2000-2009	2010-2019	TOTAL
3	Miles of Main Installed (DOT Reported)	0	2354	2942	8263	7065	7102	9576	5513	6327	1214	50356
4	Number of Services (DOT Report)	0	58168	124734	599536	587800	700235	1066470	525030	595200	174129	4431302
	Subset, Miles of Mains by Decade											
5	Miles of Supply Lines	0	9%	11%	6%	7%	7%	4%	8%	5%	6%	6%
6	Miles of Steel Main (<60psig)	0	91%	89%	94%	93%	36%	10%	5%	1%	3%	45%
7	Miles of Plastic Main	0	0%	0%	0%	0%	57%	86%	87%	94%	91%	48%
	Subset, Service Counts by Decade											
8	Count of Steel Services	0	100%	100%	100%	100%	28%	1%	1%	1%	3%	35%
9	Count of Plastic Services	0	0%	0%	0%	0%	72%	99%	99%	99%	97%	65%

The DOT report for 2017 will not be available until the end of first quarter of 2018.

c. The sum of mileages provided include both DOT-defined transmission lines and high-pressure lines that do not meet the DOT definition of transmission lines. SoCalGas continuously evaluates the number of high-pressure pipeline miles in its system. After its most recent evaluation, SoCalGas determined that the number of high-pressure pipeline miles managed by Gas Distribution is closer to 3,994 miles. Of that total, there are 714 miles of high-pressure supply lines that are included in the DOT Transmission Report and 3,280 miles of supply lines in the SoCalGas Gas Distribution system.

SoCalGas Original Response 192 Continued:

d. For the purpose of this question, SoCalGas is assuming abandoned Supply Line pipe as a proxy for Supply Line replacements. Please see the table below regarding the miles of abandoned Supply Lines during the years of 2012-2016. SoCalGas does not track Supply Line replacements by proactive and reactive replacements. The 2017 data is currently not available.

	2012	2013	2014	2015	2016
Total Installed Miles	4.7	2.1	2.7	-	0.4

e. SoCalGas did not use the Supply Line mileage for forecasting. Instead, SoCalGas estimated the expenditures for the years 2017 through 2019 based on a historical average of recorded expenditures from 2012 through 2016. Based on the number of variables involved in these larger scale projects, the historical average is a more reliable predictor of future work requirements and expected expenditures, as it takes into account typical fluctuations in supply line project costs from year to year.

f. Supply lines, as defined by SoCalGas in response to Question 192(a) above, are capitalized to Federal Energy Regulatory Commission (FERC) Account 376 – Distribution Mains. Per Exhibit SCG-36-R (Revised Direct Testimony of Flora Ngai), the proposed average service life for assets in FERC Account 376 is sixty-eight (68) years. Please see Exhibit SCG-36-R at pages 18:26 – 19:3 for more information.

g. As shown in Exhibit SCG-36-R-WP (Revised Workpapers to Prepared Direct Testimony of Flora Ngai) on page 172, the maximum life expectancy for a supply line FERC Account 376 is approximately 120 years.

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193. Ex. SCG-4, pp. 100-102, discusses Main Replacements for SCG's "approximately 51,070 miles of steel and plastic main." Ex. SCG-4-CWP, p. 45 says SCG's "distribution medium pressure system is comprised of approximately 47,093 miles of steel and plastic pipeline."

a. Please provide a table, in Excel format, showing for each year from the earliest year in which mains (but not supply lines, which were addressed in the previous question) were installed that are still operating, through 2017, inclusive:

i. the number of miles of steel mains installed in that year that were still in service as of the end of 2017, and the number of those miles that were "cathodically-unprotected" (Ex. SCG-4, p. 101:16).

ii. the number of miles of plastic mains installed in that year that were still in service as of the end of 2017.

b. If the sum of the mileages listed in the response to subpart (a) of this question is not approximately 47,093 miles, please provide a quantitative reconciliation with SCG's claim that it has "approximately 47,093 miles" of distribution gas mains.

c. For each year from 2012-2017, inclusive, please provide the number of miles of steel gas mains that were replaced that year, split between proactive replacements and reactive replacements after in-service failures (such as leakage, as referenced in Ex. SCG-4, p. 100:19-20).

d. For each year from 2012-2017, inclusive, please provide the number of miles of plastic gas mains that were replaced that year, split between proactive replacements and reactive replacements after in-service failures (such as leakage, as referenced in Ex. SCG-4, p. 100:19-20).

e. For each year from 2018-2022, inclusive, please identify the number of miles of steel mains that SCG expects to replace that year, split between proactive and reactive replacements.

f. What is SCG's best estimate of the average service life for a steel main?

g. What is SCG's best estimate for the maximum life expectancy for a steel main?

h. For each year from 2018-2022, inclusive, please identify the number of miles of plastic mains that SCG expects to replace that year, split between proactive and reactive replacements.

i. What is SCG's best estimate of the average life expectancy for a steel main?

j. What is SCG's best estimate for the maximum life expectancy for a steel main?

k. Please provide actual costs for each year from 2012-2017, inclusive, and forecast costs for each year from 2018-22, inclusive, per mile of:

i. Steel main replacement

ii. Plastic main replacement

l. Please confirm that the responses to subparts (a) , (c) and (d) of this question match the totals in SCG's testimony regarding miles of older pipe (Ex. SCG-4, p. 101:14-16) and miles of pipe replaced (Ex. SCG-4, p. 101:11-12). If they do not, please provide a quantitative reconciliation of the mileage data in the testimony and the mileage data in the response to this data request.

m. Combining the approximately 47,093 miles of distribution medium pressure pipelines and the approximately 3700 miles of distribution supply lines (Ex. SCG-4-WP, pp. 36 and 45) gives a total of approximately 50,793 miles of distribution pipelines of all types. Please reconcile this number with the 51,070 miles of pipeline SCG reports in Ex. SCG-4, p. 100:10-11 for distribution mains alone.

SoCalGas Supplemental Response 193:
Part a.: please see the attached Excel sheet "CUE-02 Supplemental" columns C-E, starting at row 17, for the 2017 DOT regulated Distribution medium-pressure mains installed by year.

SoCalGas Original Response 193:

SoCalGas objects to all portions of this question requesting 2020-2022 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

SoCalGas Original Response 193 Continued:
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 years beyond 2019, which is addressed by the attrition mechanism.

a. Please refer to the table provided in answer to Question 192.b.
   i. Please refer to line 6 in the table provided in answer to Question 192.b.
   ii. Please refer to line 7 in the table provided in answer to Question 192.b.

b. Based on the table provided in the response to Question 192.b the sum of main mileage excluding supply lines are approximately 47,092 miles of distribution gas mains.

c. Please see the table below for the number of miles of steel gas mains that were replaced between 2012-2016. The 2017 data is currently not available.

	2012	**2013**	**2014**	**2015**	**2016**
Miles of Steel gas mains replaced	42.0	41.8	23.8	11.0	4.0

d. Please see the table below regarding the number of miles of plastic gas mains replaced between 2012-2016. The 2017 data is currently not available.

	2012	**2013**	**2014**	**2015**	**2016**
Miles of Plastic gas mains replaced	-	0.13	1.8	11.0	24.0

e. SoCalGas did not forecast the number of steel mains that is expected to be replaced. SoCalGas used a five-year (2012 through 2016) historical average cost to forecast main replacement costs in the years 2017 through 2019.

f. Steel mains are capitalized to Federal Energy Regulatory Commission (FERC) Account 376 – Distribution Mains. Per Exhibit SCG-36-R (Revised Direct Testimony of Flora Ngai), the proposed average service life for assets in FERC Account 376 is sixty-eight (68) years. Please see Exhibit SCG-36-R at pages 18:26 – 19:3 for more information

g. As shown in Exhibit SCG-36-R-WP (Revised Workpapers to Prepared Direct Testimony of Flora Ngai) on page 172, the maximum life expectancy for a steel main within FERC Account 376 is approximately 120 years.

SoCalGas Original Response 193 Continued:

h. SoCalGas did not forecast the number of miles of plastic mains expected to be replaced. SoCalGas used a five-year (2012 through 2016) historical average cost to forecast main replacement costs in the years 2017 through 2019.

i. Steel mains are capitalized to Federal Energy Regulatory Commission (FERC) Account 376 – Distribution Mains. Please refer to the response to Question 193.f above.

j. Please refer to the response to Question 193.g above.

k. Please see the table below regarding costs associated with steel and plastic main replacements.

2016 Dollars ($000)	2012	2013	2014	2015	2016
i. Costs of Steel main replacement	$1,206	$ 2,492	$ 1,345	$ 1,808	$3,754
ii. Costs of Plastic main replacement	$ 36,408	$41,529	$26,927	$24,559	$28,528
Total Cost of Main Replacement	$ 37,614	$ 44,021	$28,272	$26,367	$32,282

l. SoCalGas confirms that the responses provided in answering Question 193 subpart (a), (c) and (d) match with the totals within the revised testimony of Gina Orozco-Mejia regarding miles of older pipe Ex. SCG-04-R, GOM-102, Line 14-16 and the miles of pipe replaced Ex. SCG-04-R, GOM-102, lines 11-12.

SoCalGas' revised testimony Ex. SCG-04-R, GOM-102, Line 14-16 states, *As of the end of 2016, SoCalGas had approximately 2,354 miles of pre-1940 main and approximately 3,287 miles of are cathodically-unprotected main.*

In agreement with the above statement, the table provided in response to Question 192.b line 3 under 'Pre-1940' states the same.

Moreover, the responses provided in Question 193 subpart (c) and (d) match with the statement from SoCalGas' revised testimony Ex. SCG-04-R, GOM-102, Line 11-12 that states, *SoCalGas replaced an average of 32 miles of pipe per year under this work category during the period of 2012 through 2016.*

When taking the sum of Steel gas mains and Plastic gas mains replaced from Question 193 subpart (c) and (d), the average total replacement of miles of pipe results in approximately 32 miles per year, consistent with SoCalGas' revised testimony.

SoCalGas Original Response 193 continued:

m. SoCalGas continuously evaluates the number of miles of high-pressure pipe in its system. After further review of its data, SoCalGas has determined that the number of high-pressure pipeline miles managed by Gas Distribution is closer to 3,994 miles. Of that total, there are 714 miles of high-pressure supply lines that are accounted on the DOT Transmission Report and an additional 3,280 miles of supply lines in the SoCalGas Gas Distribution system. With a current valuation of 3,994 miles of supply lines combined with approximately, 47,093 miles of distribution medium-pressure mains, the aggregate amounts to approximately 51,087 miles of SoCalGas distribution mains.

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194. Ex. SCG-4, pp. 103-105, discusses gas service replacements, which are described in terms of total mileage, steel mileage, plastic mileage, number of service lines, and number of service lines without cathodic protection. Please provide an age distribution table as of the end of 2017, in Excel format, showing for 2017 and each preceding year:

a. Miles of steel service installed that year

b. Miles of plastic services installed that year

c. Miles of steel services installed that year that are currently cathodically unprotected

d. Number of steel service lines installed that year

e. Number of plastic service lines installed that year

f. Number of steel service lines installed that year that are currently cathodically-unprotected

g. What is SCG's best estimate of the average life expectancy for a cathodically protected steel service?

h. What is SCG's best estimate for the maximum life expectancy for a cathodically protected steel service?

i. What is SCG's best estimate of the average life expectancy for a cathodically-unprotected steel service?

j. What is SCG's best estimate for the maximum life expectancy for a cathodically-unprotected steel service?

k. What is SCG's best estimate of the average service life for a plastic service? To the extent they differ, please provide independent estimates for pre-1973 plastic, pre-1986 plastic, and post-1985 plastic.

l. What is SCG's best estimate for the maximum life expectancy for a plastic service? To the extent they differ, please provide independent estimates for pre-1973 plastic, pre-1986 plastic, and post-1985 plastic.

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m. For each year from 2012-2017, inclusive, please provide the following data regarding service replacements:

i. Miles of cathodically-unprotected steel services replaced

ii. Number of cathodically-unprotected steel services replaced

iii. Miles of steel services of all types replaced

iv. Number of steel services of all types replaced

v. Miles of plastic services replaced (with separate data for pre-1973 and post-1985 plastic, if available)

vi. Number of plastic services replaced (with separate data for pre-1973 and post-1985 plastic, if available)

vii. Cost per mile to replace cathodically-unprotected steel services

viii. Cost per mile to replace steel services of all types

ix. Cost per mile to replace plastic services

x. Cost per service to replace cathodically-unprotected steel services

xi. Cost per service to replace steel services of all types

xii. Cost per service to replace plastic services

n. For each year from 2018-2022, inclusive, please provide SCG's best forecast of the following data regarding service replacements:

i. Miles of cathodically-unprotected steel services to be replaced

ii. Number of cathodically-unprotected steel services to be replaced

iii. Miles of steel services of all types to be replaced

iv. Number of steel services of all types to be replaced

v. Miles of plastic services to be replaced (with separate data for pre-1973 and post-1985 plastic, if available)

vi. Number of plastic services to be replaced (with separate data for

pre-1973 and post-1985 plastic, if available)

vii. Cost per mile to replace cathodically-unprotected steel services

viii. Cost per mile to replace steel services of all types

ix. Cost per mile to replace plastic services

x. Cost per service to replace cathodically-unprotected steel services

xi. Cost per service to replace steel services of all types

xii. Cost per service to replace plastic services

SoCalGas Supplemental Response 194:
Parts a-f : Please see the attached Excel sheet to "CUE-02 Supplemental," columns f-i, starting at row 17, for the 2017 DOT regulated Distribution steel and plastic services.

SoCalGas Original Response 194:

a. Please refer to line eight (8) of the table response to Question 192.b, which provides the count of total steel services within the SoCalGas system. To calculate the miles of steel services currently in service, apply the percentage provided in line eight (8) to the respective cell in line four (4). Then multiply by the average service length of 59 feet (ft) provided in the 2016 DOT Report and divide by 5280 ft to convert to miles. As an example, the calculation to find the miles of 1970-1971 steel services that are currently in service is: 0.28 x 700,235 = 196,066 number of steel services. Then 196,066 x 59 = 11,567,894 ft, 11,567894/5280 = 2,190.9 miles of 1970-1971 steel services currently in service as of the end of 2016.
b. Please refer to line nine (9) of the table response to Question 192.b, which provides the count of total plastic services within the SoCalGas system. To calculate the miles of plastic services currently in service, apply the percentage provided in line nine (9) to the respective cell in line four (4). Then multiply by the average service length of 59 ft provided in the 2016 DOT Report and divide by 5280 ft to convert to miles. As an example, the calculation to find the miles of 1970-1971 plastic services that are currently in service is: 0.72 x 700,235 = 504,169 number of plastic services. Then 504,169 x 59 = 29,745,971 ft, 29,745,971/5280 = 5,633.7 miles of 1970-1971 plastic services currently in service as of the end of 2016.

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SoCalGas Original Response 194 Continued:

c. Pursuant to 49 CFR, Section 192.455 Subsection (a) inclusive, all buried or submerged pipelines installed after July 31, 1971 must have cathodic protection installed and in operation within one (1) year after completion of construction. In compliance with this
d. federal regulation, SoCalGas does not install steel service lines that are cathodically-unprotected. Please refer to the response of Question 194.a above for the miles of steel services installed.
e. Please refer to line eight (8) of the table response to Question 192.b, which provides the count of total steel services within the SoCalGas system. To calculate the number of steel services currently in service, apply the percentage provided in line eight (8) to the respective cell in line four (4). As an example, the calculation to find the miles of 1970-1971 steel services that are currently in service is: 0.28 x 700,235 = 196,066 number of steel services currently in service as of the end of 2016.
f. Please refer to line nine (9) of the table response to Question 192.b, which provides the count of total plastic services within the SoCalGas system. To calculate the miles of plastic services currently in service, apply the percentage provided in line nine (9) to the respective cell in line four (4). As an example, the calculation to find the miles of 1970-1971 plastic services that are currently in service is: 0.72 x 700,235 = 504,169 number of plastic services currently in service as of the end of 2016.
g. Pursuant to 49 CFR, Section 192.455 Subsection (a) inclusive, all buried or submerged pipelines installed after July 31, 1971 must have cathodic protection installed and in operation within one (1) year after completion of construction. In compliance with this federal regulation, SoCalGas does not install steel service lines that are cathodically-unprotected. Please refer to the response of Question 194.e above for the number of steel services installed.
h. Gas services, whether steel or plastic, cathodically protected or cathodically-unprotected, are capitalized to Federal Energy Regulatory Commission (FERC) Account 380 - Distribution Services. SoCalGas' plant asset ledger does not distinguish between type of services and whether they are cathodically protected or cathodically-unprotected. Life analysis is performed at a combined group level for all distribution services. Per Exhibit SCG-36-R (Revised Direct Testimony of Flora Ngai), the proposed average service life for assets in FERC Account 380 is 67 years. Please see Exhibit SCG-36-R at page 19:15-18 for more information.
i. Please refer to the response to Question 194.g above. As shown in Exhibit SCG-36-WP-R (Revised Workpapers to Prepared Direct Testimony of Flora Ngai) at page 176, the maximum life expectancy for assets in FERC Account 380 is approximately 116 years.
j. Please refer to the response to Question 194.g above.

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SoCalGas Original Response 194 Continued:

k. Please refer to the response to Question 194.g and .h above.
l. Please refer to the response to Question 194.g above.
m. Please refer to the response to Question 194.h above.

m.	2012	2013	2014	2015	2016
i. Miles of NON-CP Steel Services replaced	0.1	0.1	0.3	0.6	0.3
ii. Number of NON-CP Steel Services replaced	22	23	37	50	52
iii. Miles of Steel Services replaced	0.7	0.7	1.9	1.1	1.0
iv. Number of Steel Services replaced	92	98	124	93	109
v. Miles of Plastic Services replaced	104.1	100.7	106.8	116.6	138.7
vi. Number of Plastic Services replaced	7,353	6,961	7,046	8,190	9,565

The data on service replacement cost by material is not in a format that allows it to be readily available nor be extracted accurately; therefore, SoCalGas is not able to provide service replacements by material. Below is the average service replacement cost overall.

	2012	2013	2014	2015	2016
vii, viii, ix. Average Cost per mile	$ 261,656.53	$ 312,027.88	$347,121.20	$ 369,948.16	$ 410,487.97
x, xi, xii. Average Cost per Service	$ 2,923.81	$ 3,486.68	$3,878.82	$4,133.89	$ 4,586.89

n. SoCalGas objects to all portions of this question requesting 2020-2022 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 years beyond 2019, which is addressed by the attrition mechanism. SoCalGas did not forecast the number of steel or plastic services to be replaced or the unit cost for future steel service replacements. SoCalGas chose the five-year (2012 through 2016) trend to forecast the funding requirement for the years 2017 through 2019 for service replacements.

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216. For each year starting in 2017 and continuing through the end of "the next 6-8 years," please provide SCG's planned incremental ("above and beyond routine replacements") annual miles of replacement of:

a. "Early vintage plastic"

b. Pre-1986 plastic

c. Pre-1973 plastic

d. Pre-1986 plastic mains

e. Pre-1986 plastic services

d. Pre-1986 Aldyl-A mains

e. Pre-1986 Aldyl-A services

f. Pre-1973 mains

g. Pre-1973 services

h. Pre-1973 Aldyl-A mains

i. Pre-1973 Aldyl-A services

SoCalGas Supplemental Response 216:

Assumptions: While SoCalGas' assumptions for the forecast years were not planned to the level of granularity requested, one could use 2015 to 2017 historical average of miles of services (Plastic) replaced per mile of main (Plastic) replaced (2.61) although variation from project to project may exist and the extent of the variation has not been fully investigated. The table below combined all "Early vintage plastic" as being pre-1986.

Early Vintage Plastic (Pre-1986)	2017	2018*	2019-2022 *
Mains	9	12	22
Services	24	31	56
Total	**33 miles**	**3 miles**	**78 miles**

*estimated based on historical ratio

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SoCalGas Original Response 216:

SoCalGas objects to this request 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 years beyond 2019, which is addressed by the attrition mechanism.

The Vintage Integrity Plastic Plan (VIPP) is focused on replacement of mains, but the services associated to the mains will be replaced. So, this program is not specifically targeting service replacements. SoCalGas provides the planned annual miles of replacement below for vintage plastic; assumptions for the forecast years were not planned to the level of granularity requested in each subpart of Question 216 and thus the data is not available.

	2017	**2018***	**2019-2022***
Vintage Plastic	33 miles	43 miles	78 miles

*projected

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219. With regard to the second phase of VIPP, please provide the total number of miles of pre-1973 plastic to be replaced each year from 2017 through the completion of Phase 2, divided between mains and services.

SoCalGas Supplemental Response 219:

See response to Question 216.

SoCalGas Original Response 219:

See response to Question 216.

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222. Ex. SCG-14, p. 26:3-13, discusses SCG's Bare Steel Replacement Plan (BSRP), which "will continue" to replace "poor performing bare steel" and will lead over 25-30 years to "wholesale replacement of non-state-of-the-art bare steel."

a. Is "poor performing bare steel" a subset of bare steel, or is "poor performing" just a description that applies to all bare steel?

b. Does "wholesale replacement" mean 100 percent replacement? If not, what does it mean?

c. Is " non-state-of-the-art bare steel" a subset of bare steel, or is " non-state-of- the-art " just a description that applies to all bare steel?

d. Please provide an age distribution table that shows, as of year-end 2017, for each year in which SCG installed bare steel mains or services:

i. Miles of bare steel mains installed that year

ii. Miles of bare steel mains installed that year that are now considered "poorly performing"

iii. Miles of bare steel mains installed that year that are now considered "non-state-of-the-art"

iv. Miles of bare steel services installed that year

vi. Miles of bare steel services installed that year that are now considered "poorly performing"

vii. Miles of bare steel services installed that year that are now considered "non-state-of-the-art"

viii. Number of bare steel services installed that year

vi. Number of bare steel services installed that year that are now considered "poorly performing"

vii. Number of bare steel services installed that year that are now considered "non-state-of-the-art"

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SoCalGas Supplemental Response 222:

d. The following data is taken from the SoCalGas 2017 DOT Report.

DOT Reported	Unprotected Bare Steel
Miles of Main	3,258
No. of Services	252,500

Average service length – 60 Ft

Please also see Excel attachment CUE 02 Supplemental. Information in this table contains miles of mains and counts of services installed by year for steel and plastic. Miles of cathodically unprotected mains are identified and per CFR 49 Part §192.455, buried pipelines installed after July 31, 1971 must be cathodically protected against external corrosion. GIS pipeline attribution has recently been updated with cathodic protection information and results are under review and the outcome of this review might impact the results of this data.

See the original response to Question 222 regarding SoCalGas' prioritization process for pipeline replacement. Pipeline replacement programs are not specifically targeting service replacements. While SoCalGas' assumptions for the forecast years were not planned to the level of granularity requested, miles of services replacements, as a result of targeted main replacements, can be estimated by multiplying the miles of mains replaced by these ratios: Plastic: 2.61, Steel: 1.11 (based on 2015-2017 historical program data).

SoCalGas Original Response 222:

a. Pipelines are prioritized for replacement based on their performance; therefore, the focus of replacement is the poor performing pipelines first. As part of the prioritization, additional consideration is given to steel pipes that are bare.

b. Yes, it means 100 percent replacement.

c. Non-state-of-the-art steel (NSOTA) includes all steel that is not cathodically protected and/or bare. As part of the SoCalGas distribution system, bare steel is not protected, therefore it is a subset of pipe that is not cathodically protected.

d. SoCalGas does not have the information at the level of detail requested or in a format to be extracted accurately. The following data is taken from the SoCalGas 2016 DOT

SoCalGas Original Response 222 Continued:

Report. The DOT Report for 2017 will not be available until the end of first quarter of 2018.

SoCalGas 2016 DOT Distribution Report, Part B Section 1

DOT Reported	Unprotected Bare Steel
Miles of Main	3,287
No. of Services	139

Average service Length – 59 Ft

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225. In Ex. SCG-14, p. 26:4-5, SCG describes planned incremental replacements under the BSRP of "29 mile of mains and associated services and targeted replacement of 2,000-4,000 services."

a. Is the budget SCG is requested for this work based on replacement of 2,000 services, 4,000 services, or some other number? Please clarify.

b. Where in the SCG workpapers are the costs for BSRP, and their derivation, broken out?

c. For each year starting in 2018 and continuing through the end of "the next 6-8 years," please provide SCG's the following data regarding SCG's planned incremental ("above and beyond routine replacements") BSRP activities:

i. Miles of mains replaced

ii. Cost per mile of main replaced

iii. Capital expenditure for main replacement

iv. Miles of services replaced

v. Cost per mile of service replacements

vi. Capital expenditures for service replacement

vii. Number of services replaced

viii. Cost per service replacement

ix. If the product of the numbers provided in response to subsections

vii and viii is not the same as the cost shown in response to subsection vi, an explanation for the difference.

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SoCalGas Supplemental Response 225:

c. While SoCalGas' assumptions for the forecast years were not planned to the level of granularity requested, one could use the following assumptions:

Assumptions:

- 2015 to 2017 historical average of miles of services (Steel) replaced per mile of main (Steel) replaced (1.11).
- Avg. length of service is 60 ft., as shown in 2017 DOT Report.
- Avg. cost pipeline replacement (Mains + services) $250/ft

Bare Steel (BSRP)	2017	2018*	2019-2022*
Mains	14	10	14
Services	16	12	15
Total	**30 miles**	**22 miles**	**29 miles**
Services count	**1,389**	**1,018**	**1,342**

*projected

SoCalGas Original Response 225:

a. Based on replacing 2,500 services.
b. It is included in the total Budget Code 277 amount.
c. SoCalGas objects to this request 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 years beyond 2019, which is addressed by the attrition mechanism.
SoCalGas does not have the information to the level of detail requested. Please see response to Question 212.d.

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227. With regard to TIMP O&M costs (Ex. SCG-14-WP, p. 5):

a. Please provide the zero-based forecast that is said to underlie the forecast, broken out by activity (ILI, ECDA, P&M, G&A) and showing activity quantities (e.g., miles of ILI) and unit costs.

b. Please explain why labor costs are forecasted to be lower in 2017-18 than in any of the preceding five years, while non-labor costs are forecasted to be higher in 2017-18 than in any of the prior five years.

SoCalGas Supplemental Response 227:

TIMP 2019		**Total O&M (000s)**
ILI Projects: 2019	**21**	
ILI Tool	$164K	
Temp Install Launcher/Receiver	$720K	
Digs	$350K	
Total Avg. O&M ILI costs	**$1.234M**	**$25,914**
ECDA Projects: 2019	**20**	
Company Labor	$40K/job	
Survey (41 miles)	$50K/mi	
Digs (2 per assessment)	$240K/dig	
Total Avg. O&M ECDA costs		**$12,450**
Preventive & Main (P&M)		**$1,500**
TIMP G&A		**$6,136**
Total TIMP O&M		**$46,000**

SoCalGas Original Response 227:

a.

TIMP O&M (000s)	**2019**
ILI	26,000
ECDA	12,500
P&M	1,500
G&A	6,000
Total	**46,000**

b. The labor costs for TIMP have remained fairly constant throughout that period when you combine both O&M and capital labor. The incremental work needed for TIMP &M and capital is provided by contract labor, which is classified in workpapers as non-labor.

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DATE RESPONDED: FEBRUARY 26, 2018
SUPPLEMENTAL: APRIL 6, 2018

228. With regard to DIMP O&M costs (Ex. SCG-14-WP, p. 14.

a. Please provide the zero-based forecast that is said to underlie the forecast, broken out by activity (VIPP, BSRP, GIPP, SLIP, DRIP, G&A, DIMP DREAMS not included in VIPP and BSRP, other) and showing activity quantities (e.g., miles of pipe replacement or numbers of service replacements) and unit costs.

b. Please explain why labor costs are forecasted to be lower in 2017-18 than in any of the preceding four years, while non-labor costs are forecasted to be higher in 2017-18 than in any of the prior four years.

SoCalGas Supplemental Response 228:

a.

DIMP 2019	**Count**	**Avg. O&M**	**Total O&M (000s)**
DRIP : Riser Inspections	**200,000**	**$80**	**$16,000**
GIPP : Inspections	20,000	$12	$240
GIPP : Std Remediation	4,500	n/a	n/a
GIPP : NonStd Remediation	250	$2,201	$550
GIPP : FSR Installation	200	$3,124	$625
GIPP : FSR Maintenance	50	$680	$34
Total GIPP			**$1,449**
SLIP – Data Coll + Inspection	**60,000**	**$160**	**$9,600**
DREAMS : VIIP	78 mi	n/a	$600
DREAMS : BSRP	29 mi	n/a	$400
DREAMS : Service Replmnt	2,500	n/a	n/a
DREAMS Total			**$1,000**
Damage Prev Adv. Program			**$2,051**
DIMP High Pressure Evaluations			**$2,200**
DIMP G&A			**$7,700**
Total DIMP O&M			**$40,000**

SoCalGas Original Response 228:

a.

DIMP O&M (000s)	**2019**
DREAMS/VIPP/BSRP	1,000
DRIP	16,000
GIPP	1,500
SLIP	9,600
Other PAARs	1,950

G&A	9,950
Total	**40,000**

b. The labor costs for DIMP have remained fairly constant throughout that period when you combine both O&M and capital labor. The incremental work needed for DIMP O&M and capital is provided by contract labor, which is classified in workpapers as non-labor.

CUE DATA REQUEST
CUE-SCG-DR-03
SOCALGAS 2019 GRC – A.17-10-008
SOCALGAS RESPONSE
DATE RECEIVED: JANUARY 8, 2018
DATE RESPONDED: FEBRUARY 26, 2018
SUPPLEMENTAL: APRIL 6, 2018

229. With regard to TIMP capital costs (Ex. SCG-14-CWP, pp. 4-24), all of the forecasts are shown as zero-based.

a. Please provide actual TIMP expenditures for each of the years 2012-17, inclusive.

b. Please provide the zero-based forecasts for each of the years 2017-2019 that are said to underlie the various requests, broken out by activity and showing activity quantities (e.g., miles of ILI) and unit costs, as well as all calculations and assumptions used to arrive at the proposed forecasts.

SoCalGas Supplemental Response 229:

TIMP 2019		**Total Capital (000s)**
ILI Projects: 2019	**21**	
Retrofit	$1.000M	
Post ILI Capital Repairs	$1.336M	
Total Avg. Cap ILI costs	**$2.336M**	**$49,056**
Preventive & Main (P&M)		**$2,244**
PI Technology		**$3,700**
Total TIMP Capital		**$55,000**

SoCalGas Original Response 229:

a. Years 2012-2016 are shown in Ex. SCG-14-CWP workpapers. 2017 capital expenditure for TIMP was $106,700 million.

b.

TIMP capital (000s)	**2019**
ILI	49,000
P&M	2,200
Other Misc	3,800
Total	**55,000**

CUE DATA REQUEST
CUE-SCG-DR-03
SOCALGAS 2019 GRC – A.17-10-008
SOCALGAS RESPONSE
DATE RECEIVED: JANUARY 8, 2018
DATE RESPONDED: FEBRUARY 26, 2018
SUPPLEMENTAL: APRIL 6, 2018

230. With regard to DIMP capital costs (Ex. SCG-14-CWP, pp. 25-40):

a. Please explain why labor expenditures are forecasted to fall over 75% from 2016 to 2017, and then remain at the 2017 level thereafter (Ex. SCG-14-CWP, p. 27).

b. Please provide the zero-based forecasts for each of the years 2017-2019 that are said to underlie the various requests, broken out by activity (VIPP, BSRP, GIPP, SLIP, DRIP, G&A, DIMP DREAMS not included in VIPP and BSRP, other), and showing activity quantities (e.g., miles of pipe replacement or numbers of service replacements) and unit costs, as well as all calculations and assumptions used to arrive at the proposed forecasts.

c. Please reconcile the $85.617 million forecast adjustment shown starting in 2019 for budget code 277 (DIMP DREAMS) on Ex. SCG-14-CWP, p. 29) and the $96.346 million of incremental spending shown starting in 2019 for the same budget code on Ex. SCG-14-CWP, p. 37.

d. Please explain why the base DIMP capital expenditures forecast falls $10.729 million from 2018 to 2019 (Ex. SCG-14-CWP, p. 33). Please provide the underlying analysis, annual quantities and unit prices, and calculations which cause this decrease, disaggregated by the individual programs (GIPP, VIPP, BSRP, other DREAMS components, etc.) which comprise this $61-72 million per year budget item.

e. DIMP capital costs are shown as equal in 2017 and 2018 (Ex. SCG-14-CWO, p. 29, due to the exact balancing out of the increase shown on p. 33 and the decrease shown on p. 35. Is this balancing a coincidence, a typo, or due to a transfer of costs from one category to the other?

CUE DATA REQUEST
CUE-SCG-DR-03
SOCALGAS 2019 GRC – A.17-10-008
SOCALGAS RESPONSE
DATE RECEIVED: JANUARY 8, 2018
DATE RESPONDED: FEBRUARY 26, 2018
SUPPLEMENTAL: APRIL 6, 2018

SoCalGas Supplemental Response 230:

DIMP 2019	Count	Avg. Capital	Total Capital (000s)
DRIP – Riser Inspections	**200,000**	n/a	**n/a**
GIPP – Inspections	20,000	n/a	n/a
GIPP – Std Remediation	4,500	$982	$4,419
GIPP – NonStd Remediation	250	$1,900	$475
GIPP – FSR Installation	200	$4,500	$900
GIPP – FSR Maintenance	50	$200	$10
Total GIPP			**$5,804**
SLIP – Data Coll + Inspection	**60,000**	n/a	n/a
DREAMS – VIIP	78 mi	$250/ft	$102,960
DREAMS – BSRP	29 mi	$250/ft	$38,280
DREAMS Total			**$141,240**
DREAMS – Service Replmnt	**2,500**	**$3.6K**	**$9,000**
DIMP HP Evaluations			**$2,400**
DIMP Technology			**$1,556**
Total DIMP Capital			**$160,000**

SoCalGas Original Response 230:

a. The labor costs for DIMP have remained fairly constant throughout that period when you combine both O&M and capital labor. The incremental work needed for DIMP O&M and capital is provided by contract labor, which is classified in workpapers as non-labor.

b.

DIMP Capital (000s)	2019
DREAMS (VIPP/BSRP)	150,000
GIPP	5,800
Other PAARS	4,200
Total	**$160,000**

c. The $85,617 needs to be added to the base-year 2017 amount of $74,383 to equal the total 2019 requested amount of $160,000. The amount shown on p.37 is the RAMP workpapers, which is a different presentation format. It shows the incremental spend of $96,346 from the 2016 base-year amount of $63,654, which totals $160,000.

SoCalGas Supplemental Response 230 Continued:

d. The amounts shown on p. 33 as mentioned for 2018 and 2019 are the RAMP workpapers, which are presented in different format and are broken out by the various

RAMP categories. The 2019 requested amount of $160,000 is contained on pages 26-31 for DIMP capital.

e. The workpapers on p. 29 shows SoCalGas' requested amount for 2019 in the amount of $160,000. This calculation begins with the base-year estimate from year 2017 in the amount of $74,383 (this is same estimated amount for 2018), then adds an adjusted amount based on increased activity during 2019 in the amount of $85,617, to arrive at the $160,000 total. The amounts shown from pp. 33 and 35 are related to the RAMP workpapers, which are formatted and presented differently.