

Company: San Diego Gas & Electric Company (U902M)  
Proceeding: 2019 General Rate Case  
Application: A.17-10-007/-008 (cons.)  
Exhibit: SDG&E-204

**SDG&E**

**REBUTTAL TESTIMONY OF GINA OROZCO-MEJIA**

**(GAS DISTRIBUTION)**

**JUNE 18, 2018**

**BEFORE THE PUBLIC UTILITIES COMMISSION  
OF THE STATE OF CALIFORNIA**





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**SDG&E REBUTTAL TESTIMONY OF GINA OROZCO-MEJIA  
(GAS DISTRIBUTION)**

**I. SUMMARY OF DIFFERENCES**

<b>TOTAL O&amp;M - Constant 2016 (\$000)</b>			
	<b>Base Year 2016</b>	<b>Test Year 2019</b>	<b>Change</b>
SDG&E	25,778	29,533	3,755
ORA	25,778	28,366 <sup>1</sup>	2,588
CUE	25,778 <sup>2</sup>	32,312	6,534

<b>TOTAL CAPITAL - Constant 2016 (\$000)</b>					
	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>Total</b>	<b>Variance</b>
SDG&E	50,666	91,606	110,993	253,265	--
ORA	75,756	88,647	88,246	252,649	(616)
CUE	50,666 <sup>3</sup>	91,606 <sup>4</sup>	132,560	274,832	21,567
Sierra Club / UCS	Not Specified				

**II. INTRODUCTION**

This rebuttal testimony regarding San Diego Gas & Electric Company’s (SDG&E or the Company) request for Gas Distribution addresses the following testimony from other parties:

- The Office of Ratepayer Advocates (ORA) report on April 13, 2018, Exhibit ORA-09.<sup>5</sup>
- The Coalition of California Utility Employees (CUE) report on May 14, 2018.<sup>6</sup>

<sup>1</sup> This is a corrected value. Refer to Appendix A attached for the derivation of this value.

<sup>2</sup> CUE did not discuss SDG&E’s total forecast values for base year 2016, 2017, and 2018. It is assumed that CUE accepted the SDG&E forecast figures for those years.

<sup>3</sup> *Id.*

<sup>4</sup> *Id.*

<sup>5</sup> April 13, 2018, ORA Report on SDG&E – Gas Distribution, System Integrity, and Transmission Operation, Part I and Part II (Mariana C. Campbell), Exhibit ORA-09 (Campbell).

<sup>6</sup> May 14, 2018, Prepared Direct Testimony of David Marcus, on behalf of The Coalition of California Utility Employees[CUE], Exhibit CUE (Marcus).

- 1 • The Utility Reform Network (TURN) report on May 14, 2018, Exhibit  
2 TURN-03.<sup>7</sup>
- 3 • The Sierra Club and Union of Concerned Scientists (UCS) report on May 14,  
4 2018, Exhibit Sierra Club-UCS-01.<sup>8</sup>

5 As a preliminary matter, the absence of a response to any particular issue in this rebuttal  
6 testimony does not imply or constitute agreement by SDG&E with the proposal or contention  
7 made by these or other parties. The forecasts contained in SDG&E's direct testimony,  
8 performed at the workgroup level, are based on sound estimates of its revenue requirements at  
9 the time of testimony preparation.

10 In total, SDG&E requests the California Public Utilities Commission (CPUC or  
11 Commission) adopt its Test Year 2019 (TY 2019) General Rate Case (GRC) forecast of  
12 \$29,533,000 for Gas Distribution operations and maintenance (O&M) expenses. SDG&E further  
13 requests the Commission adopt its forecast for capital expenditures in 2017, 2018, and 2019 of  
14 \$50,666,000, \$91,606,000, and \$110,993,000, respectively. The activities comprising these  
15 requests are detailed in the Gas Distribution revised testimony of Gina Orozco-Mejia (Exhibit  
16 SDG&E-04-R).<sup>9</sup>

17 The Commission should find SDG&E's forecast reasonable and fully justified in that:  
18 (1) the activities support continued delivery of safe and reliable service; (2) activities are  
19 consistent with local, state, and federal regulations; (3) activities respond to operations,  
20 maintenance, and construction needs associated with projected growth and demands of city,  
21 county and state agencies; (4) the forecast amounts are reasonable in light of historical spending  
22 and anticipated work increases, and (5) the activities support SDG&E's commitment to mitigate  
23 risks associated with hazards to public and employee safety, infrastructure integrity, and system  
24 reliability.

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<sup>7</sup> May 14, 2018, Prepared Direct Testimony of William Marcus Addressing Various Results of Operations Issues, on behalf of The Utility Reform Network [TURN], Public Redacted Version, Exhibit TURN-03 (Marcus).

<sup>8</sup> May 14, 2018, Prepared Direct Testimony of James O'Dea and Rachael Golden, on behalf of Sierra Club and Union of Concerned Scientists (UCS), Exhibit Sierra Club-UCS-01 (O'Dea).

<sup>9</sup> December 20, 2017, Revised Direct Testimony on Gas Distribution, Exhibit SDG&E-04-R (Gina Orozco-Mejia).

1 Additional growth and expenses are driven by activities described in SDG&E and  
2 Southern California Gas Company's (SoCalGas) November 30, 2016 Risk Assessment  
3 Mitigation Phase (RAMP) Report.<sup>10</sup> The RAMP Report presented an assessment of the key  
4 safety risks of SDG&E and SoCalGas and proposed plans for mitigating those risks. A  
5 discussion of the evolution of the Company's risk framework can be found in the direct  
6 testimonies of Ms. Diana Day and Ms. Jamie York (Exhibit SCG-02-R/SDG&E-02-R, Chapter  
7 1: Risk Management Policy (Day) and Chapter 3: RAMP to GRC Integration (York)) and in the  
8 rebuttal testimony of Ms. York.<sup>11</sup>

9 As part of the RAMP-to-GRC integration process, SDG&E evaluated the scope,  
10 schedule, resource requirements, and synergies of RAMP-related projects and programs. The  
11 RAMP Report proposed mitigation activities that would reduce identified safety risk  
12 levels. Based on this RAMP analysis, SDG&E included RAMP mitigation activities into the  
13 GRC. My testimony discusses and includes costs to mitigate Gas Distribution risks primarily  
14 associated with customer/public and employee/contractor safety, system reliability, regulatory  
15 and legislative compliance, and pipeline system integrity. Specifically, these RAMP risks  
16 identified by their RAMP Report chapter number include: SDG&E-2 Catastrophic Damage  
17 Involving Third Party Dig-Ins, SDG&E-3 Employee, Contractor, Customer and Public Safety,  
18 SDG&E-16 Catastrophic Damage Involving Medium-Pressure Pipeline Failure, and SDG&E-17  
19 Workforce Planning. In developing my request, priority was given to these key safety risks to  
20 assess which risk mitigation activities Gas Distribution currently performs and what incremental  
21 efforts are needed to further mitigate these risks.

22 The ORA Report deprioritizes and in some cases, neglects cost impacts to SDG&E's Gas  
23 Distribution that are currently underway and reasonably anticipated in the future. These cost  
24 impacts and/or upward trends include: RAMP and risk reduction efforts, aging infrastructure,  
25 system expansion, franchise obligations, increasing regulations, customer and load demands, and  
26 workforce training and qualification.

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<sup>10</sup> Investigation (I.) 16-10-015/-016 (cons.), Risk Assessment and Mitigation Phase Report of San Diego Gas & Electric Company and Southern California Gas Company, November 30, 2016. Please also refer to Exhibit SCG-02-R/SDG&E-02-R, Chapter 1 (Diana Day) for more details regarding the utilities' RAMP Report.

<sup>11</sup> Exhibit SCG-245/SDG&E-244, Rebuttal Testimony of Jamie York, June 18, 2018 at JY-6-11.

1           SDG&E disagrees with some of the analyses and conclusions contained in ORA’s  
2 Report,<sup>12</sup> as they pertain to SDG&E’s request for Gas Distribution O&M and Capital expenses  
3 necessary for the continued safe and reliable service to customers. ORA’s dismissal of the five-  
4 year trend methodology or statement that the 2016 expense level “already captures additional  
5 work”<sup>13</sup> is inaccurate. ORA’s approach ignores growth and the new risk-informed GRC process  
6 by recommending status quo 2016 base expense levels in lieu of SDG&E’s justified forecast.  
7 Furthermore, SDG&E assumed that some of the incremental RAMP-related projects and  
8 programs were accounted for within its five-year linear trend when this methodology was used to  
9 calculate the base forecast. This was done to prevent double counting of upward pressures.  
10 ORA’s dismissal of the five-year historical linear trend used by SDG&E would effectively  
11 disallow funding of RAMP embedded costs in SDG&E’s forecasts. The safety-related activities  
12 ORA targeted for funding reductions include locate and mark, main maintenance, supervision  
13 and training, and measurement & regulation.

14           SDG&E also disagrees with some of the analyses and conclusions contained in CUE’s  
15 testimony.<sup>14</sup> CUE primarily focuses on the replacement / maintenance costs and rates of aging  
16 infrastructure, targeting vintage steel pipelines, aging regulator stations, and cathodic protection  
17 systems. CUE takes the position that SDG&E has proposed insufficient preventative  
18 infrastructure replacement and existing infrastructure maintenance / leak repair funding. CUE  
19 has evaluated SDG&E’s request and proposed additional expenditures to address its concerns.  
20 Because SDG&E’s forecasts endeavored to strike an appropriate balance between Gas  
21 Distribution’s pipeline safety, risk reduction effectiveness, and impact on ratepayer costs, the  
22 Commission should adopt SDG&E’s forecasts as reasonable.

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<sup>12</sup> Ex. ORA-09 (Campbell).

<sup>13</sup> *Id.* at 11:2-3 and 12:24-25.

<sup>14</sup> Ex. CUE (Marcus).



1           **A.     ORA**

2           ORA issued its report on Gas Distribution on April 13, 2018.<sup>15</sup> The following is a  
3 summary of ORA’s positions:

4           O&M Expenses:

- 5           • Recommends the Commission adopt \$28,366,000 for Gas Distribution non-shared  
6           O&M expenses for TY 2019, rather than SDG&E’s request of \$29,533,000.
- 7           • Recommends using a base year instead of SDG&E’s forecasted linear trend as a base  
8           forecast for Locate and Mark, Main Maintenance, and Measurement and Regulation  
9           workgroups.
- 10          • Disallows SDG&E’s incremental forecast for incremental Field Supervision in the  
11          Supervision and Training O&M workgroup.
- 12          • Does not take issue with and accepts SDG&E’s full request of expenditures for 2018  
13          and TY 2019 for Other Services, Leak Survey, Service Maintenance, Tools Fittings &  
14          Materials, Electric Support, Cathodic Protection, Asset Management, and Operations  
15          Management & Training groups.

16          Capital Expenses:

- 17          • Recommends that the Commission adopt the 2017 recorded capital expenditure of  
18          \$75,756,000 in place of SDG&E’s forecast expenditure of \$50,666,000. ORA  
19          recommends a capital expenditure of \$88,647,000 and \$88,246,000 for 2018 and TY  
20          2019 respectively in place of SDG&E’s forecast expenditures of \$91,606,000 and  
21          \$110,993,000 for 2018 and TY 2019 respectively.
- 22          • Recommends the Commission adopt a three-year total of \$252,649,000 for Gas  
23          Distribution capital expenses for 2017, 2018, and TY 2019, rather than SDG&E’s  
24          request of \$253,265,000.
- 25          • Recommends extending SDG&E’s lower 2018 forecast for Replacement of Mains  
26          and Services to TY 2019.
- 27          • Recommends extending SDG&E’s 2018 lower forecast for Regulator Station  
28          Improvements and Other to TY 2019.

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<sup>15</sup> Ex. ORA-09 (Campbell).

- Recommends using a four-year average 2014-2017 instead of SDG&E's use of a five-year 2012-2016 average to determine the ratio of Local Engineering to Direct Capital expenditures.
- Does not take issue with and accepts SDG&E's forecasts for New Business, System Minor Additions, Relocations and Retirements, Meter and Regulator Materials, Pressure Betterment, Distribution Easements, Pipe Relocations-Franchise and Freeway, Tools & Equipment, Code Compliance, Cathodic Protection, and Compressed Natural Gas Station Upgrade capital categories.

**B. CUE**

CUE submitted testimony on May 14, 2018.<sup>16</sup> The following is a summary of CUE's positions:

O&M Expenses:

- Recommends an \$127,000 increase for Enhanced Leak Survey – Early Vintage Plastic Pipe (Aldyl-A Annual Leak Survey) over SDG&E's forecast.
- Recommends the Commission order SDG&E to move to a 3-year cycle for leak survey for all pipe not already subject to a more frequent inspection interval (e.g., non-business district, non-Aldyl-A pipe) as they are not being addressed in the Senate Bill (SB) 1371 proceeding; resulting inspection/repair costs need to be addressed in this proceeding.
- Recommends SDG&E should be ordered to conduct a study/field comparison of advanced leak detection technologies at an incremental cost of \$500,000.
- Recommends an \$260,000 increase for Locate and Mark over SDG&E's 5-year linear trend plus incremental forecast.
- Proposes an increase of \$1,715,000 associated with its recommended increase in Aldyl-A pipe replacements.
- Proposes an increase of \$177,000 associated with its recommended increase in steel pipe replacements.

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<sup>16</sup> Ex. CUE (Marcus).

1           Capital Expenses:

- 2           • Recommends shortening the proposed duration of Pre-1933 Threaded Steel Main and  
3           Service Replacement from 10 years to 8 years. This would avoid the program  
4           spanning two additional GRC cycles beyond the current TY 2019 GRC.
- 5           • Recommends doubling the proposed rate of Early Vintage Steel Replacement (Pre-  
6           1955 mains) from 7.4 miles to 15 miles per year in this GRC cycle.
- 7           • Recommends extending SDG&E 2017 spend to 2019 instead of utilizing SDG&E's  
8           forecasted linear trend plus zero-based incremental activities for Cathodic Protection.
- 9           • Derived a zero-based forecast instead of SDG&E's forecasted 2014-2016 three-year  
10          average for Regulator Station Improvements and Other.
- 11          • Recommends extending SDG&E 2018 forecast into 2019 instead of SDG&E's  
12          forecast of \$0 in 2019 for Closed Valves Between Medium-Pressure and High-  
13          Pressure Systems resulting in an additional \$3,520,000 expense for TY 2019.
- 14          • Recommends an increase of \$246,000 in SDG&E's 2019 forecast for Dresser  
15          Coupling Removal.
- 16          • Recommends an increase of \$650,000 over SDG&E's 2019 forecast for Oil Drip  
17          Piping Removal.
- 18          • Recommends an increase of \$281,000 over SDG&E's 2019 forecast for Buried Piping  
19          in Vaults Removal.
- 20          • Recommends an increase in overheads associated with proposed gas capital  
21          expenditures.

22           **C.     TURN**

23           The Utility Reform Network (TURN) submitted testimony on May 14, 2018, Exhibit  
24   TURN-03.<sup>17</sup> The following is a summary of TURN's position:

- 25           • Recommends that expenses related to clothing and other gear containing the utilities'  
26           name and logo (excluding uniforms, hard hats, etc.), which in its view are largely  
27           promotional and image-building, should be removed from SDG&E's case.

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<sup>17</sup> Ex. TURN-03 (Marcus).

1           **D.     Sierra Club - UCS**

2           The Sierra Club and Union of Concerned Scientists (UCS) submitted testimony on May  
3 14, 2018, Exhibit Sierra Club-UCS-01.<sup>18</sup> The following is a summary of Sierra Club/UCS's  
4 position:

- 5           • Denies the proposal to expand or construct new Compressed Natural Gas (CNG)  
6           refueling stations.

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<sup>18</sup> Ex. Sierra Club-UCS-01 (O'Dea).

1 **III. REBUTTAL TO PARTIES' O&M PROPOSALS**

2 **A. Non-Shared Services O&M**

3 **Table GOM-01**  
4 **San Diego Gas & Electric Company**  
5 **Test Year 2019 Summary of Total O&M Costs**

<b>NON-SHARED O&amp;M - Constant 2016 (\$000)</b>			
	<b>Base Year 2016</b>	<b>Test Year 2019</b>	<b>Change</b>
SDG&E	25,778	29,533	3,755
ORA	25,778	28,366 <sup>19</sup>	2,588
CUE	25,778 <sup>20</sup>	32,312	6,534

6  
7 SDG&E's revised direct testimony<sup>21</sup> fully supports TY 2019 non-shared services Gas  
8 Distribution O&M expenditures of \$29,533,000. SDG&E developed this forecast based on a  
9 review of 2012 to 2016 historical spending, and in consideration of new or incremental changes  
10 in activities that will impact future revenue requirements. SDG&E's forecasts also include  
11 RAMP costs to mitigate Gas Distribution risks. Specifically, these RAMP mitigation expenses  
12 include elements supporting the key risks, SDG&E-2 Catastrophic Damage Involving Third  
13 Party Dig-Ins, SDG&E-3 Employee, Contractor, Customer and Public Safety, SDG&E-16  
14 Catastrophic Damage Involving Medium-Pressure Pipeline Failure, and SDG&E-17 Workforce  
15 Planning.

16 SDG&E's Gas Distribution O&M is all non-shared. ORA proposes reductions to four  
17 workgroups for TY 2019 as shown in the table below.

18 CUE proposes increases to Locate and Mark, Leak Survey, Main Maintenance, resulting  
19 in an overall increase of \$2,779,000. CUE did not dispute the other O&M workgroups.

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<sup>19</sup> This is a corrected value. Refer to Appendix A attached for the derivation of this value.

<sup>20</sup> CUE did not discuss SDG&E's forecast values for base year 2016, 2017, and 2018. It is assumed that CUE accepted the SDG&E forecast figures for those years.

<sup>21</sup> Exhibit SDG&E-04-R, Revised Direct Testimony of Gina Orozco-Mejia, dated December 2017.

**Table GOM-02**  
**San Diego Gas & Electric Company**  
**Test Year 2019 Non-Shared O&M Forecast Summary**

(Thousands of Constant 2016 Dollars)

	Position of Party			Difference Between ORA and SDG&E	Difference Between CUE and SDG&E
	SDG&E	ORA	CUE	(ORA - SDG&E)	(CUE - SDG&E)
Field O&M – Other Services	202	202	202	0	0
Field O&M – Leak Survey	1,841	1,841	2,468	0	627
Field O&M – Locate and Mark	3,589	3,446	3,849	(143)	260
Field O&M – Main Maintenance	3,422	2,965	5,314	(457)	1,892
Field O&M – Service Maintenance	1,867	1,867	1,867	0	0
Field O&M – Tools and Mat'ls	1,010	1,010	1,010	0	0
Field O&M – Electric Support	425	425	425	0	0
Field O&M – Supervision and Training	3,993	3,839	3,993	(154)	0
Field O&M – M & R	4,216	3,803	4,216	(413)	0
Field O&M – Cathodic Protection	2,289	2,289	2,289	0	0
Asset Management	2,169	2,169	2,169	0	0
Operations Management & Training	4,510	4,510	4,510	0	0
<b>Total Non-Shared Services O&amp;M</b>	<b>29,533</b>	<b>28,366</b>	<b>32,312</b>	<b>(1,167)</b>	<b>2,779</b>

**1. Field Operations and Maintenance – Leak Survey**

**Table GOM-03**  
**San Diego Gas & Electric Company**  
**Test Year 2019 – Field O&M – Leak Survey**

(Thousands of Constant 2016 Dollars)

	Position of Party			Difference Between ORA and SDG&E	Difference Between CUE and SDG&E
	SDG&E	ORA	CUE	(ORA - SDG&E)	(CUE - SDG&E)
<b>Field O&amp;M –Leak Survey</b>					
Base Plus Incremental Forecast	1,571	1,571	1,571	0	0
Addition of 3 Leak Patrollers	270	270	270	0	0
Aldyl-A Leak Inspections <sup>1</sup>			127	0	127
Adv. Leak Detection Research <sup>1</sup>			500	0	500
<b>Subtotal</b>	<b>1,841</b>	<b>1,841</b>	<b>2,468</b>	<b>0</b>	<b>627</b>

Notes

1/ CUE additions for 2019

Recorded to this workgroup are the labor and non-labor expenses associated with federal and state pipeline safety regulations,<sup>22</sup> which requires SDG&E to survey its gas distribution

<sup>22</sup> 49 C.F.R. § 192.723 (Distribution systems: Leakage surveys); General Order (GO) 112-F.

1 system for leakage. SDG&E pipelines are routinely leak surveyed at intervals of one, three, or  
2 five years. The frequency of this survey is determined by the pipe material involved (i.e., plastic  
3 or steel), the operating pressure, whether the pipe is under cathodic protection, and the proximity  
4 of the pipe to various population densities.

5 SDG&E's base forecast for this workgroup is the 2016 adjusted-recorded level of spending.  
6 Added to this base expenditure level are incremental additions necessary to adequately fund the  
7 operation in TY 2019.

8 **a. Rebuttal to ORA**

9 ORA does not take issue with SDG&E's TY forecast for Leak Survey.

10 **b. Rebuttal to CUE**

11 CUE proposes an increase of \$627,000 in SDG&E's Leak Survey O&M forecast expenses as  
12 described below.

13 **i. Three-Year Inspection Cycle**

14 CUE suggests that the Commission order SDG&E to move to a three-year leak survey  
15 cycle for all pipe not already subject to more frequent inspections and charge incremental costs  
16 to the New Environmental Regulatory Balancing Account (NERBA).<sup>23</sup>

17 As discussed above, SDG&E's leak survey activities already meet federal and state  
18 requirements, and SDG&E will exceed those requirements with its proposals to leak survey all  
19 early vintage non-state-of-the-art plastic pipe on an annual cycle.

20 Additionally, in a separate proceeding, SB 1371 Rulemaking (R.) 15-01-008, under Best  
21 Practice 15, Gas Distribution Leak Surveys,<sup>24</sup> SDG&E is moving state-of-the-art (SOTA) plastic  
22 pipe and high-performing protected steel pipe from a five-year leak survey interval to a three-  
23 year leak survey interval. This is further evidenced by CUE's informal comments filed on June  
24 1, 2018 in the SB 1371 Rulemaking noting that SDG&E is already moving to a 3-year cycle as  
25 part of SB 1371's Best Practices 15 and 16: "SDG&E should be commended for its leak survey  
26 proposal. SDG&E is moving SOTA plastic and protected steel from a 5-year to 3-year leak

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<sup>23</sup> Ex. CUE (Marcus) at 86:4-22.

<sup>24</sup> See D.17-06-015, Appendix B at B10-B11; SDG&E Advice Letter (AL) 2621-G-A, Attachment B at 21, available at <http://regarchive.sdge.com/tm2/pdf/2621-G-A.pdf>; 2018 Leak Abatement Compliance Plan at 67-74, 75-81 (submitted Mar. 15, 2018), available at [https://www.sdge.com/sites/default/files/regulatory/SB%201371%20SDG%26E%202018%20Compliance%20Plan%20-%20FINAL%20March%2015%2C%202018\\_0.pdf](https://www.sdge.com/sites/default/files/regulatory/SB%201371%20SDG%26E%202018%20Compliance%20Plan%20-%20FINAL%20March%2015%2C%202018_0.pdf).

1 survey cycle in addition to moving NOSTA plastic and unprotected from a 3-year to 1-year leak  
2 survey cycle.”<sup>25</sup>

3 The direct testimony of Nancy Clancy describes that SDG&E did not include the  
4 NERBA-related cost forecasts associated with the Natural Gas Leak Abatement Program  
5 (NGLAP) Subaccount in alignment with Commission issued Decision (D.) 17-06-015.<sup>26</sup> Thus,  
6 CUE’s proposal is outside the scope of this GRC and already covered in the SB1371 proceeding.

7 For these reasons, the Commission should authorize SDG&E’s forecast for Leak Survey  
8 activities and reject CUE’s proposal as outside the scope of this GRC.

9 **ii. Enhanced Leak Survey - Early Vintage Plastic Pipe**  
10 **(Aldyl-A)**

11 CUE takes issue with SDG&E’s forecast for resources required to complete early vintage  
12 plastic pipe leak survey in accordance with the newly established annual survey cycle. According  
13 to CUE’s analysis, a patroller should be able to complete 290 miles of survey per year instead of  
14 SDG&E’s forecast of 520 miles per year.<sup>27</sup> CUE derives a required funding level of \$397,000  
15 instead of SDG&E’s forecasted \$270,000 for the execution of this survey.

16 The data SDG&E provided is based on current available production information<sup>28</sup> for its  
17 service territory and as such is the best basis for developing its forecast. Therefore, the  
18 Commission should approve SDG&E’s TY 2019 forecast of \$270,000 for this incremental  
19 activity within the Leak Survey workgroup.

20 **iii. Advanced Leak Detection Technology**

21 CUE proposes that SDG&E should be ordered to do a field comparison in 2019 of  
22 Picarro-type leak detection technology.<sup>29</sup> CUE’s estimate for this activity is \$500,000.<sup>30</sup>  
23 The Commission should reject this proposal, since this type of activity is already being  
24 considered in a separate proceeding, SB 1371, under Best Practice 17, Enhanced Methane

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<sup>25</sup> See R.15-01-008, Informal Comments of CUE on the 2018 Leak Abatement Compliance Plans (dated June 1, 2018) at 7.

<sup>26</sup> October 6, 2017, Direct Testimony on Environmental Services, Exhibit SDG&E-23 (Nancy Clancy) at NCC-13.

<sup>27</sup> Ex. CUE (Marcus) at 87:9-14.

<sup>28</sup> CUE-SEU-DR-08, Question 277, attached in Appendix A.

<sup>29</sup> Ex. CUE (Marcus) at 88:10-13.

<sup>30</sup> *Id.* at 88:19-21.



1 Detection: “Utilities shall utilize enhanced methane detection practices (e.g. mobile methane  
2 detection and/or aerial leak detection) including gas speciation technologies.”<sup>31</sup>

3 CUE’s informal comments filed on June 1, 2018 in R.15-01-008 proposing a similar  
4 request provides further evidence that this issue belongs in the scope of SB 1371: “Therefore, the  
5 Commission should impose the Picarro/super-crew framework on SDG&E. . . .”<sup>32</sup>

6 For these reasons, the Commission should authorize SDG&E’s forecast for Leak Survey  
7 activities and reject CUE’s proposal as out of scope.

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<sup>31</sup> D.17-06-015, Appendix B at B12; *see also* SDG&E AL 2621-G-A, Attachment B at 26-27, *available at* <http://regarchive.sdge.com/tm2/pdf/2621-G-A.pdf>; 2018 Leak Abatement Compliance Plan at 82-86, *available at* [https://www.sdge.com/sites/default/files/regulatory/SB%201371%20SDG%26E%202018%20Compliance%20Plan%20-%20FINAL%20March%2015%2C%202018\\_0.pdf](https://www.sdge.com/sites/default/files/regulatory/SB%201371%20SDG%26E%202018%20Compliance%20Plan%20-%20FINAL%20March%2015%2C%202018_0.pdf).

<sup>32</sup> *See* Informal Comments of CUE on the 2018 Leak Abatement Compliance Plans (dated June 1, 2018) at 6.

2. Field Operations and Maintenance – Locate and Mark

**Table GOM-04**  
**San Diego Gas & Electric Company**  
**Test Year 2019 – Field O&M - Locate and Mark**

(Thousands of Constant 2016 Dollars)

	Position of Party			Difference Between	Difference Between
	SDG&E	ORA	CUE	ORA and SDG&E (ORA - SDG&E)	CUE and SDG&E (CUE - SDG&E)
<b>Field O&amp;M – Locate and Mark</b>					
5-Year Linear Base Forecast	3,169	3026 <sup>1</sup>	3,169	(143)	0
RAMP- Locate& Mark Training,	420	420	420	0	0
Locate and Mark increases <sup>2</sup>			260	0	260
				0	0
<b>Subtotal</b>	<b>3,589</b>	<b>3,446</b>	<b>3,849</b>	<b>(143)</b>	<b>260</b>

Notes

1/ ORA opposes use of linear trending. ORA uses 2016 base + incremental

2/ CUE addition for 2019

Recorded to this workgroup are labor and non-labor expenses to locate and mark multiple underground facilities which include distribution and transmission gas facilities, secondary and primary electric underground, and electric transmission. The activities completed under this cost workgroup are preventative in nature and are required to avert damages caused by third-party excavators working near gas underground substructures. These activities directly address the mitigating measures identified in the RAMP Report.<sup>33</sup>

The Locate and Mark forecast is based on the linear trend observed the last five years (2012 through 2016). Added to this five-year trend expenditure level is an incremental work element necessary to adequately fund the operations for the forecast years 2017 through 2019. The total funding required over the 2016 adjusted-recorded base including the RAMP incremental addition in this workgroup is \$563,000 in TY 2019.

<sup>33</sup> I.16-10-015/-016 (cons.), Risk Assessment and Mitigation Phase Report of San Diego Gas & Electric Company and Southern California Gas Company, November 30, 2016, Chapter SDG&E-2 Catastrophic Damage Involving Third-Party Dig-ins.

1                                   **a.        Rebuttal to ORA**

2                    ORA takes issue with SDG&E’s forecast for Locate and Mark and proposes using the  
3 2016 recorded base of \$3,026,000 plus RAMP-related<sup>34</sup> costs of \$420,000 to produce a TY 2019  
4 forecast of \$3,446,000, which is \$143,000 below SDG&E’s forecast of \$3,589,000.

5                    ORA opposes the use of a five-year linear trend and states that “ORA concludes that the  
6 2016 adjusted recorded expenses already capture increased activities and expenses during this  
7 period.”<sup>35</sup>

8                    SDG&E disagrees with ORA’s application of the 2016 recorded value as “already  
9 captur[ing] increased activities.” This is an inappropriate methodology for this workgroup  
10 because it fails to recognize specific increases in growth due to known trends and regulatory  
11 changes and the mitigation of risks that have been fully justified in testimony.<sup>36</sup> In 2016, the  
12 California Governor signed SB 661, named the Dig Safe Act of 2016, which added enforcement  
13 to the digging law by establishing the California Underground Facilities Safe Excavation Board.  
14 The Board is authorized to take action against those parties who violate the excavation law under  
15 California Government Code Section 4216 *et seq.* The Dig Safe Act is expected to require more  
16 excavators to notify Underground Service Alert (USA), which will add upward pressure to an  
17 already increasing USA ticket volume in California.

18                    Locate and Mark, including stand-by activity, is driven by general construction activity in  
19 public and private rights-of-way and customer growth, which drives the number of tickets  
20 SDG&E must complete. This growth is substantiated by the historical USA Ticket Notification  
21 trend as shown in the figure below (including 2017 data).<sup>37</sup>

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<sup>34</sup> Ex ORA-09 (Campbell) at 9:23.

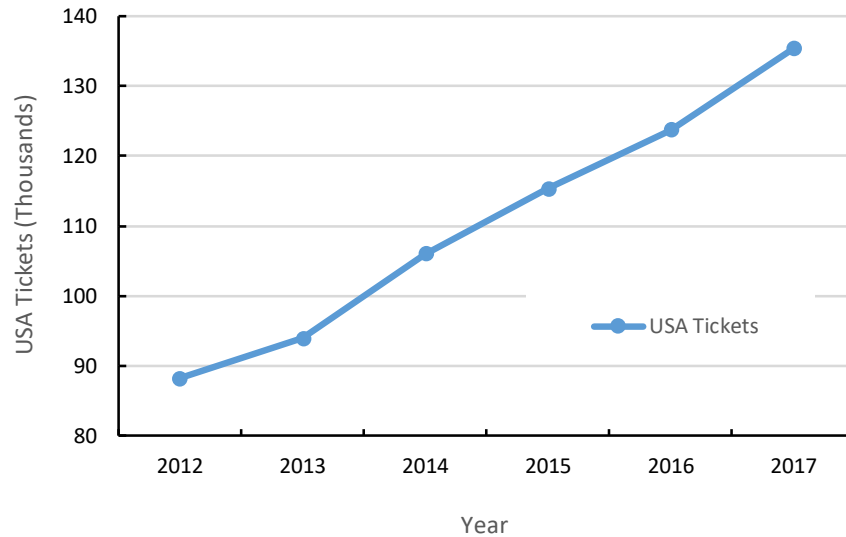
<sup>35</sup> *Id.* at 9:14-15 and 21-22.

<sup>36</sup> Ex. SDG&E-04-R (Orozco-Mejia) at GOM-16 to GOM-18 and GOM-36 to GOM-39.

<sup>37</sup> CUE-SDG&E-DR-02, Question 25, attached in Appendix A.

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**Figure GOM-01**  
**San Diego Gas & Electric Company**  
**2019 GRC SDG&E Gas Distribution**  
**USA Ticket Notifications**



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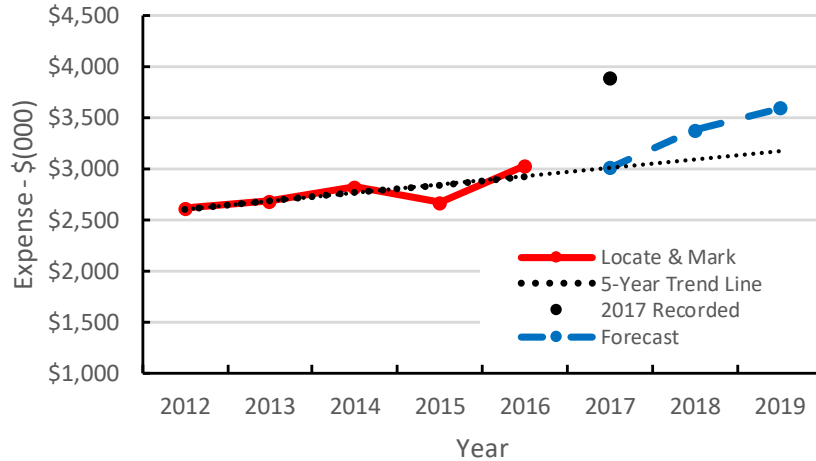
Added to the five-year trend expenditure level is an incremental RAMP Risk ID 02/SDG&E Dig Ins – Locate & Mark training, surveillance, and staff support work element necessary to adequately fund the operations for the forecast years 2017 through 2019. ORA agrees with funding this upward pressure.

While the 2017 recorded value for Locate and Mark expense was not available at the time of SDG&E’s linear trend forecast, the 2017 data was provided to ORA<sup>38</sup> and exceeds the 2017 forecast, which further substantiates the use of a linear trend. A graphical depiction of this trend is shown in the figure below where the 2012 to 2017 historical data has been plotted along with the 2012 to 2016 five-year linear trend line. This historical data and the growth drivers discussed above justify the use of a five-year linear trend methodology.

<sup>38</sup> A report showing the five years of adjusted-recorded historical spend and the three years of forecasts has been provided to Clayton Tang on December 1, 2017 in the file ‘MDR General Requirements Item 17 SDGE/SCG 5-Yr Hist w Fcst.xlsx’ and updated on January 25, 2018. 2017 adjusted-recorded data for capital was also sent to Clayton Tang on March 12, 2018; the 2017 adjusted-recorded data for O&M was delivered on March 16, 2018.

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**Figure GOM-02**  
**San Diego Gas & Electric Company**  
**Locate and Mark Expense**  
**(Thousands of Constant 2016 Dollars)**



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The Commission should reject ORA’s recommendation to use the base year 2016 methodology and instead approve SDG&E’s TY 2019 request of \$3,589,000 for Locate and Mark based on a five-year (2012-2016) linear trend forecast methodology.

**b. Rebuttal to CUE**

10 CUE recommends a forecast for TY 2019 for Locate and Mark (L&M) of \$3,849,000 or  
11 \$260,000 more than SDG&E’s forecast of \$3,589,000. CUE makes an argument for the growth  
12 in L&M activity over the forecast period that is greater than SDG&E’s.<sup>39</sup> However, it appears  
13 CUE made some calculation errors and made assumptions based on limited data.<sup>40</sup>

14 SDG&E’s forecast is reasonable and will provide the necessary level of funding to  
15 mitigate the risks associated with the potential for pipeline damages.

<sup>39</sup> Ex. CUE (Marcus) at 90:9-11.

<sup>40</sup> CUE-SDG&E-DR-02, Question 15.a., attached in Appendix A.



1           ORA opposes the use of a linear trend methodology and states “SDG&E’s historical  
2 Labor expenses fluctuated over the past five years.”<sup>41</sup> ORA goes on to say, “ORA concludes that  
3 [the 2016 adjusted recorded expenses] already captures additional work that SDG&E has to  
4 conduct.”<sup>42</sup> SDG&E disagrees with ORA’s application of the 2016 recorded value as “already  
5 captures additional work. . . .”<sup>43</sup> This is an inappropriate methodology for this workgroup, which  
6 fails to recognize specific increases in growth due to known trends and regulatory changes that  
7 have been fully justified in my testimony.<sup>44</sup>

8           Regulatory/legislative pressures continue to increase, the infrastructure is getting older,  
9 and municipality work and general construction continues to increase, therefore, a five-year  
10 (2012 through 2016) historical linear trend is the best methodology to forecast base expense for  
11 this workgroup. Using a 2016 base year forecasting method would not be appropriate for this  
12 work category, as it would not sufficiently fund critical compliance and maintenance work for  
13 the anticipated growing work requirements. This is indicated by the historical data, which is on a  
14 general upward linear trend over the 2012-2016 period as can be observed in the figure below.  
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<sup>41</sup> Ex. ORA-09 (Campbell) at 10:18-19.

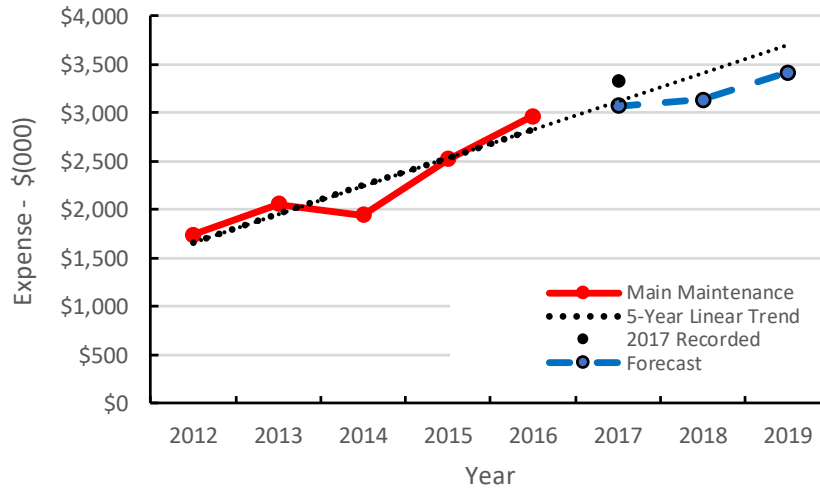
<sup>42</sup> *Id.* at 11:2-3.

<sup>43</sup> *Id.* at 10:2.

<sup>44</sup> Ex. SDG&E-04-R (Orozco-Mejia) at GOM-39 to GOM-41.

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**Figure GOM-03**  
**San Diego Gas & Electric Company**  
**Main Maintenance Expense**  
**(Thousands of Constant 2016 Dollars)**



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While the 2017 recorded value for Main Maintenance expense was not available at the time SDG&E developed its forecast, the 2017 data was provided to ORA<sup>45</sup> and exceeds the 2017 forecast, which further substantiates the use of a linear trend. The total main maintenance expense does not significantly fluctuate as the ORA states<sup>46</sup> but instead follows a generally well-defined linear trend. ORA’s statement of “[g]iven that the 2016 expense level is the highest over the 5-year period, ORA concludes that it already captures additional work that SDG&E has to conduct”<sup>47</sup> indicates ORA’s analysis is flawed. As expected from an upward trend, the 2016 data point, for a five-year trend methodology is the highest, and in fact is right on the five-year trend line as can be seen in the figure above.

The labor and non-labor Main Maintenance costs have experienced an upward trend associated with multiple work drivers. Disallowance of the five-year linear trend will impact SDG&E’s ability to cover the expenses for growth in these areas. These include:

<sup>45</sup> A report showing the five years of adjusted-recorded historical spend and the three years of forecasts has been provided to Clayton Tang on December 1, 2017 in the file ‘MDR General Requirements Item 17 SDGE/SCG 5-Yr Hist w Fcst.xlsx’ and updated on January 25, 2018. 2017 adjusted-recorded data for capital was also sent to Clayton Tang on March 12, 2018; the 2017 adjusted-recorded data for O&M was delivered on March 16, 2018.

<sup>46</sup> Ex. ORA-09 (Campbell) at 10:18-19.

<sup>47</sup> *Id.* at 11:1-3.



- 1 • The number of leaks evaluated and repaired each year – This work is generally  
2 completed to address public safety, infrastructure condition, and material degradation.
- 3 • The level of repairs associated with damages to pipeline facilities by third parties –  
4 This cost is driven by the number and severity of the damage to the gas pipeline  
5 system.
- 6 • The level of work completed by municipalities – Typical municipality projects  
7 include street resurfacing, widening or reconstruction; and sewer and water pipeline  
8 maintenance, replacement or new installations

9 A more detailed description of these growth drivers can be found in the direct  
10 testimony.<sup>48</sup> SDG&E forecasts the upward trend in these work drivers continuing, therefore  
11 rejection of SDG&E’s five-year trend in favor of a 2016 recorded level of expense is an  
12 inappropriate methodology.

13 Furthermore, SDG&E disagrees with ORA’s application of the 2016 recorded value in  
14 lieu of the five-year linear trend as it will also reduce base funding for the growth over the  
15 forecast period in the RAMP embedded expense for leak repair to mitigate the risk caused by  
16 potential leaks in pipe and pipe components.<sup>49</sup> ORA’s method will reduce this RAMP risk  
17 mitigation funding for leak repairs.

18 The Commission should reject ORA’s recommendation to use the base year 2016  
19 methodology and instead approve SDG&E’s TY 2019 request of \$3,422,000 based on a five-  
20 year (2012-2016) linear trend forecast methodology, which includes the FOF efficiency savings  
21 for the O&M workgroup Main Maintenance.

#### 22 **b. Rebuttal to CUE**

23 CUE accepts SDG&E’s forecasted Main Maintenance expense (both mains and services)  
24 and does not propose any changes to the basic O&M forecast in those workgroups.<sup>50</sup> However,

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<sup>48</sup> Ex. SDG&E-04-R (Orozco-Mejia) at GOM-39 to GOM-41.

<sup>50</sup> I.16-10-015/-016 (cons.), Risk Assessment and Mitigation Phase Report of San Diego Gas & Electric Company and Southern California Gas Company, November 30, 2016, Chapter SDG&E-16, Catastrophic Damage Involving Medium Pressure Pipeline Failure; Ex.SDG&E-04-WP-R (Orozco-Mejia), RAMP Item #1 at 33.

<sup>50</sup> Ex. CUE (Marcus) at 86:1-2.

1 in the capital discussion, CUE proposed increased O&M funding associated with CUE's  
2 proposed increased capital expenses. These are described below:

3 **i. Aldyl-A Pipe Replacements**

4 CUE proposes to increase of \$1,715,000 associated with its recommended increase in  
5 Aldyl-A pipe replacements.<sup>51</sup> SDG&E does not anticipate an increase in O&M associated with  
6 replacement pipe. Pipe is generally being replaced into the same O&M environment and  
7 location.

8 **ii. Steel Pipe Replacements**

9 CUE proposed to increase of \$177,000 associated with its recommended increase in steel  
10 pipe replacements.<sup>52</sup> SDG&E sees no significant increase in O&M associated with replacement  
11 pipe. Pipe is being replaced into the same O&M environment and location.

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<sup>51</sup> Ex. CUE (Marcus) at 92:9-15.

<sup>52</sup> Ex. CUE (Marcus) at 92:17-93:2.



1 \$3,993,000 for both Leadership Training and the Supervisor University. ORA disallowed  
2 \$154,000 for the incremental addition of three field supervisors required for growth in this  
3 workgroup.

4 ORA argues that the 2016 expense level “already captures additional field supervision.”<sup>53</sup>  
5 However, the additional field supervision will be needed as activities will not remain at the same  
6 baseline level as in the past. With growth in this workgroup, additional supervision will provide  
7 the knowledge and skills to enhance worker effectiveness and safety. Additional first-line  
8 supervisor support will be needed to address the challenges the Company faces described in my  
9 direct testimony<sup>54</sup> and in the response to a data request,<sup>55</sup> to respond to operations, maintenance,  
10 and construction needs associated with customer growth, mitigation of the risks confronted on  
11 the job, addressing compliance with new federal and state (GO 112-F) regulations, and proactive  
12 action to enhance employee training, qualification, and work quality.

13 Furthermore, an increase in skills development and operator qualification training and  
14 program development that began in 2013 and continued through 2016 is expected to continue in  
15 the forecast years. Work increases including locate and mark and main maintenance as shown  
16 by the 2017 recorded data will require additional construction management and leadership skills  
17 to support the Gas Distribution workforce, customers, and external agencies.

18 The Commission therefore should reject ORA’s recommendation to deny funding for the  
19 addition of three field supervisors in this workgroup and instead approve SDG&E’s TY 2019 full  
20 request of \$3,993,000, which includes \$473,000 in incremental additions for both the additional  
21 field supervision and the RAMP project to enhance leadership development through the  
22 establishment of the Supervisor University.

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<sup>53</sup> Ex. ORA-09 (Campbell) at 12:23-25.

<sup>54</sup> Ex. SDG&E-04-R (Orozco-Mejia) at GOM-iv to GOM-vii.

<sup>55</sup> ORA-SDGE-117-MCL, Question 7.a, attached in Appendix A.



1 fails to recognize increases in expense during the forecast years due to increased maintenance  
2 from aging station components, gas system growth, adding additional stations to maintain,  
3 increased construction activity, and the mitigation of risks identified through the RAMP process  
4 that have been fully justified in testimony<sup>57</sup> and responses to data request questions.<sup>58</sup>

5 In developing the TY 2019 forecast, SDG&E evaluated the historical expenditures for  
6 2012 through 2016 for the M&R workgroup. Labor and non-labor expenses increased  
7 collectively from 2012 to 2016 due to the continued expansion of the workforce to meet work  
8 demands stemming from an increase in construction activities, system growth, and increased  
9 maintenance due to equipment age. Given this continued increase in work requirements and  
10 associated expense over the historical period, a five-year linear trend best represents the funding  
11 required for this activity.

12 While the 2017 recorded value for M&R expense was not available at the time SDG&E  
13 developed its linear trend forecast, the 2017 data was provided to ORA<sup>59</sup> and exceeds the 2017  
14 forecast, which further substantiates the use of a linear trend. The total M&R expense follows a  
15 generally well-defined five-year linear trend line. Fluctuations along the trendline are normal, as  
16 shown in a graphical depiction in the figure below where the 2012 to 2017 historical data has  
17 been plotted along with the 2012 to 2016 five-year linear trend line.  
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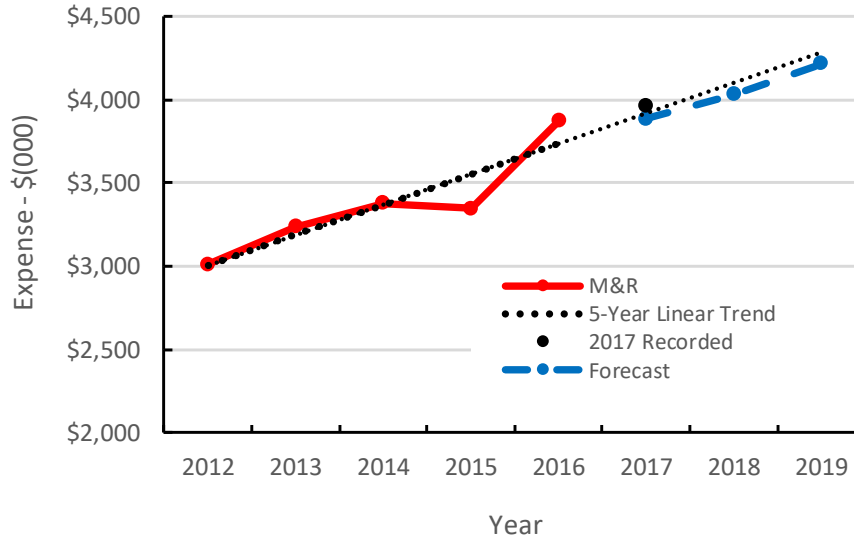
<sup>57</sup> Ex. SDG&E-04-R (Orozco-Mejia) at GOM-5 to GOM-7, GOM-19 to GOM-20 and GOM-50 to GOM-53.

<sup>58</sup> ORA-SDGE-115-MCL, Questions 3 and 4; CUE-SDG&E-DR-02, Question 36, attached in Appendix A.

<sup>59</sup> A report showing the five years of adjusted-recorded historical spend and the three years of forecasts has been provided to Clayton Tang on December 1, 2017 in the file 'MDR General Requirements Item 17 SDGE/SCG 5-Yr Hist w Fcst.xlsx' and updated on January 25, 2018. 2017 adjusted-recorded data for capital was also sent to Clayton Tang on March 12, 2018; the 2017 adjusted-recorded data for O&M was delivered on March 16, 2018.

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**Figure GOM-04**  
**San Diego Gas & Electric Company**  
**Measurement and Regulation Expense**  
**(Thousands of Constant 2016 Dollars)**



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SDG&E disagrees with ORA’s application of the 2016 recorded value in lieu of the five-year linear trend as it will also reduce base funding for the growth over the forecast period in the RAMP embedded expense for regulator station, meter set, and valve inspections to mitigate the risk associated with station over-pressure protection and leaks at valves and meter sets.<sup>60</sup>

Regulator stations are critical control elements in the gas distribution system. Failure of a regulator station could result in under- or over-pressurization of the gas distribution system, resulting in reduced service to customers and/or jeopardizing public safety. Therefore, proactive maintenance of these facilities is a priority. In addition, regulator stations are part of an aging infrastructure. This aging will translate into increased maintenance expense over future years. ORA proposes significant reductions in M&R that, even conservatively, are inadequate to keep up with the maintenance and operations and the reasonable rate of replacement of pipeline system components and regulator stations.

<sup>60</sup> I.16-10-015/-016 (cons.), Risk Assessment and Mitigation Phase Report of San Diego Gas & Electric Company and Southern California Gas Company, November 30, 2016, Chapter SDG&E-16, Catastrophic Damage Involving Medium Pressure Pipeline Failure; Ex. SDG&E-04-WP-R (Orozco-Mejia), RAMP Item #1 at 67.

1           The Commission should reject ORA’s recommendation to use the base year 2016  
2 methodology and instead approve SDG&E’s TY 2019 request of \$4,216,000 for M&R, which is  
3 based on a five-year (2012-2016) linear trend forecast methodology.



1 **IV. REBUTTAL TO PARTIES' CAPITAL PROPOSALS**

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3 **Table GOM-08**  
4 **San Diego Gas & Electric Company**  
5 **Summary of Total Capital Costs**

<b>TOTAL CAPITAL - Constant 2016 (\$000)</b>					
	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>Total</b>	<b>Variance</b>
SDG&E	50,666	91,606	110,993	253,265	--
ORA	75,756	88,647	88,246	252,649	(616)
CUE	50,666 <sup>61</sup>	91,606 <sup>62</sup>	132,560	274,832	21,567
Sierra Club/UCS	Not Specified				

6  
7 ORA recommends adopting the 2017 adjusted-recorded capital expenditure amount for  
8 2017, and proposes reductions to three capital expense categories for 2018 and 2019 as shown in  
9 the table below.

10 CUE proposes increases to Replacement – Mains and Services, Cathodic Protection, and  
11 Regulator Station Improvements capital budget categories resulting in an overall increase of  
12 \$21,567,000. CUE did not dispute the other capital workgroups.

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<sup>61</sup> CUE did not discuss SDG&E's total forecast values for base year 2016, 2017, and 2018. It is assumed that CUE accepted the SDG&E forecast figures for those years.

<sup>62</sup> *Id.*

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**Table GOM-09  
San Diego Gas & Electric Company  
Capital Forecast Summary – 2017**

	2017				
	Position of Party			Difference Between Party and SDG&E	
	<i>SDG&amp;E</i>	<i>ORA</i>	<i>CUE</i> <sup>1</sup>	<i>ORA - SDG&amp;E</i>	<i>CUE</i> <sup>1</sup> - <i>SDG&amp;E</i>
A. New Business	6,376	8,078	6,376	1,702	0
B. System Minor Additions, Relocations	3,694	8,838	3,694	5,144	0
C. Meter & Regulator Materials	7,077	2,664	7,077	(4,413)	0
D. Pressure Betterment	1,695	800	1,695	(895)	0
E. Distribution Easements	38	38	38	0	0
F. Pipe Relocations - Franchise/FWY	6,665	15,341	6,665	8,676	0
G. Tools and Equipment	2,219	2,564	2,219	345	0
H. Code Compliance	2,549	1,840	2,549	(709)	0
I. Replacement - Mains and Services	5,968	16,151	5,968	10,183	0
J. Cathodic Protection	5,450	7,705	5,450	2,255	0
K. Regulator Station Improvements	1,688	2,337	1,688	649	0
L. CNG Station Upgrades	0	406	0	406	0
M. Local Engineering	7,247	8,994	7,247	1,747	0
<b>Total Capital for 2017</b>	<b>50,666</b>	<b>75,756</b>	<b>50,666</b>	<b>25,090</b>	<b>0</b>

Notes:

1/ CUE did not discuss SDG&E's total forecast values for base year 2016, 2017 and 2018.  
It is assumed that they accepted the SDG&E forecast figures for those years.

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**Table GOM-10  
San Diego Gas & Electric Company  
Capital Forecast Summary – 2018**

	2018				
	Position of Party			Difference Between Party and SDG&E	
	<i>SDG&amp;E</i>	<i>ORA</i>	<i>CUE</i> <sup>1</sup>	<i>ORA - SDG&amp;E</i>	<i>CUE</i> <sup>1</sup> - <i>SDG&amp;E</i>
A. New Business	8,217	8,217	8,217	0	0
B. System Minor Additions, Relocations	3,694	3,694	3,694	0	0
C. Meter & Regulator Materials	7,468	7,468	7,468	0	0
D. Pressure Betterment	1,695	1,695	1,695	0	0
E. Distribution Easements	38	38	38	0	0
F. Pipe Relocations - Franchise/FWY	6,665	6,665	6,665	0	0
G. Tools and Equipment	2,219	2,219	2,219	0	0
H. Code Compliance	1,149	1,149	1,149	0	0
I. Replacement - Mains and Services	16,940	16,940	16,940	0	0
J. Cathodic Protection	5,656	5,656	5,656	0	0
K. Regulator Station Improvements	20,509	20,509	20,509	0	0
L. CNG Station Upgrades	2,617	2,617	2,617	0	0
M. Local Engineering	14,739	11,780	14,739	(2,959)	0
<b>Total Capital for 2018</b>	<b>91,606</b>	<b>88,647</b>	<b>91,606</b>	<b>(2,959)</b>	<b>0</b>

Notes:

1/ CUE did not discuss SDG&E's total forecast values for base year 2016, 2017 and 2018.  
It is assumed that they accepted the SDG&E forecast figures for those years.

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**Table GOM-11  
San Diego Gas & Electric Company  
Capital Forecast Summary – 2019**

	2019				
	Position of Party			Difference Between Party and SDG&E	
	<i>SDG&amp;E</i>	<i>ORA</i>	<i>CUE</i>	<i>ORA - SDG&amp;E</i>	<i>CUE - SDG&amp;E</i>
A. New Business	7,805	7,805	7,805	0	0
B. System Minor Additions, Relocations	3,694	3,694	3,694	0	0
C. Meter & Regulator Materials	7,283	7,283	7,283	0	0
D. Pressure Betterment	1,695	1,695	1,695	0	0
E. Distribution Easements	38	38	38	0	0
F. Pipe Relocations - Franchise/FWY	6,665	6,665	6,665	0	0
G. Tools and Equipment	2,219	2,219	2,219	0	0
H. Code Compliance	1,174	1,174	1,174	0	0
I. Replacement - Mains and Services	26,226	16,940	37,534	(9,286)	11,308
J. Cathodic Protection	5,861	5,861	7,705	0	1,844
K. Regulator Station Improvements	25,633	20,509	34,048	(5,124)	8,415
L. CNG Station Upgrades	2,617	2,617	2,617	0	0
M. Local Engineering	20,083	11,746	20,083	(8,337)	0
<b>Total Capital for 2019</b>	<b>110,993</b>	<b>88,246</b>	<b>132,560</b>	<b>(22,747)</b>	<b>21,567</b>

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**A. 005080 – Replacement of Mains and Services**

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**Table GOM-12  
San Diego Gas & Electric Company  
Gas Distribution Capital Forecast – Replacement of Mains and Services  
(Thousands of Constant 2016 Dollars)**

	Position of Party		
	<i>2017</i>	<i>2018</i>	<i>2019</i>
<b>SDG&amp;E</b>			
Base Expense	4,068	4,068	4,068
Vintage Steel Replacement	1,900	5,486	7,387
Pre-1933 Threaded Steel Replacement	0	7,386	14,771
<b>SDG&amp;E Subtotal</b>	<b>5,968</b>	<b>16,940</b>	<b>26,226</b>
<b>ORA</b>	<b>16,151<sup>1</sup></b>	<b>16,940</b>	<b>16,940<sup>2</sup></b>
<b>ORA - SDG&amp;E</b>	<b>10,183</b>	<b>0</b>	<b>(9,286)</b>
<b>CUE</b>			
SDG&E Base Forecast <sup>3</sup>	5,968	16,940	26,226
Pre-1933 Threaded Steel Replacement <sup>4</sup>	0	0	3,693
Vintage Steel Replacement <sup>4</sup>	0	0	7,615
<b>CUE Subtotal</b>	<b>5,968</b>	<b>16,940</b>	<b>37,534</b>
<b>CUE - SDG&amp;E</b>	<b>0</b>	<b>0</b>	<b>11,308</b>

NOTES:

1/ ORA recommends adopting the 2017 recorded for the 2017 forecast.

2/ ORA recommends same funding level as forecast for 2018

3/ CUE accepts SDG&E's base plus incremental forecast

4/ CUE additions for 2019

10

1 The Replacement of Mains and Services capital category provides for the replacement of  
2 deteriorated Gas Distribution system pipelines to maintain public safety and system reliability.  
3 Expenditures in this budget code range from minor pipe replacements to more complex projects.  
4 Most minor projects are completed in association with leak investigation and repair work. Other  
5 more extensive projects are scheduled as planned replacements based on evaluation of criteria  
6 such as observed condition of the pipe, coating deterioration, leak history, age of the pipe,  
7 construction methods originally used, and location relative to places of gathering. When the pipe  
8 condition is found to be hazardous or the pipeline has conditions similar to pipelines with a  
9 history of failures, the field and technical staff determines replacement options.

10 A five-year (2012 through 2016) average was selected to forecast future costs for this activity  
11 as this methodology accounts for the range of activities recorded in this workgroup, as well as the  
12 cost fluctuations from year to year. Added to this base level are requested expenses to fund two  
13 RAMP projects to mitigate risks associated with pipeline system safety.

#### 14 **1. Rebuttal to ORA**

15 ORA recommends adopting the 2017 adjusted-recorded capital expenditure amount for  
16 2017, accepts SDG&E's forecast for 2018 and proposes a reduction for 2019. SDG&E does not  
17 oppose ORA's 2017 recommendation.

18 However, while ORA does not oppose SDG&E's forecast of \$16,940,000 for 2018, it  
19 recommends that same funding level for TY 2019 resulting in a \$9,286,000 reduction in  
20 SDG&E's TY 2019 forecast. Although, ORA concurs with SDG&E's proposed activities  
21 associated with the two RAMP incremental additions associated with replacement of early  
22 vintage steel pipe and the replacement of pre-1933 threaded steel main,<sup>63</sup> ORA states that  
23 "SDG&E has not presented sufficient evidence to support a 55% increase in forecasted 2019  
24 expenditures relative to its 2018 forecast."<sup>64</sup>

25 ORA's position regarding SDG&E's support of a 55% increase in capital expenditures  
26 for 2019 is unwarranted. The 2016 expenditures in this work category were \$5.618 million,  
27 while the 2017 expenditures grew to \$16.151 million, an increase of 188%. As demonstrated by  
28 the higher than forecasted level of spending in 2017, SDG&E has the commitment to the RAMP

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<sup>63</sup> Ex. ORA-09 (Campbell) at 29:20-22 to 30:1.

<sup>64</sup> Ec. ORA-09 (Campbell) at 30:3-5.

1 risk mitigation projects and the ability to significantly increase the rate at which work is  
2 completed.

3 In the testimony,<sup>65</sup> capital workpapers,<sup>66</sup> and various data request responses,<sup>67</sup> SDG&E  
4 outlined the two RAMP incremental projects (SDG&E's Early Vintage Steel Replacement  
5 Project and the Pre-1933 Threaded Steel Main Removal Project), including the project  
6 descriptions, their funding levels and how it plans to complete these projects on a unit cost basis.

7 SDG&E is committed to addressing the elements of the two incremental RAMP early  
8 vintage piping and threaded main removal projects:

- 9 • Proactively prioritize and increase the replacement of pre-1947 non-piggable high-  
10 pressure pipelines as well as early vintage medium-pressure steel mains. The lack of  
11 corrosion protection will lead to increased leakage.
- 12 • Proactively prioritize and increase the replacement of pre-1933 threaded steel  
13 pipelines. The threaded pipe is prone to higher rate of leakage due to susceptibility to  
14 corrosion near the threaded joint.

15 SDG&E provided data to justify its replacement schedule and full funding for TY 2019  
16 for both projects. Furthermore, ORA was shown the table (included here for reference) in an  
17 ORA data request response,<sup>68</sup> which shows the increasing leak rates per mile in steel piping in  
18 the 1930s and earlier.

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<sup>65</sup> Ex. SDG&E-04-R (Orozco-Mejia) at GOM-88 to GOM-90.

<sup>66</sup> Exhibit SDG&E-04-CWP (Orozco-Mejia), SDG&E-GOM-Capital-SUP-006 at 118.

<sup>67</sup> ORA-SDGE-103-MCL, Questions 1 to 4; CUE-SDG&E-DR-02, Questions 26 and 27, attached in  
Appendix A.

<sup>68</sup> ORA-SDGE-103-MCL, Question 3 and accompanying spreadsheet ORA-SDGE-103-Q3.xlsx, attached  
in Appendix A.

**Table GOM-13**  
**San Diego Gas & Electric Company**  
**Leak Rates by Decade on Medium Pressure Steel Mains**

Decade of Operation	Material	Number of Leaks on Steel Main <sup>1</sup>	Miles of Med Pressure Main	Leaks/mile
1910	Steel	1	1.0	1.0
1920	Steel	279	82.4	3.4
1930	Steel	187	97.7	1.9
1940	Steel	496	264.7	1.9
1950	Steel	1,096	1145.9	1.0
1960	Steel	542	1064.9	0.5
1970	Steel	245	1433.3	0.2
1980	Steel	63	1468.3	0.0
1990	Steel	41	998.4	0.0
2000	Steel	19	979.3	0.0
2010	Steel	14	355.9	0.0

Notes:

1/ Medium pressure steel mains

Also in a CUE data request response,<sup>69</sup> the data shows a notable increase in pipe replacement work orders for piping installed pre-1933.

The Commission should reject ORA’s incorrect assumption and instead approve SDG&E’s full 2019 request of \$26,226,000 for Replacement of Mains and Services.

**2. Rebuttal to CUE**

**a. RAMP Pre-1933 Threaded Steel Main Removal**

CUE takes issue with SDG&E’s forecast and recommends accelerating the removal of pre-1933 threaded steel pipe, arguing that the pipe will be at least 90 years old by the end of this GRC cycle and 94 years old after the next GRC cycle (assuming 4-year cycles). CUE calculated that 152.2 miles<sup>70</sup> would need to be replaced beginning in 2019, and proposes that SDG&E’s 10-year replacement program of 152.2 is shortened by two years, to eight years, so that it does not go into a third GRC cycle. To accomplish this, CUE recommends a 25% increase in funding starting TY 2019 from the \$14,771,000 SDG&E forecasted to \$18,464,000.

The RAMP Pre-1933 Threaded Main Removal project was estimated to last 10 years given the replacement rates proposed in 2018 and 2019 would be carried forward. The program continues to evolve and additional cost drivers, refinements in scope, and overall risk priority

<sup>69</sup> CUE-SDG&E-DR-02, Question 26, Table 7, attached in Appendix A.

<sup>70</sup> Ex. CUE (Marcus) at 46:1-2.

1 will continue to emerge and be considered as necessary beyond this GRC. SDG&E proposes to  
2 maintain the forecasted replacement rates of 7.4 miles and 14.8 miles of threaded steel main in  
3 2018 and TY 2019 respectively. The replacement segments will be prioritized based on leak  
4 history, cathodic protection performance, pipe condition reports, and other applicable data.

5 Therefore, the Commission should approve SDG&E's level of proposed pipe  
6 replacement activity for TY 2019 request of \$14,771,000.

7 **b. RAMP - Early Vintage Steel Replacement**

8 CUE takes issue with SDG&E's forecast and recommends doubling the removal rate of  
9 early vintage steel pipe from 7.4 miles in TY 2019 to 15 miles per year,<sup>71</sup> stating that even at the  
10 accelerated rate, it would take 52 years to remove the pipe. Additionally, CUE states that in TY  
11 2019 these segments of pipe will be 64-85 years old and some segments will be at least 116 years  
12 old when removed.<sup>72</sup> CUE is forecasting a TY 2019 spend of \$15,002,000 instead of SDG&E's  
13 forecast of \$7,387,000.

14 The RAMP Early Vintage Steel Replacement project continues to evolve and additional  
15 cost drivers, refinements in scope, and overall risk priority will continue to emerge and be  
16 considered as necessary beyond this GRC. SDG&E proposes to maintain the forecasted  
17 replacement rates of 1.9 miles, 5.5 miles, and 7.4 miles of early vintage steel main in 2017, 2018,  
18 and TY 2019 respectively. The replacement segments will be prioritized based on leak history,  
19 cathodic protection performance, pipe condition reports, and other applicable data.

20 Therefore, the Commission should approve SDG&E's level of proposed pipe  
21 replacement activity for TY 2019 of \$7,387,000.

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<sup>71</sup> *Id.* at 47:14-15.

<sup>72</sup> *Id.* at 48:1-2.





1                   **1.        Rebuttal to ORA**

2                   The ORA does not take issue with SDG&E’s TY 2019 forecast for Cathodic Protection.

3                   **2.        Rebuttal to CUE**

4                   CUE takes issue with SDG&E’s forecast for Cathodic Protection (BC 510 / BC 12551)  
5 and proposes using the 2017 adjusted-recorded of \$7,705,000 for TY 2019 which is \$1,844,000  
6 above SDG&E’s forecast of \$5,861,000. CUE references a letter from the Utility Workers  
7 Union of America (UWUA)<sup>73</sup> stating that “[g]iven the lagging performance identified by  
8 UWUA, one would expect that at some point SDG&E would have to start putting substantially  
9 more money into its CP efforts.”<sup>74</sup>

10                  Contrary to the allegations in the UWUA letter, SDG&E continues to greatly improve its  
11 CP system performance and CP workforce development. Between 2011 and 2018, 55 new CP  
12 stations have been installed to improve CP effectiveness in previously problematic areas. The  
13 underlying factor for the 2017 spend above SDG&E’s forecast was a targeted initiative to move  
14 towards CP test point reads of -0.850 mV criteria requiring the installation of above average  
15 quantities of new CP stations. Additionally, SDG&E has begun using a specialized corrosion  
16 control contractor to drill and install new anode beds resulting in a high-quality product with  
17 maximizing station output.

18                  SDG&E is taking an analytical approach to CP system evaluation with the proposed  
19 development of a CP effectiveness model captured within the RAMP Cathodic Protection  
20 Reliability incremental activity.<sup>75</sup> This \$4,376,000 initiative, which is discussed in the Local  
21 Engineering section of this rebuttal, is strictly focused on enhancing CP station performance,  
22 promoting targeted troubleshooting, test point evaluation, and forecasting time to CP station  
23 failure.

24                  SDG&E has also focused on growing its CP workforce and providing a high level of  
25 training and specialty tooling. This is reflected in the recorded history for this workgroup, which  
26 was utilized in the development of the 2017 to TY 2019 forecast. It is important to note that  
27 since 2015, the workforce responsible for the San Diego CP system has doubled with the  
28 addition of 9 new employees. In 2015, SDG&E began to require that CP Electricians attend

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<sup>73</sup> Ex. CUE (Marcus) at 48:16-24 to 49:1-22.

<sup>74</sup> *Id.* at 49:23-25.

<sup>75</sup> Ex. SDG&E-04-R (Orozco-Mejia) at GOM-102.

1 National Association of Corrosion Engineers (NACE) CP1 level training and receive  
2 certification. Additionally, any new CP team member must do the same prior to being promoted  
3 to the CP Electrician level. SDG&E also created a Lead Electrician position, requiring NACE  
4 CP2 level certification. SDG&E continues to support its CP workforce by providing state-of-  
5 the-art tooling. Between 2016-2018, ten pipeline current mapper (PCM) instruments were  
6 purchased to facilitate close interval survey to pinpoint areas of anomalies potentially indicating  
7 an electrical short or susceptibility to developing leaks.

8           Therefore, the Commission should approve SDG&E's level of proposed Cathodic  
9 Protection activity for TY 2019 of \$5,861,000.



1 that support the mitigation of risks associated with infrastructure integrity, system reliability, and  
2 public safety.

3 In addition, four RAMP risk mitigation incremental projects are included in this work  
4 group:

- 5 • Dresser Mechanical Coupling Removal – In the 1920-1930s era, Dresser mechanical  
6 couplings were utilized instead of welding on a mixture of distribution and supply  
7 lines in the downtown San Diego vicinity.
- 8 • Oil Drip Piping Removal – The buried oil drip piping facilities are at risk of  
9 excavation damage as their location and configuration historically were not captured  
10 on facility maps and therefore not marked out.
- 11 • Replace Buried Piping in Vaults – Any pipe segment, fitting, or valve exposed within  
12 a below grade vault is at risk for accelerated atmospheric corrosion due to potential of  
13 water accumulation, pipe coating failure, and decreased cathodic protection  
14 effectiveness.
- 15 • Closed Valves Between Medium-Pressure and High-Pressure Systems – SDG&E has  
16 identified several valves in the closed position which separate high-pressure from  
17 medium-pressure systems.

18 A three-year historical average of recorded expenditures for the years 2014 through 2016 was  
19 used to forecast base costs in the GRC period 2017 to 2019. Added to this three-year average base  
20 level forecast are four incremental additions necessary to improve the safety and reliability of the  
21 system and reduce risk as identified in the RAMP Report.

### 22 1. Rebuttal to ORA

23 ORA recommends adopting the 2017 adjusted-recorded capital expenditure amount for  
24 2017, accepts SDG&E's forecast for 2018 and proposes a reduction for 2019.<sup>76</sup> SDG&E does  
25 not oppose ORA's 2017 recommendation. However, SDG&E disagrees with ORA's  
26 recommendation for TY 2019, which results in a \$5,123,000 reduction in SDG&E's forecast.  
27 ORA justifies this recommendation by stating that:

28 At least two of the above projects will commence in year 2018 and  
29 the RAMP Risk ID 16/ Medium and High-Pressure Systems project has an  
30 estimated time of completion 5 years from start year 2018 with a

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<sup>76</sup> Ex. ORA-09 (Campbell) at 33:5-9.

1 completion in year 2023. Year 2023 is out of this general rate case cycle.  
2 ORA recommends a forecast of \$20.5 million for year 2018 and 2019 be  
3 adopted.<sup>77</sup>

4 ORA's reasoning shows a misunderstanding of SDG&E's forecast and the RAMP project  
5 time frames. ORA appears to assume that the expenditure for TY 2019 will be reduced since it  
6 incorrectly interprets that a portion of the funding shown for TY 2019 will occur beyond the  
7 current GRC cycle.

8 ORA's testimony presented a table provided by SDG&E in a data request response to  
9 provide a time frame for the four RAMP incremental addition projects.<sup>78</sup> SDG&E indicated the  
10 approximate time in years for each of these projects and annual funding forecast as explained  
11 below. Funding levels are shown in the summary table preceding this Section.

- 12 • Dresser Mechanical Coupling Removal – This project has a three-year time frame  
13 starting with planning in 2017. Forecast expenditures are for the last two years, 2018  
14 and 2019.
- 15 • Oil Drip Piping Removal – This project also has a three-year time frame starting with  
16 planning in 2017. Forecast expenditures are for the last two years, 2018 and 2019.
- 17 • Buried Piping in Vaults Replacement – This project has a two-year time frame  
18 starting with planning in 2018. Forecast expenditures are for TY 2019 with this  
19 activity expected to continue after the current GRC period.
- 20 • Closed Valves Between Medium and High-Pressure Systems – This project is  
21 forecast over a five-year time frame, beginning in 2018. The annual funding for the  
22 first two years of the project (in this GRC) are also shown in the table preceding this  
23 Section. No expenditures are forecast for TY 2019; however, activity is forecast to  
24 increase after the current GRC.

25 In the capital workpapers, SDG&E provided a supplemental worksheet showing unit  
26 costs and annual forecasts for each of these projects.<sup>79</sup> These projects will have an annual  
27 expenditure, no matter how long they extend out in time, even if it is beyond the GRC cycle;  
28 however, only those forecasted annual expenditures that occur for the forecast years 2017  
29 through TY 2019 are included in this GRC.

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<sup>77</sup> Ex. ORA-09 (Campbell) at 34:6-10.

<sup>78</sup> ORA-SDG&E-153-MCL, Question 1, attached in Appendix A.

<sup>79</sup> Ex. SDG&E-04-CWP (Orozco-Mejia), Supplemental SDG&E-GOM-Capital-SUP-006 at 159.

1 The Commission should reject ORA's recommended reduction in funding for TY 2019  
2 that is based on a misunderstanding of SDG&E's forecast as requesting funding beyond the GRC  
3 cycle, which is incorrect; thus, ORA's forecast would insufficiently fund these capital projects  
4 during the current GRC cycle. The Commission should instead approve SDG&E's TY 2019 full  
5 level of funding of \$25,633,000 for the capital project Regulator Station Improvements and  
6 Other (Budget Code 510), including the four RAMP incremental projects.

7 **2. Rebuttal to CUE**

8 **a. Aging Regulator Replacements**

9 CUE disagrees with SDG&E's regulator station replacement base forecast and proposes  
10 an increase of \$3,718,000 for a total of \$4,480,000.<sup>80</sup>

11 As a prudent operator, SDG&E proactively addressed potential safety, integrity or  
12 reliability issues that apply to distribution regulator stations from a preventative viewpoint.  
13 Beginning in 2013, SDG&E adopted a regulator internal parts replacement (IPR) program. The  
14 purpose of this program is to proactively enhance the reliability of regulator stations by  
15 scheduling parts replacement at pre-defined intervals.

16 Regulator and serviceable parts' useful lifespan was analyzed and recommended parts  
17 replacement schedules were developed to optimize the life of the regulator while minimizing the  
18 risk of potential failures. SDG&E then set up an IPR program based on replacement criteria,  
19 including regulator type, age, service history, and serviceable parts' projected lifespan. IPR  
20 work can range from simple parts replacements to complete replacement of a regulator  
21 depending on the conditions found in annual and IPR inspections. Currently, the IPR cycle is 10  
22 years for regulator stations. The IPR program significantly extends the useful life of a regulator  
23 station.

24 As such, contrary to CUE's statements, SDG&E is addressing the aging population of its  
25 regulator stations. SDG&E's M&R forecasted O&M expense includes funding for regulator  
26 annual inspections and the IPR program and is a reasonable forecast of the required funding to  
27 provide necessary maintenance on 480 regulator stations.

28 SDG&E's regulator stations are replaced and/or installed for many reasons. These  
29 include the need for an additional supply to a single fed area, low pressure in a distribution area

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<sup>80</sup> Ex. CUE (Marcus) at 51.

1 due to customer growth, relocation to change the station location that is currently in an unsafe  
2 location to provide maintenance, and relocation for municipality infrastructure additions. The  
3 funding for the station is based on the reason or need for the station. Regulator stations therefore  
4 are funded from several capital budget codes, including BC 500, 503, 505, 508 and 510. CUE  
5 incorrectly assumed all regulator stations were funded from BC 510.

6 The Commission should approve SDG&E's total level of proposed funding for TY 2019  
7 of \$25,633,000, which includes the other portions of this budget code discussed in this section of  
8 the rebuttal.

9 **b. Closed Valves Between Medium-Pressure and High-Pressure**  
10 **Systems**

11 CUE takes issue with SDG&E's forecast for removal of closed valves between high-  
12 pressure and medium-pressure systems. CUE states that "CUE supports continuing SDG&E's  
13 own 2018 plans into 2019 by funding an ongoing \$3.52 million in 2019 to remove another 22  
14 valves."<sup>81</sup> This approach results in a \$3,520,000 increase over SDG&E's proposed TY 2019  
15 spend of \$0.

16 SDG&E will remove the first batch of 22 valves in 2018 to gain additional data for  
17 removal execution and costs. SDG&E will then perform project planning and gas network  
18 engineering studies in 2019 to outline subsequent valve removals and plans on completing the  
19 project within 5 years.<sup>82</sup> Removing a valve separating high-pressure and medium-pressure  
20 piping systems is a complex activity and requires isolating a section of the high-pressure supply  
21 line to remove each valve. The sequence and number of simultaneous removals must be  
22 carefully planned to not cause disruption of service to SDG&E's customers.

23 Based on this plan, the Commission should accept SDG&E's TY 2019 forecast of \$0.

24 **c. Dresser Mechanical Coupling Removal**

25 CUE takes issue with SDG&E's forecast for Dresser mechanical couplings stating:

26  
27 Removing 100 couplings, at a unit cost of \$0.16 million each, would require a  
28 total capital expenditure of \$16 million. SDG&E proposes to have spent \$7.878  
29 million of that in 2017-2018, before the GRC cycle begins. CUE proposes that the

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<sup>81</sup> *Id.* at 52:17-19.

<sup>82</sup> ORA-SDGE-153-MCL, Question 1.d., attached in Appendix A.

1 remaining \$8.122 million should be assumed spent in 2019, so as to complete the  
2 removal of all of the couplings over the three-year period 2017-2019.<sup>83</sup>

3 This approach results in a \$246,000 increase over SDG&E's proposed TY 2019 forecast of  
4 \$7,876,000. Additionally, CUE indicates that SDG&E's workpapers show the removal  
5 quantities totaling 59 couplings, but the aggregated forecast is enough to cover 98.4 coupling  
6 removals.

7 SDG&E acknowledges an error in the SDG&E-04-CWP, SDG&E-GOM-Capital-SUP-  
8 006 supplemental workpaper. The correct unit value for 2018 Dresser mechanical coupling  
9 removal is 43.5 instead of 4.3<sup>84</sup>; it is important to note that this text only change has no impact  
10 on the forecasted funding requirement.

11 The result of this correction is a total of 98.4 Dresser couplings to be removed between  
12 2017-2019. CUE's request for additional TY 2019 funding is based on funding for 100  
13 couplings for a difference of 1.6 couplings. This difference is negligible as it is based on an  
14 estimated total population of couplings: "approximately 100 Dresser couplings require removal,"  
15 as stated in footnote 3 in the supplemental workpaper.<sup>85</sup> SDG&E plans to complete the Dresser  
16 mechanical coupling removal project within the 2017-2019 time frame.

17 The Commission should accept SDG&E's TY 2019 forecast of \$7,876,000 for the RAMP  
18 incremental addition for removal of Dresser mechanical couplings.

#### 19 **d. Oil Drip Piping Removal**

20 CUE takes issue with SDG&E's forecast for Oil Drip Piping Removal stating:

21 The unit cost to remove them is \$0.16 million each, which means the cost to  
22 remove 120 of them would be \$19.2 million. Through 2018, SDG&E expects to  
23 have spent \$9.275 million of that \$19.2 million total, meaning that there would  
24 need to be capital expenditures of \$9.925 million in 2019 to remove the last of  
25 them.<sup>86</sup>

26 This approach results in a \$650,000 increase over SDG&E's proposed TY 2019 spend of  
27 \$9,275,000.

28 CUE's proposal for additional TY 2019 funding is based on removing a total of 120 oil  
29 drips instead of 116 as forecasted by SDG&E in the 2018-2019 time frame. This difference is

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<sup>83</sup> Ex. CUE (Marcus) at 55:16-17 to 56:1-6 (internal citations omitted).

<sup>84</sup> CUE-SDG&E-DR-02, Question 44.c., attached in Appendix A.

<sup>85</sup> Ex. SDG&E-04-CWP (Orozco-Mejia), Supplemental SDG&E-GOM-Capital-SUP-006 at 159 n.3.

<sup>86</sup> Ex. CUE (Marcus) at 56:11-15 (internal citations omitted).



1 negligible as it is based on an estimated total population of oil drips: “approximately 120 oil  
2 drips require removal,” as stated in footnote 4 in the supplemental workpaper.<sup>87</sup> SDG&E plans  
3 to complete the oil drip removal project within the 2017-2019 time frame.

4 The Commission should accept SDG&E’s TY 2019 forecast of \$9,275,000 for the RAMP  
5 incremental addition for removal of oil drip piping.

6 **e. Buried Piping in Vaults**

7 CUE takes issue with SDG&E’s forecast for buried piping in vault removal stating:

8 SDG&E estimates the unit cost per vault will be \$0.16 million. To remove 50  
9 vaults would thus cost \$8 million. SDG&E has budgeted \$7.719 million to  
10 mitigate 48 of them in 2019. CUE proposes that the CPUC increase the  
11 forecasted capital expenditures for these piping removals to \$8 million, sufficient  
12 to remove all 50 that SDG&E expects to find.”<sup>88</sup>

13 This approach results in a \$281,000 increase over SDG&E’s proposed TY 2019 spend of  
14 \$7,719,000.

15 CUE’s request for additional TY 2019 funding is based on removing a total of 50 vaults  
16 instead of 48<sup>89</sup> as forecasted by SDG&E in 2019. This difference is negligible as it is based on  
17 an estimated total number of locations, as indicated in my testimony: “it is estimated that  
18 approximately 50 locations will require replacement.”<sup>90</sup> SDG&E plans to complete the buried  
19 piping in vaults project within the 2019 time frame.

20 The Commission should accept SDG&E’s TY 2019 forecast of \$7,719,000 for the RAMP  
21 incremental addition for buried piping in vault removal.

22  

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<sup>87</sup> Ex. SDG&E-04-CWP (Orozco-Mejia), Supplemental SDG&E-GOM-Capital-SUP-006 at 159 n.4.

<sup>88</sup> Ex. CUE (Marcus) at 57:9-14 (internal citations omitted).

<sup>89</sup> Ex. SDG&E-04-CWP (Orozco-Mejia), Supplemental SDG&E-GOM-Capital-SUP-006 at 159.

<sup>90</sup> Ex. SDG&E-04-R (Orozco-Mejia) at GOM-96.

1 **D. BC 902 – Local Engineering**

2 **Table GOM-16**  
3 **San Diego Gas & Electric Company**  
4 **Gas Distribution Capital Forecast – Local Engineering**

5 **(Thousands of Constant 2016 Dollars)**

	Position of Party		
	<i>2017</i>	<i>2018</i>	<i>2019</i>
<b>SDG&amp;E</b>			
Base Expense	7,247	13,712	16,734
RAMP-CP Reliability	0	1,027	3,349
Subtotal	7,247	14,739	20,083
<b>ORA</b>	8,994 <sup>1</sup>	11,780	11,746
<b>ORA - SDG&amp;E</b>	1,747	(2,959)	(8,337)

NOTES:

1/ ORA recommends adopting the 2017 recorded for the 2017 forecast.

6  
7 Recorded to this workgroup are the labor and non-labor funding for a broad range of  
8 services to support Gas Distribution field capital asset construction. This budget code represents  
9 the forecasted costs associated with the Gas Distribution Local Engineering (LE) Pool. Certain  
10 costs are incurred by capital projects that originate from central activities, which are  
11 subsequently distributed to those capital projects. These central activity costs are also called  
12 “pooled” or “indirect” costs. The distribution of these costs is based on a number of factors such  
13 as Company labor, contracted services, and Applicant installations.

14 Included in the Local Engineering Pool are expenditures for technical planning work in  
15 pipeline project planning, project drawing production, and estimating project costs that take  
16 place in the Region Technical and Project Management offices in support of capital projects. In  
17 addition, expenditures for work performed by local engineering personnel to perform gas  
18 network analysis, develop construction designs and pressure control specifications, and conduct  
19 assessments of construction impacts on the reliability of the gas distribution system are included  
20 in this workgroup.

21 Generally, the level of support activities in the Local Engineering pool fluctuates with the  
22 level of capital construction activity. Because of this relationship, the forecast was developed on  
23 a zero-based basis by evaluating the Local Engineering pool’s historic capital expenditures with  
24 respect to the total direct expenditure across all Gas Distribution capital budget codes, except for

1 the Meter and Regulator Materials (Budget Code 502) and the Tools and Equipment Budgets  
2 (Budget Code 506).

3 This produced an annual relationship of the percentage of Local Engineering to total  
4 direct capital expenditures. The five-year (2012 through 2016) average of this historical ratio of  
5 21.4% was then applied to the forecasted total capital expenditures (less those budget codes  
6 discussed above) to determine the 2017, 2018, and TY 2019 forecast for Local Engineering. The  
7 forecast was separated into three components: Local Engineering expenditures driven by routine  
8 capital work; Local Engineering expenditures for capital projects identified in the RAMP Report;  
9 and expenditures to fund the incremental activities identified in this workgroup in the GRC  
10 forecast period 2017 to TY 2019.

### 11 1. Rebuttal to ORA

12 ORA recommends adopting the 2017 recorded expenditure amount of \$8,994,000, but  
13 takes issue with SDG&E's forecast for 2018 and 2019 of \$14,739,000 and \$20,083,000  
14 respectively. ORA recommends a zero-based forecast for 2018 and 2019 of \$11,780,000 and  
15 \$11,746,000 respectively. ORA's forecast is \$2,959,000 and \$8,337,000 below SDG&E's 2018  
16 and 2019 forecasts.

17 ORA developed its Local Engineering forecast for 2018 and 2019 by “[taking] a four-year  
18 average of the LE percentages from years 2014-2017; ORA excluded the 2012 and 2013 LE  
19 percentages as outliers as they were unusually high compared to the other years.”<sup>91</sup> ORA goes on  
20 to say, “ORA applied its recommended ratio of 18.62% to its capital expenditure forecasts (net of  
21 Regulator Materials and Tools & Equipment), to arrive at its recommended LE forecast of \$11.78  
22 million for 2018 and \$11.74 million for 2019.”<sup>92</sup>

23 SDG&E disagrees with ORA's methodology of excluding the 2012 and 2013 data as  
24 “outliers” in the calculation of the ratio of historical LE to total construction costs and using instead  
25 the 2014-2017 four-year data. ORA does not appear to support its conclusion that two of the data  
26 points are outliers with evidence other than they were ‘unusually high’, and presents no arithmetic  
27 basis to justify their exclusion.  
28

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<sup>91</sup> Ex. ORA-09 (Campbell) at 36:24 to 37:3.

<sup>92</sup> *Id.* at 37:10-12.

1 SDG&E used the 2012-2016 five-year historical data set for its calculation in this area, as  
2 it has in previous GRCs. This is the best methodology given the fluctuations from year to year,  
3 which are driven by the mix of projects within each of the workgroups LE supports.

4 Additionally, ORA failed to consider the incremental RAMP – Cathodic Protection  
5 Reliability initiative, the third cost element that is included in the total Local Engineering  
6 forecast. This incremental addition is necessary to improve the safety and reliability of the  
7 system and reduce risk as identified in the RAMP Report. This incremental addition provides  
8 funding to develop a model to simulate the status of SDG&E’s cathodic protection system. The  
9 model will include the development of a risk algorithm capable of assessing the health of the CP  
10 system. This effort will require a detailed CP system evaluation, including the modeling of the  
11 546 CP stations. The CP effectiveness model results will be validated using current, voltage, and  
12 soil resistance readings from the field. Once validated, the model will be kept up to date with the  
13 latest data from field inspections, with the purpose of anticipating the likelihood of CP station  
14 failure and proactively replacing or splitting stations to minimize station down time and  
15 associated impact to the level of CP protection on the system. Additionally, the CP model will  
16 be utilized to evaluate areas of aging steel pipelines and contribute data to early vintage steel  
17 pipe replacement prioritization efforts. The total incremental funding needed for this activity in  
18 years 2017, 2018, and 2019 is \$0, \$1,027,000, and \$3,349,000, respectively.

19 The Commission should reject ORA’s recommendations, which assume reductions in the  
20 Local Engineering capital activity using an inappropriate methodology based on an inaccurate  
21 application of statistical analysis without factual support and fails to consider the RAMP  
22 incremental activity. The Commission should instead approve SDG&E’s total forecasted  
23 expenditures for Local Engineering in 2017, 2018, and 2019 of \$7,247,000, \$14,739,000, and  
24 \$20,083,000, respectively.

## 25 **2. Rebuttal to CUE**

26 CUE recommends a \$21,567,000 increase to SDG&E’s TY 2019 gas distribution capital  
27 request in main and service replacement (BC 508), cathodic protection (BC 509 / 12551), and  
28 regulator station improvement and other (BC 510) capital budget categories. By applying an  
29 average overhead rate of 39.94% to these increases, CUE has calculated associated overhead

1 costs to derive a fully loaded expenditure forecast.<sup>93</sup> In its testimony, CUE bundled the  
2 forecasted overheads for SDG&E's Pipeline Integrity, Gas Transmission, and Gas Distribution  
3 witness areas. It should also be noted, that the 39.94% is an aggregated average of loaders and  
4 overheads potentially spanning multiple witness areas, and not just limited to Local  
5 Engineering.<sup>94</sup>

6         SDG&E has calculated the required Local Engineering (BC 902) overhead funding  
7 requirements for applicable Gas Distribution budget codes. As stated above, the Gas  
8 Distribution witness area does not cover overhead or pool costs other than Local Engineering.  
9 The Commission should approve SDG&E's total forecasted TY 2019 expenditures for Local  
10 Engineering of \$20,083,000.

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<sup>93</sup> Ex. CUE (Marcus) at 59:6-18.

<sup>94</sup> CUE-SDG&E-DR-02, Question 48, attached in Appendix A.

1 **V. REBUTTAL TO OTHER ISSUES RAISED BY PARTIES**

2 **A. TURN Disputes Clothing and Other Gear Expenses**

3 TURN states that expenses related to clothing and other gear containing the utilities'  
4 name and logo (excluding uniforms, hard hats, etc.) are largely promotional and image-building  
5 and should not be paid for by ratepayers. It claims that since the Commission removed these  
6 costs in Pacific Gas and Electric Company's (PG&E) recent rate case, they should be removed  
7 from SDG&E's case as well.<sup>95</sup> For Gas Distribution, the total for 2016 was \$4,008.<sup>96</sup> These  
8 expenses can be found across various non-shared services and shared services O&M  
9 workgroups.

10 Clothing and other gear with the company name or logo are sometimes provided to  
11 employees during safety fairs and safety celebrations. These items are not intended to be  
12 promotional or image-building, but rather, they are given to employees to recognize  
13 accomplishments or to promote safety awareness.

14 In addition, items containing the utilities' name and logo are used at safety fairs and other  
15 civic or community events. The logo clothing also allows emergency responders, media,  
16 government officials, fellow employees, and customers to readily identify company  
17 representatives who can respond to their inquiries and provide important information and  
18 updates.

19 The Commission should not adopt TURN's recommendation to summarily disallow costs  
20 of this nature if they are incurred to serve a valid utility business purpose, such as customer  
21 education/outreach, business development, or employee recognition.

22 **B. Sierra Club / UCS - Natural Gas Vehicle (NGV) Refueling Stations**

23 The Sierra Club/UCS indicated that they did not support the need for new NGV refueling  
24 stations in San Diego. They indicated that "A survey conducted in 2012 cannot logically be used  
25 to support the need for the new charging stations in 2018 and 2019, given the proliferation of  
26 electric vehicle options since 2012 and the decline in availability of natural gas passenger  
27 vehicles."<sup>97</sup>

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<sup>95</sup> Ex. TURN-03 (Marcus) at 77-78. Note TURN only gave a 2016 expense and did not specify a specific reduction for any of the forecast years.

<sup>96</sup> *Id.*

<sup>97</sup> Ex. Sierra Club-UCS-01 (O'Dea) at 36:12-15.

1 SDG&E disagrees with Sierra Club’s conclusion that the expansion of NGV refueling  
2 stations are not needed. For detailed discussion on the expansion of natural gas vehicles and the  
3 need for NGV fueling stations in the future please see the direct testimony of Andrew S.  
4 Cheung<sup>98</sup> and the rebuttal testimony of Carmen Herrera regarding SoCalGas NGV refueling  
5 stations.<sup>99</sup>  
6

## 7 **VI. CONCLUSION**

8 The revised direct testimony, workpapers, and SDG&E’s responses to numerous data  
9 requests provide substantial justification for the Commission to authorize SDG&E’s Gas  
10 Distribution Capital and O&M request in full as presented in Exhibit SDG&E-04-R. As  
11 described in this rebuttal testimony, the recommendations of the ORA are often based on  
12 inappropriate forecasting methodology, inaccurate assumptions, and an incomplete  
13 understanding of SDG&E’s testimony or data presented in data requests. It is important to note  
14 the following overall observations:

- 15 • ORA’s rejection of a 5-year linear trend methodology in three O&M workgroups  
16 when clearly the trend methodology was appropriate. Funding for growth in many  
17 instances is further supported by the 2017 recorded O&M data.
- 18 • ORA’s dismissal of SDG&E’s request for funding of increased field supervision in  
19 the Supervision and Training workgroup is shortsighted where the need for oversight  
20 and leadership has been well justified as presented in Exhibit SDG&E-04-R.
- 21 • ORA’s recommended reduction of funding for RAMP activities in capital projects  
22 Regulator Station Improvements and Other, and Replacement of Mains shows ORA  
23 does not understand SDG&E’s commitment to risk mitigation and its ability to  
24 complete capital projects, as evidenced by performance in the 2017 recorded capital  
25 outlays.
- 26 • ORA’s rejection of two years of higher data in favor of two lower current years in an  
27 average calculation for determining ORA’s Local Engineering capital forecast;

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<sup>98</sup> December 20, 2017, Revised Direct Testimony on Customer Services – Information, Exhibit SCG-20-R (Andrew S. Cheung, adopted by Rosie Magana).

<sup>99</sup> June 18, 2018, Rebuttal Testimony on Fleet Services and Facilities Operations, Exhibit SCG-223 (Carmen Herrera).

1 choosing a 4-year average instead of SDG&E's five-year average shows ORA is  
2 selective.

- 3 • While CUE proposes increases to SDG&E's forecast, SDG&E does not agree with  
4 aspects of CUE's discussion that contain incorrect assumptions.

5 SDG&E faces a number of challenges affecting both the physical operation of the  
6 pipeline system and cost management aspects of its business that contribute to the forecasts  
7 presented in the revised direct testimony. These challenges include:

- 8 • System Expansion – SDG&E's pipeline system continues to expand as new  
9 construction adds to the customer base and the need for pipeline infrastructure. New  
10 facilities add to the inventory of assets that require operations and maintenance  
11 attention.
- 12 • Aging Infrastructure – SDG&E has a long history of delivering safe and reliable  
13 natural gas service, notwithstanding the fact that a significant portion of the pipeline  
14 infrastructure has been in service for over 50 years. As the Company's pipeline  
15 infrastructure continues to age, it requires higher levels of maintenance, which results  
16 in higher costs. SDG&E attempts to maintain a reasonable balance between  
17 increased maintenance needs and eventual replacement.
- 18 • Trained and Qualified Workforce – Safety is rooted in all phases of Gas Distribution  
19 training. Maintaining a skilled, qualified, and dedicated workforce is critical to  
20 SDG&E's continued success. It is through the efforts of these employees that  
21 SDG&E can continue to deliver reliable service to customers and maintain the  
22 integrity of its pipeline infrastructure at reasonable cost. SDG&E is experiencing  
23 increased pressures associated with maintaining a highly-trained and qualified  
24 workforce from turnover due to retirements and employee movement from  
25 promotions and transfers.
- 26 • Customer and Load Demands – As a public utility, SDG&E has an obligation to  
27 provide natural gas service to customers within its service territory. As the customer  
28 base grows and expands, new demands are placed on existing infrastructure. For  
29 example, customer load growth creates the need for facility upgrades, increasing  
30 customer density can require the relocation of existing infrastructure, and general



1 business improvements require the Company to protect its infrastructure from  
2 potential damage due to third-party construction.

- 3 • State and Municipal Agency Construction Requirements – The construction,  
4 operation, and maintenance of SDG&E’s vast pipeline system require interaction and  
5 compliance with numerous agencies. These agencies continue to impose new and  
6 often more stringent administrative, planning, and field construction operating  
7 conditions that can result in increased cost pressures to maintain the gas distribution  
8 system.
- 9 • Regulatory Requirements – These requirements continue to increase necessitating  
10 changes in work processes and the addition of resources to complete impacted  
11 operations, maintenance, and construction work. Some of these incremental  
12 pressures are associated with the implementation of GO 112-F and SB 661.

13 SDG&E’s forecast expenditures support Gas Distribution’s fundamental philosophy of  
14 maintaining operational excellence while providing safe, reliable delivery of gas energy at a  
15 reasonable cost to customers.

16 SDG&E’s TY 2019 forecast is a reasonable estimate of future requirements to meet these  
17 challenges and should therefore be adopted by the Commission.

18  
19 This concludes my prepared rebuttal testimony.

**APPENDIX A**  
**Footnotes - Additional Text**

## APPENDIX A

### Footnotes – Additional Text:

<sup>1</sup>28,366,000 – This is a corrected value. ORA’s original value of \$27,697,000 shown in Ex. ORA-09 (Campbell) at 2, Table 9-1, column b (ORA Report) was incorrect.

The development of this number began in Table 9-10, page 13 of the ORA report. The value for Measurement & Reg in that table was incorrectly stated as \$3,873,000, it should have been \$3,803,000 (this includes the Fueling of the Future savings of \$70,000). This is a table text error only, ORA used the correct value in its analysis. This is confirmed by ORA stating on page 14, line 15, that “ORA recommends \$3.083 million for TY 2019...” [not \$3,873,000]

This error was then carried forward to the summary Table 9-5 on page 6, resulting in the incorrect total of \$21,757,000. Applying the correct value for Measurement & Regulation of \$3,083,000, would result in the correct total of \$21,687,000 for all Field Operations and Maintenance.

Carrying the corrected value of \$21,687,000 forward to the summary Table 9-1 on page 2 and replacing ORA’s incorrect total for Field Operations & Maintenance of \$21,018,000 with the correct value now results in the total corrected O&M recommendation by the ORA of \$28,366,000. This value can be confirmed by totaling all the ORA recommendations in each report subpart as shown in the table below:

Description	ORA Recommended \$(000)
Field Operations & Maintenance:	
1. Other Services	\$202
2. Leak Survey	\$1,841
3. Locate & Mark	\$3,446
4. Main Maintenance	\$2,965
5. Service Maintenance	\$1,867
6. Tools Fittings & Materials	\$1,010
7. Electric Support	\$425
8. Supervision & Training	\$3,839
9. Measurement & Regulation	\$3,803
10. Cathodic Protection	\$2,289
Asset Management	\$2,169
Operations Management & Training	\$4,510
Total All O&M	\$28,366

Notes:

Highlighted lines are the ORA contested expense groups

# **APPENDIX B**

## **Data Requests**

## APPENDIX B

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1. CUE-SEU-DR-08 Question 277
2. CUE-SDG&E-DR-02 Question 15.a.
3. CUE-SDG&E-DR-02, Question 25.
4. CUE-SDG&E-DR-02 Question 26 and 27
5. CUE-SDG&E-DR-02 Question 26, Table 7
6. CUE-SDG&E-DR-02, Question 36
7. CUE-SDG&E-DR-02, Question 44.c.
8. CUE-SDG&E-DR-02, Question 48.
9. ORA-SDGE-103-MCL, Question 1 to 4
10. ORA-SDGE-103-MCL, Question 3, accompanying spreadsheet ORA-SDGE-103-Q3.xlsx
11. ORA-SDGE-115-MCL, Question 3 and 4
12. ORA-SDGE-117-MCL, Question 7.a
13. ORA-SDGE-153-MCL, Question 1.
14. ORA-SDGE-153-MCL Question 1.d.

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### 1. CUE-SEU-DR-08 Question 277

**CUE DATA REQUEST  
CUE-SEU-DR-08  
UTILITIES 2019 GRC – A.17-10-008  
SOCALGAS RESPONSE  
DATE RECEIVED: APRIL 19, 2018  
DATE RESPONDED: MAY 25, 2018**

277. Please provide a response to DR CUE-12c2. SDG&E's response to DR CUE-113b indicates that 3 patrollers can survey 1560 miles per year of pipeline for leaks, or 520 miles per person per year.

- a. What is the average length of pipe that can be surveyed by one person in one work day?
  
- b. Please reconcile any difference between the response to the previous subpart and the average of 6114 feet per person per day reported by SCG for the length of pipe that can be surveyed for leaks by one employee in one work day.

#### **SDG&E's Response 277:**

SDG&E now has recorded data for year 2017. The revised response to CUE 02 Question 12.c is the recorded expense for Other Services for the year 2017 which was \$315,587.

a.,b. SDG&E recently began collecting leak survey footage per hour. Leak Survey Map survey rates vary based on meter density, terrain, leak detection equipment utilized in a given area, number and severity of leaks identified, and abnormal operating conditions found.

The current SDG&E average rate of leak survey is 1,400' feet per hour; Total footage per day per person varies depending on the number of hours worked. Reconciliation of SDG&E and SCG leak survey rates is not appropriate due to differences in geography and leak survey workforce responsibilities.

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### 2. CUE-SDG&E-DR-02 Question 15.a.

**CUE DATA REQUEST  
CUE-SDG&E-DR-02  
SDG&E 2019 GRC – A.17-10-007  
SDG&E RESPONSE  
DATE RECEIVED: JANUARY 5, 2018  
DATE RESPONDED: FEBRUARY 12, 2018**

15. Ex. SDGE-4-WP, p. 23, please provide:

- a. A disaggregation of the combined expenses in 2018 and 2019 for training and standby personnel into the training dollars and the standby dollars.
- b. An explanation of and calculation underlying the downward expense adjustments of \$95K in 2018 and \$140K in 2019 for "Other".
- c. Actual 2017 expenses for this activity.

#### **SDG&E Response 15:**

- a. Expenses for Locate and Mark in 2018 and 2019 include combined expenses of mark-out field activities, staff support, training and standby observations. The manner in which hours are logged and expenses derived for all these activities is in a format that does not allow a readily available or accurate way to break out each contribution individually.
- b. The adjustments of -\$95,000 in 2018 and -\$140,000 in 2019 are the estimated amounts of labor in the incremental RAMP addition (for Locate and Mark training, standby and staff support) already captured in the five-year linear trend base expense forecast. These amounts were deducted from the total incremental RAMP expense resulting in the net RAMP expense of \$285,000 for 2018 and \$420,000 for TY 2019. This would avoid a double accounting for this labor in the base and in the incremental addition. The overlapping labor amount was estimated to be 25% of the total RAMP incremental addition. This is also explained in Exhibit SDG&E-04-R on page GOM-38.
- c. Financial data for year-end 2017 is not yet available.

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### 3. CUE-SDG&E-DR-02, Question 25.

**CUE DATA REQUEST  
CUE-SDG&E-DR-02  
SDG&E 2019 GRC – A.17-10-007  
SDG&E RESPONSE  
DATE RECEIVED: JANUARY 5, 2018  
DATE RESPONDED: FEBRUARY 14, 2018**

25. Ex. SDGE-4, p. 17:8-19 discusses Locate and Mark work by SDG&E, and also references the impact of SB 661 on SoCalGas.

- a. Should the reference to SoCal Gas apply to SDG&E as well? If the answer is anything other than "yes," please indicate what SDG&E "anticipates".
- b. For each of the years 2012-17, inclusive, how many USA notifications did SDG&E receive annually?
- c. For each of the years 2018-22, inclusive, how many USA notifications does SDG&E anticipate receiving annually?
- d. For each of the years 2018-22, inclusive, how many incremental USA notifications does SDG&E anticipate receiving annually?
  - i. Due to SB 611 effects?
  - ii. Due to increases in economic activity causing "an already increasing ticket volume", even if there were no SB 611.

#### **SDG&E Response 25:**

- a. Yes, the "SoCalGas" reference should have been "SDG&E."
- b. Shown below in Table 6 are the USA ticket notifications for the years 2012-2017:

**Table 6**

2019 GRC SDG&E Gas Distribution - CUE-SDG&E-DR-02  
USA Ticket Notifications

	2012	2013	2014	2015	2016	2017
USA Ticket Notifications	88,207	93,898	106,027	115,340	123,726	135,282



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- c. SDG&E objects to 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, SDG&E responds as follows: SDG&E's filed application follows the Rate Case Plan, which identifies forecasted costs for a Test Year of 2019. SDG&E has not forecasted specific funding for years beyond 2019, which is addressed by the attrition mechanism. SDG&E did not forecast USA notifications.
  
- d. SDG&E objects to 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, SDG&E responds as follows: SDG&E's filed application follows the Rate Case Plan, which identifies forecasted costs for a Test Year of 2019. SDG&E has not forecasted specific funding for years beyond 2019, which is addressed by the attrition mechanism. SDG&E did not forecast incremental USA notifications.

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4. CUE-SDG&E-DR-02 Question 26 and 27
5. CUE-SDG&E-DR-02 Question 26, Table 7

**CUE DATA REQUEST  
CUE-SDG&E-DR-02  
SDG&E 2019 GRC – A.17-10-007  
SDG&E RESPONSE  
DATE RECEIVED: JANUARY 5, 2018  
DATE RESPONDED: FEBRUARY 14, 2018**

26. Ex. SDGE-4, p. 22:24-26, indicates that SDG&E plans to "increase the replacement of pre-1947 steel pipes with a history of corrosion leakage or other degradation issues." Ex. SDGE-4, p. 89:20-21, refers to "pre-1947 high pressure pipelines as well as early vintage medium-pressure steel mains."

- a. What installation years does "early vintage" refer to?
- b. What is the threshold for a pipe to be considered to have a "history of corrosion leakage or other degradation issues"?
- c. Please provide an age/mileage table, in Excel format, showing (as of yearend 2017), for each installation year prior to 1947, and cumulatively for all installation years prior to 1947:
  - i. The total number of miles of steel pipe on SDG&E's system installed in that year
  - ii. The number of miles of steel pipe on SDG&E's system installed in that year that have a "history of corrosion leakage or other degradation issues."
  - iii. The number of miles of non-piggable high pressure pipeline installed in that year
  - iv. The number of miles of medium-pressure steel mains installed in that year.

### **SDG&E Response 26:**

- a. "Early vintage" is defined in the RAMP Report, Chapter SDG&E-16 – Catastrophic Damage Involving Medium-Pressure Pipeline Failure, on page 16-15:

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- *Early Vintage Steel Replacement - This program is intended to remove pre-1947, non-piggable high pressure pipeline as well as pre-1955 medium pressure steel mains.*
- b. The threshold for a pipe to be considered to have a "history of corrosion leakage or other degradation issues" is complex in that it involves several parameters, evaluation of a pipeline's history, and prioritization of action among pipeline replacement candidates based on pipeline performance and safety risk to the public.

A description of the evaluation criteria including leak history, observed condition of the pipe, coating deterioration, age of pipe, and location to the public to determine replacement is given in Exhibit SDG&E-04-R on page GOM-88 and in Exhibit SDG&E-04-CWP-R on page 96.

- c. Age/mileage tables for steel pipe on SDG&E's system installed for each installation year prior to 1947 and cumulatively for all years prior to 1947 are shown in Table 7, 8, and 9 below (which can be converted to Excel format):
- i. The total number of miles of steel pipe (including mains and services) on SDG&E's system installed in each year prior to 1947 is shown in Table 7 below:

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## SDG&E Response 26 Continued:

**Table 7**

2019 GRC SDG&E Gas Distribution - CUE-SDG&E-DR-02  
 Number of miles of Steel Pipe Installed Prior to 1947

Year	Installed length of Steel Pipe <sup>1</sup> (Miles)	Cumulative Installed Length from 1947	Number of pipeline Work Orders
Unknown	7.6	7.6	6
Pre-1911	0.3	7.9	17
1912	0.1	8.0	6
1913	0.1	8.1	7
1914	0.0	8.1	4
1915	0.5	8.6	6
1916	0.2	8.8	7
1917	0.4	9.2	14
1918	0.2	9.4	11
1919	0.1	9.4	5
1920	0.9	10.4	36
1921	1.9	12.3	80
1922	6.8	19.1	93
1923	9.7	28.8	119
1924	7.0	35.8	127
1925	6.7	42.5	145
1926	18.1	60.6	188
1927	14.5	75.1	195
1928	26.2	101.3	244
1929	23.9	125.3	235
1930	8.1	133.4	150
1931	35.2	168.6	113
1932	11.0	179.6	11
1933	5.5	185.1	7
1934	7.1	192.2	11
1935	15.1	207.4	6
1936	18.4	225.8	14
1937	21.0	246.8	10
1938	28.6	275.4	12
1939	28.2	303.6	7
1940	33.3	336.9	19
1941	48.8	385.7	4
1942	36.2	421.9	6
1943	15.7	437.6	7
1944	30.7	468.3	8
1945	35.4	503.7	8
1946	55.6	559.2	8
1947	72.5	631.7	12

Total Mileage--> 631.7

Notes:

1/ Steel pipe still active for the date indicated

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## SDG&E Response 26 Continued:

- ii. The number of miles of steel pipe (mains and services) on SDG&E's system installed in the years prior to 1947 and still active that have at least one leak indicated in the pipeline work order segment (which can greatly vary in length depending on the size of the project) is shown in Table 8. Work order numbers are shown since pipeline replacement prioritization is often done on a work order basis. This is because the entire pipeline in each work order has similar material, construction, trench, and soil type characteristics.

**Table 8**

2019 GRC SDG&E Gas Distribution - CUE-SDG&E-DR-02  
 Number of miles of Steel Pipe Installed Prior to 1947 with a leak history

Year	Installed length of Steel Pipe <sup>1</sup> (Miles)	Cumulative Installed Length from 1947	Number of pipeline Work Orders
Unknown	0.3	0.3	2
1913	0.0	0.3	2
1914	0.0	0.3	1
1915	0.0	0.3	0
1916	0.0	0.3	0
1917	0.0	0.3	1
1918	0.1	0.4	3
1919	0.0	0.4	0
1920	0.2	0.6	5
1921	0.2	0.8	11
1922	1.0	1.8	20
1923	2.9	4.7	21
1924	0.4	5.1	16
1925	1.6	6.7	16
1926	3.8	10.5	45
1927	2.0	12.5	32
1928	5.2	17.7	54
1929	4.2	21.9	54
1930	1.0	22.8	27
1931	1.7	24.5	14
1932	0.9	25.5	2
1933	0.3	25.8	2
1934	0.4	26.2	2
1935	3.8	29.9	4
1936	1.9	31.8	4
1937	2.3	34.1	4
1938	4.1	38.2	5
1939	3.2	41.4	4
1940	3.9	45.3	4
1941	7.6	52.9	3
1942	1.1	54.0	2
1943	0.8	54.8	2
1944	1.7	56.5	2
1945	1.1	57.6	2
1946	2.0	59.6	2
1947	0.1	59.7	1

Total Mileage--> 59.7

Notes:

1/ Steel pipe still active for the date indicated

# APPENDIX B

## SDG&E Response 26 Continued:

- iii. The length of non-piggable pipelines is a parameter that is not possible to isolate from SDG&E's GIS pipeline database, however, medium-pressure mains and services are non-piggable.
- iv. The number of miles of medium-pressure steel mains installed in the years prior to 1947 and still active are shown in Table 9:

**Table 9**

2019 GRC SDG&E Gas Distribution - CUE-SDG&E-DR-02  
 Number of Miles of Medium Pressure Steel Mains Installed Prior to 1947

Year	Installed length of Medium Pressure Steel Mains <sup>1</sup> (Miles)
Unknown	1.0
Pre-1910	0.1
1911	0.0
1912	0.1
1913	0.0
1914	0.0
1915	0.4
1916	0.2
1917	0.3
1918	0.0
1919	0.0
1920	0.4
1921	0.8
1922	5.5
1923	7.8
1924	4.8
1925	3.9
1926	12.6
1927	9.3
1928	18.9
1929	18.4
1930	5.6
1931	30.0
1932	4.4
1933	2.8
1934	4.0
1935	8.5
1936	8.1
1937	9.5
1938	13.4
1939	12.2
1940	14.0
1941	37.5
1942	14.8
1943	5.2
1944	11.1
1945	21.3
1946	30.9
1947	29.7

Total Mileage--> 347.5

Notes:

1/ Steel pipe still active for the date indicated

## APPENDIX B

27. Ex. SDGE-4, p. 23:1-3 refers to plans to "initiate a mitigation effort." When does SDG&E plan to complete that mitigation effort?

### **SDG&E Response 27:**

This refers to the pre-1933 threaded steel pipe main removal RAMP incremental addition in the Replacement of Mains and Services (Budget Code 508) cost category in the capital portion of SDG&E's GRC forecast. A description can be found in Exhibit SDG&E-04-R, p. GOM-90 and in Exhibit SDG&E-04-CWP-R, pp. 96-97, and 106.

SDG&E plans to remove 7 miles of this pipe in 2018 and increase to a 15 miles/year removal target beginning in 2019. SDG&E proposes ongoing replacement of 15 miles per year; however, subsequent replacement mileage will depend on future GRC funding and prioritization with other risk-related projects.

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### 6. CUE-SDG&E-DR-02, Question 36

**CUE DATA REQUEST  
CUE-SDG&E-DR-02  
SDG&E 2019 GRC – A.17-10-007  
SDG&E RESPONSE  
DATE RECEIVED: JANUARY 5, 2018  
DATE RESPONDED: FEBRUARY 14, 2018**

36. Ex. SDGE-4, pp. 50:23-51:12, states that SDG&E has 481 regulator stations, 70 percent of them age 24 or older, with an average age of 29 years. Please provide an age distribution table, in Excel format, showing for each past year through 2017 the number of regulator stations installed that year.

**SDG&E Response 36:**

A regulator station age distribution table is provided in Table 13 below (which can be converted to Excel format). The data requested in this question can be found in Columns 1 and 2. Other columns are also provided in response to Question 42.



# APPENDIX B

**Table 13**  
2019 GRC SDG&E Gas Distribution - CUE-SDG&E-DR-02

Regulator Station Age Table

<b>1</b> <b>Year</b>	<b>2</b> <b>Number</b> <b>Installed</b>	<b>3</b> <b>Number</b> <b>Replaced<sup>2</sup></b>	<b>4</b> <b>Number</b> <b>Removed</b>	<b>5</b> <b>Total at Year</b> <b>End</b>
1961	1	N/A <sup>1</sup>	N/A <sup>1</sup>	1
1962	0	N/A <sup>1</sup>	N/A <sup>1</sup>	1
1963	0	N/A <sup>1</sup>	N/A <sup>1</sup>	1
1964	1	N/A <sup>1</sup>	N/A <sup>1</sup>	2
1965	0	N/A <sup>1</sup>	N/A <sup>1</sup>	2
1966	0	N/A <sup>1</sup>	N/A <sup>1</sup>	2
1967	0	N/A <sup>1</sup>	N/A <sup>1</sup>	2
1968	1	N/A <sup>1</sup>	N/A <sup>1</sup>	3
1969	1	N/A <sup>1</sup>	N/A <sup>1</sup>	4
1970	8	N/A <sup>1</sup>	N/A <sup>1</sup>	12
1971	16	N/A <sup>1</sup>	N/A <sup>1</sup>	28
1972	24	N/A <sup>1</sup>	N/A <sup>1</sup>	52
1973	31	N/A <sup>1</sup>	N/A <sup>1</sup>	83
1974	20	N/A <sup>1</sup>	N/A <sup>1</sup>	103
1975	20	N/A <sup>1</sup>	N/A <sup>1</sup>	123
1976	2	N/A <sup>1</sup>	N/A <sup>1</sup>	125
1977	13	N/A <sup>1</sup>	N/A <sup>1</sup>	138
1978	16	N/A <sup>1</sup>	N/A <sup>1</sup>	154
1979	13	N/A <sup>1</sup>	N/A <sup>1</sup>	167
1980	11	N/A <sup>1</sup>	N/A <sup>1</sup>	178
1981	5	N/A <sup>1</sup>	N/A <sup>1</sup>	183
1982	20	N/A <sup>1</sup>	N/A <sup>1</sup>	203
1983	11	N/A <sup>1</sup>	N/A <sup>1</sup>	214
1984	14	N/A <sup>1</sup>	N/A <sup>1</sup>	228
1985	15	N/A <sup>1</sup>	N/A <sup>1</sup>	243
1986	16	N/A <sup>1</sup>	N/A <sup>1</sup>	259
1987	16	N/A <sup>1</sup>	N/A <sup>1</sup>	275
1988	18	N/A <sup>1</sup>	N/A <sup>1</sup>	293
1989	20	N/A <sup>1</sup>	N/A <sup>1</sup>	313
1990	26	N/A <sup>1</sup>	N/A <sup>1</sup>	339
1991	10	N/A <sup>1</sup>	N/A <sup>1</sup>	349
1992	3	N/A <sup>1</sup>	N/A <sup>1</sup>	352

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<b>1 Year</b>	<b>2 Number Installed</b>	<b>3 Number Replaced<sup>2</sup></b>	<b>4 Number Removed</b>	<b>5 Total at Year End</b>
1993	5	N/A <sup>1</sup>	N/A <sup>1</sup>	357
1994	7	N/A <sup>1</sup>	N/A <sup>1</sup>	364
1995	6	N/A <sup>1</sup>	N/A <sup>1</sup>	370
1996	7	N/A <sup>1</sup>	N/A <sup>1</sup>	377
1997	12	N/A <sup>1</sup>	N/A <sup>1</sup>	389
1998	7	N/A <sup>1</sup>	N/A <sup>1</sup>	396
1999	9	N/A <sup>1</sup>	N/A <sup>1</sup>	405
2000	8	N/A <sup>1</sup>	N/A <sup>1</sup>	413
2001	4	N/A <sup>1</sup>	N/A <sup>1</sup>	417
2002	12	N/A <sup>1</sup>	N/A <sup>1</sup>	429
2003	10	N/A <sup>1</sup>	N/A <sup>1</sup>	439
2004	4	N/A <sup>1</sup>	N/A <sup>1</sup>	443
2005	9	N/A <sup>1</sup>	N/A <sup>1</sup>	452
2006	1	N/A <sup>1</sup>	N/A <sup>1</sup>	453
2007	4	N/A <sup>1</sup>	N/A <sup>1</sup>	457
2008	5	N/A <sup>1</sup>	N/A <sup>1</sup>	462
2009	4	N/A <sup>1</sup>	N/A <sup>1</sup>	466
2010	14	N/A <sup>1</sup>	1	479
2011	6	N/A <sup>1</sup>	7	478
2012	11	3	7	482
2013	2	N/A <sup>1</sup>	2	482
2014	2	N/A <sup>1</sup>	3	481
2015	2	2	4	479
2016	3	N/A <sup>1</sup>	2	480
2017	6	N/A <sup>1</sup>	6	480

**NOTES:**

1/ Data provided is from SAP (our system of record) and reflects what was entered in 2010. Any regulator stations removed or replaced prior to our go-live 2010 date in SAP are not represented in the data provided above. Please note, all active regulator stations are in our SAP system of record.

2/ Not all regulator stations removed will be replaced. If it is a replacement, this information is noted on the station record, when available.

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### 7. CUE-SDG&E-DR-02 Question 44.c.

**CUE DATA REQUEST  
CUE-SDG&E-DR-02  
SDG&E 2019 GRC – A.17-10-007  
SDG&E RESPONSE  
DATE RECEIVED: JANUARY 5, 2018  
DATE RESPONDED: FEBRUARY 14, 2018**

44. Ex. SDGE-4, pp. 95:26-96:5, addresses Dresser mechanical coupling removal.

- a. How many Dresser mechanical couplings did SDG&E have as of the end of 2017?
- b. When does SDG&E anticipate completing removal of all Dresser mechanical couplings from its system?
- c. Please confirm that SDG&E plans to remove 2 couplings in 2019 and 25 in 2019, based on 2 fittings per coupling and removal of 4.3 (sic) fittings in 2018 and 49.1 (sic) fittings in 2019 (Ex. SDGE-4-CWP, p. 192).

#### **SDG&E Response 44:**

- a. Removal of Dresser mechanical couplings will be completed in two phases. The first phase is the review and field evaluation of 195 work orders for installation locations that involve the use of a Dresser fitting. This phase is the O&M portion and is described in Exhibit SDG&E-04-R, pages GOM-60 to 61. The second phase, once the number of locations are determined, is the capital expense phase for the field removal of the couplings. That is described in the reference provided in this question.

The first phase's purpose is to determine the exact number of coupling locations requiring removal through the work order and field review. That phase has not been completed yet, and therefore an exact number is unknown at this time. It is estimated that there are 100 locations with Dresser couplings requiring removal.

- b. As indicated in response to Question 44.a, the first phase of review and field evaluation has not been completed. An estimate of the completion date for the all the removals is not possible until the number of couplings, locations, and the extent of work required have been determined in phase one.
- c. Please note in SDG&E-GOM-Capital-SUP-006 on page 192 of Exhibit SDG&E-04-CWP-R contains a typographical error in column J, in the fourth row. The value indicated as 4.3 units should have been 43.5 units. Referring to this supplemental page, SDG&E plans, following completion of phase one described above in part a., to remove 44 couplings in 2018. The forecast is then to remove an additional 49 couplings in 2019.

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### 8. CUE-SDG&E-DR-02, Question 48.

**CUE DATA REQUEST  
CUE-SDG&E-DR-02  
SDG&E 2019 GRC – A.17-10-007  
SDG&E RESPONSE  
DATE RECEIVED: JANUARY 5, 2018  
DATE RESPONDED: FEBRUARY 14, 2018**

48. CUE may propose capital expenditure levels different than those sought by SDG&E in its GRC application. In order to correctly identify the dollars associated with such changes, CUE understands that certain adders need to be applied, such as the Local Engineering Pool costs shown in Ex. SDGE-4, pp. 99-101. Please provide, for each capex category:

- a. The percentage adjustment for local engineering overheads associated with incremental expenditures in that category (if different than 21.24% for local engineering, per Ex. SDGE-4-CWP, p. 191, please explain)
- b. The percentage adjustment for engineering overheads associated with incremental expenditures in that category, other than local engineering overheads
- c. The percentage adjustment for any other overheads associated with incremental expenditures for that category, besides engineering overheads
- d. The percentage adjustment for inflation to convert 2016 dollar to 2019 dollars for that category

#### **SDG&E Response 48:**

a., b., c., SDG&E capital estimates appearing in witnesses' testimonies, such as Exhibit SDG&E-04-R Gas Distribution, are shown in direct labor and non-labor values only. The forecast for 'local engineering' is derived as a function of estimated forecast capital direct costs and is provided for later ratebase and Results of Operations modeling.

The source forecasts for other loaders and overheads are similarly obtained from other witness areas. Those loaders and overheads are applied in varying ways to direct capital depending on the type and characteristics of each project. If proposing different levels of capital spend, SDG&E first recommends simply proposing different direct-cost levels; it is unnecessary to estimate fully loaded values as that is accomplished in later modeling.

#### **SDG&E Response 48 (continued):**

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If it is desired to estimate fully-loaded values, SDG&E recommends applying an aggregate average percent to the direct dollar values in the witness testimony, which for Gas Distribution is 39.94%. Thus, a value of \$100 of Gas Distribution capital direct costs (labor plus non-labor) would be estimated as \$139.94 in total direct costs plus overheads and loaders.

- d. With respect to conversion of 2016 values to 2019, witnesses' estimates are all expressed as 2016\$ and then the conversion to 2019\$ takes place in the Results of Operations modeling. However, for SDG&E Gas Distribution Capital, that multiplier is 1.1015. Therefore, \$1 in 2016\$ becomes \$1.1015 in 2019\$ (see Exhibit SDG&E-39, Scott Wilder).

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9. ORA-SDGE-103-MCL, Question 1 to 4
10. ORA-SDGE-103-MCL, Question 3, accompanying spreadsheet ORA-SDGE-103-Q3.xlsx

**ORA DATA REQUEST  
ORA-SDGE-103-MCL  
SDG&E 2019 GRC – A.17-10-007  
SDG&E RESPONSE  
DATE RECEIVED: JANUARY 25, 2018  
DATE RESPONDED: JANUARY 13, 2018**

**Exhibit Reference:** SDG&E-04-R, SDG&E-04-CWP

**SDG&E Witness:** Various

**Subject:** Gas Distribution – Capital

**Please provide the following:**

1. In reference to Ex. SDG&E-04-R, page GOM-70, Table GOM-16 Capital Expenditures Summary of Costs: Provide 2017 recorded data for all categories of management in Table GOM-16.

**SDG&E Response 01:**

Financial data for year-end 2017 is not yet available.

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2. In reference to Ex.SDG&E-04-CWP, page 95, Budget Code 00508.0, SDG&E uses a 3-year average (2014-2016) for labor, non-labor and the number of FTEs to develop its forecast.
  - a. The Adjusted Forecast of FTE's in year 2017 is 20.8; provide the number of FTE's hired in year 2017 including the hiring dates of the FTEs, position title(s), and a breakdown for 2017 of the Labor and non-labor cost associated for each FTE hired.
  - b. Provide the number of FTE's authorized for 2016 and 2017 as a result of the past general rate case, and how many FTE's were hired in each of those years.
  - c. Provide any studies used to determine the need for an additional 47.6 FTEs for year 2018 and the need to hire 70.2 FTEs in 2019.
  - d. Provide an Excel spreadsheet showing how the number of FTEs for Replacement of Mains and Services was calculated.
  - e. Provide an Excel spreadsheet showing how the requests for Non-labor of \$26,226,000 was calculated.

### SDG&E Response 02:

- a. SDGE does not hire personnel to be specifically assigned to a Budget Code; therefore, we cannot provide information at the requested level of granularity.
- b. The TY 2016 GRC decision (D.16-06-054) did not specifically provide for FTEs within Budget Code 00508.0; therefore, we cannot provide information at this level of granularity.
- c. Formal studies are not available. This question incorrectly characterizes all FTEs as additional; however, the 3-year-average FTEs of 16.2 are historical values and form the base forecast. See additional information in response Question 2.d below. Total FTEs are distributed as follows:

#### BC 508 FTEs

	2017	2018	2019
3-YR Average	16.2	16.2	16.2
Early Vintage Steel Replacement	4.6	13.4	18.0
Threaded Main Removal	0	18.0	36.0
<b>TOTAL</b>	<b>20.8</b>	<b>47.6</b>	<b>70.2</b>

- d. Labor for the Early Vintage Steel Replacement and Threaded Main Removal Projects was calculated as 25% of the total project cost. FTEs were calculated using 2080 hours and an average hourly rate of \$49.35. Outsourced resources are captured as a non-labor cost. The overall labor/non-labor split in BC 508 is currently 16/84. Based on the type, scope, and quantity of planned work for these projects, a Subject Matter Expert assessment was made that Gas Distribution would utilize a greater percentage of Company crews. Therefore, the 25 labor/75 non-labor split was estimated.

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### SDG&E Response 02:-Continued

- e. The dollar value of \$26,226,000 expressed in this question represents the 2019 total labor and non-labor request, not just the non-labor component. The 2019 non-labor forecast alone is \$19,184,000, which is calculated as the sum of the 2019 3-year-average non-labor, plus the 2019 Early Vintage Steel Replacement project non-labor, and the 2019 Threaded Main Removal project non-labor, with the latter two being calculated at 75% of the project totals. The information in this response can be converted to an Excel format.



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3. In reference to Ex. SDG&E-04-CWP, pages 105-106:
  - a. Provide any studies done and supporting documents for the early vintage steel replacement project.
  - b. Provide an Excel spreadsheet showing the breakdown and calculations of how SDG&E arrived at the 2017, 2018 and 2019 forecasts for labor and non-labor for the vintage steel replacement project.
  - c. Provide the 2017 recorded labor and non-labor spent for the vintage steel replacement project.

### **SDG&E Response 03:**

- a. There are two “vintage” steel replacement/removal projects: the Early Vintage Steel Replacement project and the Pre-1933 Threaded Steel Main Removal project. These are both described in Exhibit SDG&E-04-R, pages GOM-88 to GOM-90. Based on the cited reference in this question and Question 4, it is assumed CUE is referring to the latter project – Pre-1933 Threaded Steel Main Removal.

SDG&E proactively surveys its gas distribution system for leakage at frequencies determined based on the pipe material involved, the operating pressure, cathodic protection type, and the proximity of the pipe to various population densities. SDG&E has then used the data from these surveys to analyze and study its leak history over the years. Most recently, with the addition of the GIS system, SDG&E has accelerated its ability to analyze pipeline characteristics and leak trends. The GIS system’s digitization provides a far easier process to analyze pipeline data compared to our mostly manual paper system of the past.

There is no definitive single study that can be provided. Studies are done as ongoing analysis in SDG&E’s Technical Support, Engineering and Region Engineering groups. Proactive analysis of its pipeline system allows SDG&E to look ahead rather than be reactive and to propose projects such as this one and the Early Vintage Steel Replacement project. An example of fundamental data analysis from GIS data is shown in the accompanying Excel spreadsheet (filename ORA-SDGE-103-Q3.xlsx). This analysis can help study leak data, their timing trends, and where further analysis should be directed.

- b. Labor for the Early Vintage Steel Replacement and Threaded Main Removal Projects was calculated as 25% and Non-Labor at 75% of the total project cost for the forecast years 2017 to 2019. Outsourced resources are captured as a non-labor cost. The overall labor/non-labor split in BC 508 is currently 16/84. Based on the type, scope, and quantity of planned work for these projects, a Subject Matter Expert assessment was made that Gas Distribution would utilize a greater percentage of Company crews. Therefore, the 25 labor/75 non-labor split was estimated. The information in this response can be converted to an Excel format.
- c. Financial data for year-end 2017 is not yet available.

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Spreadsheet copy (filename ORA-SDGE-103-Q3.xlsx):

ORA-SDGE-103-Q3				
Decade of Operation	Material	Number of Leaks on Steel Main <sup>1</sup>	Miles of Med Pressure Main	Leaks/mile
1910	Steel	1	1.0	1.0
1920	Steel	279	82.4	3.4
1930	Steel	187	97.7	1.9
1940	Steel	496	264.7	1.9
1950	Steel	1,096	1145.9	1.0
1960	Steel	542	1064.9	0.5
1970	Steel	245	1433.3	0.2
1980	Steel	63	1468.3	0.0
1990	Steel	41	998.4	0.0
2000	Steel	19	979.3	0.0
2010	Steel	14	355.9	0.0
Notes:				
1/ Medium pressure steel mains				

## APPENDIX B

4. In reference to Ex. SDG&E-04-CWP, pages 105-106, the description of the Early Vintage Threaded Main Removal Project states that “This program intends to remove 152 miles of early vintage, threaded pipe over a 10-year period at an average of 15 miles per year. This program does not have an historical equivalent.”
  - a. Provide the studies and plans and any documentation for the development of this project for the next 10-year period.
  - b. Provide the Commission decision and approval for SDG&E to do the early vintage steel replacement project SDG&E includes in this general rate case.
  - c. SDG&E states that “This program is intended to remove pre-1947, non-piggable high pressure pipeline as well as pre-1955 medium pressure steel mains.” Does SDG&E currently perform main maintenance to the pre-1947 pressure pipeline as well as the pre-1955 pressure steel mains? If so, please provide 2017 recorded costs associated with maintaining and repairing the pre-1947 pressure pipeline and pre-1955 pressure steel mains.

### **SDG&E Response 04:**

- a. Please refer to the response to Question 3.a, which also asks a related question and references this Pre-1933 Threaded Steel Main Removal project. The 10-year period was chosen as a reasonable time period to remove that block of pre-1933 threaded steel main installed in the early years of the gas system.
- b. There is no Commission decision associated with the Early Vintage Pre-1933 Threaded Steel Pipe project. This project is identified as part of SDG&E’s RAMP Report as a mitigation measure to reduce the risk of medium-pressure pipe failure.
- c. This statement refers to the vintage steel replacement project described in Question 3a, - The Early Vintage Steel Replacement project. Pre-1947 and pre-1955 pipelines that are still active and require maintenance will continue to be maintained by SDG&E. Expenses for this maintenance are covered in workgroups 1GD000.003 and 1GD000.004 found in Exhibit SDG&E-04-WP-R, on pp. 29-39. Financial data for year-end 2017 is not yet available.

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### 11.ORA-SDGE-115-MCL, Question 3 and 4

**ORA DATA REQUEST  
ORA-SDGE-115-MCL  
SDG&E 2019 GRC – A.17-10-007  
SDG&E RESPONSE  
DATE RECEIVED: JANUARY 31, 2018  
DATE RESPONDED: FEBRUARY 20, 2018**

3. In reference to Ex. SDG&E-04-R, page GOM-51 and GOM-52, explain and provide a list and supportive documentation of SDG&E aging station components requiring increased maintenance. Provide location and age in service these components are. Provide a list of name and location of SDG&E's added stations due to gas system growth by year.

#### **SDG&E Response 03:**

SDG&E 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 name and location 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. Subject to and without waiving the foregoing objection, SDG&E responds as follows:

A list of aging components in SDG&E's district gas regulator stations that require maintenance is provided below:

- Regulators replaced (Grove 829, Rockwell 621, Mooney)
- Regulator internal parts (regulator diaphragms, seats)
- Regulator pilots (Fisher EXR, Fisher 310 Series 32, Fisher 627 built in pilot)
- Regulator pilot internal parts (seats and stems)
- Inlet and outlet station valves (Hyperseal, Rockwell, Cameron)
- Piping and piping components caused by atmospheric corrosion
- Vault and vault concrete deteriorating – patching or replacement
- Vault lids, springs, and hinges particularly in street traffic and landscaping water

A listing of aging components by component age and location is not readily available since replaced aging components are not tracked separately from station data. However, for regulator station aging analysis, Column 5 of Table 1 below shows the total regulator stations at year end by installation year. These stations have annual inspections and aging parts that may or may not be replaced depending on their condition and tested performance.

A listing of district regulator stations installed by year including the number replaced or removed is shown in the Table 1 below. A listing of name and location of SDG&E's added stations due to just gas system growth by year, is not available since system growth is not a separate parameter. Regulator Station additions are not separately accounted for. The reasons for a new installation besides growth include adding a station to provide an additional supply to a single fed area and

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relocations to change the station location that is currently in an unsafe location (e.g., high traffic zone) to provide maintenance.

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## SDG&E Response 03 Continued:

**Table 1**

2019 GRC SDG&E Gas Distribution – ORA-SDGE-115-MCL  
Regulator Station Age Table

<b>1 Year</b>	<b>2 Number Installed</b>	<b>3 Number Replaced<sup>2</sup></b>	<b>4 Number Removed</b>	<b>5 Total at Year End</b>
1961	1	N/A <sup>1</sup>	N/A <sup>1</sup>	1
1962	0	N/A <sup>1</sup>	N/A <sup>1</sup>	1
1963	0	N/A <sup>1</sup>	N/A <sup>1</sup>	1
1964	1	N/A <sup>1</sup>	N/A <sup>1</sup>	2
1965	0	N/A <sup>1</sup>	N/A <sup>1</sup>	2
1966	0	N/A <sup>1</sup>	N/A <sup>1</sup>	2
1967	0	N/A <sup>1</sup>	N/A <sup>1</sup>	2
1968	1	N/A <sup>1</sup>	N/A <sup>1</sup>	3
1969	1	N/A <sup>1</sup>	N/A <sup>1</sup>	4
1970	8	N/A <sup>1</sup>	N/A <sup>1</sup>	12
1971	16	N/A <sup>1</sup>	N/A <sup>1</sup>	28
1972	24	N/A <sup>1</sup>	N/A <sup>1</sup>	52
1973	31	N/A <sup>1</sup>	N/A <sup>1</sup>	83
1974	20	N/A <sup>1</sup>	N/A <sup>1</sup>	103
1975	20	N/A <sup>1</sup>	N/A <sup>1</sup>	123
1976	2	N/A <sup>1</sup>	N/A <sup>1</sup>	125
1977	13	N/A <sup>1</sup>	N/A <sup>1</sup>	138
1978	16	N/A <sup>1</sup>	N/A <sup>1</sup>	154
1979	13	N/A <sup>1</sup>	N/A <sup>1</sup>	167
1980	11	N/A <sup>1</sup>	N/A <sup>1</sup>	178
1981	5	N/A <sup>1</sup>	N/A <sup>1</sup>	183
1982	20	N/A <sup>1</sup>	N/A <sup>1</sup>	203
1983	11	N/A <sup>1</sup>	N/A <sup>1</sup>	214
1984	14	N/A <sup>1</sup>	N/A <sup>1</sup>	228
1985	15	N/A <sup>1</sup>	N/A <sup>1</sup>	243
1986	16	N/A <sup>1</sup>	N/A <sup>1</sup>	259
1987	16	N/A <sup>1</sup>	N/A <sup>1</sup>	275
1988	18	N/A <sup>1</sup>	N/A <sup>1</sup>	293
1989	20	N/A <sup>1</sup>	N/A <sup>1</sup>	313
1990	26	N/A <sup>1</sup>	N/A <sup>1</sup>	339
1991	10	N/A <sup>1</sup>	N/A <sup>1</sup>	349
1992	3	N/A <sup>1</sup>	N/A <sup>1</sup>	352
1993	5	N/A <sup>1</sup>	N/A <sup>1</sup>	357

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<b>1 Year</b>	<b>2 Number Installed</b>	<b>3 Number Replaced<sup>2</sup></b>	<b>4 Number Removed</b>	<b>5 Total at Year End</b>
1994	7	N/A <sup>1</sup>	N/A <sup>1</sup>	364
1995	6	N/A <sup>1</sup>	N/A <sup>1</sup>	370
1996	7	N/A <sup>1</sup>	N/A <sup>1</sup>	377
1997	12	N/A <sup>1</sup>	N/A <sup>1</sup>	389
1998	7	N/A <sup>1</sup>	N/A <sup>1</sup>	396
1999	9	N/A <sup>1</sup>	N/A <sup>1</sup>	405
2000	8	N/A <sup>1</sup>	N/A <sup>1</sup>	413
2001	4	N/A <sup>1</sup>	N/A <sup>1</sup>	417
2002	12	N/A <sup>1</sup>	N/A <sup>1</sup>	429
2003	10	N/A <sup>1</sup>	N/A <sup>1</sup>	439
2004	4	N/A <sup>1</sup>	N/A <sup>1</sup>	443
2005	9	N/A <sup>1</sup>	N/A <sup>1</sup>	452
2006	1	N/A <sup>1</sup>	N/A <sup>1</sup>	453
2007	4	N/A <sup>1</sup>	N/A <sup>1</sup>	457
2008	5	N/A <sup>1</sup>	N/A <sup>1</sup>	462
2009	4	N/A <sup>1</sup>	N/A <sup>1</sup>	466
2010	14	N/A <sup>1</sup>	1	479
2011	6	N/A <sup>1</sup>	7	478
2012	11	3	7	482
2013	2	N/A <sup>1</sup>	2	482
2014	2	N/A <sup>1</sup>	3	481
2015	2	2	4	479
2016	3	N/A <sup>1</sup>	2	480
2017	6	N/A <sup>1</sup>	6	480

### Notes:

1/ Data provided is from SAP (SDG&E's system of record) and reflects what was entered in 2010. Any regulator stations removed or replaced prior to our go-live 2010 date in SAP are not represented in the data provided above. Please note, all active regulator stations are in our SAP system of record.

2/ Not all regulator stations removed will be replaced. If it is a replacement, this information is noted on the station record, when available.

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4. In reference to Ex. SDG&E-04-R, page GOM-51 and GOM-52:

- a. Explain and provide supporting documentation regarding SDG&E's inspection procedures for electronic pressure monitors used to measure and record in the distribution system.
- b. How often are these inspections done for the electronic pressure monitors?  
Provide an Excel spreadsheet showing the cost per year for inspection for SDG&E's electronic pressure monitors used for SDG'E's distribution system.

### **SDG&E Response 04:**

- a. SDG&E's electronic pressure monitor (EPM) inspection procedures are contained in an SDG&E Gas Standard D8166. This standard provides procedures for installing, inspecting, and calibrating EPMs. This standard is provided in the accompanying document (filename ORA-SDGE-115-MCL-Q4). The accompanying document has been redacted to remove non-responsive, non-relevant employee, contact, and instrument code information.
- b. EPM installations are recorded in Click software, which tracks and sends out a list of instruments due for an annual inspection/calibration to SDG&E's scheduling center for distribution to the Gas Instrument Shop. The Gas Instrument Shop then dispatches an Instrument Technician to perform the annual inspection. The instrument technicians follow Gas Standard D8166 for procedures to inspect & calibrate the EPMs.

The instrument inspection and calibrations are performed at the same time and the costs of calibration alone cannot be separated from total costs. See the calculation below for the total approximate annual cost for the combined inspection/calibration annual maintenance based on historical data:

- Instrument Technician labor rate = \$41/hour
- Average time to calibrate/inspect each unit including transportation = 3 hours
- Total active EPM Units = 330

Annual calibration/Inspection cost =  $\$41 \times 3 \times 330 = \$40,590$  annual inspection/calibration maintenance cost/year (Direct costs in 2016\$)



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### 12.ORA ORA-SDGE-117-MCL, Question 7.a

**ORA DATA REQUEST  
ORA-SDGE-117-MCL  
SDG&E 2019 GRC – A.17-10-007  
SDG&E RESPONSE  
DATE RECEIVED: JANUARY 31, 2018  
DATE RESPONDED: FEBRUARY 20, 2018**

#### **SDG&E Response 07:**

- a. As described in Exhibit SDG&E-04-R, pages GOM-iv to vii, the Company faces challenges to respond to operations, maintenance, and construction needs associated with customer growth, mitigation of the risks described throughout this Exhibit, addressing compliance with new federal and state (GO 112-F) regulations, and developing workforce efficiency. To address these challenges, the Field Operations group is moving toward a focus on three areas of responsibility: 1) new construction, 2) maintenance, and 3) emergency response. New construction and emergency response are two new groups that specialize in new construction issues and 24/7 emergency response to pipeline emergencies.

To support this new structure, the addition of three field supervisors in the Supervision and Training workgroup is projected over the forecast period. This additional supervision will provide oversight to implement increased training, additional leadership and mentoring for new employees, supervision of growing capital project construction, and guidance for emergency response and safety code compliance in maintenance and construction activities.

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13.ORA-SDG&E-153-MCL, Question1.

14.ORA-SDGE-153-MCL Question 1.d.

**ORA DATA REQUEST  
ORA-SDGE-153-MCL  
SDG&E 2019 GRC – A.17-10-007  
SDG&E RESPONSE  
DATE RECEIVED: MARCH 6, 2018  
DATE RESPONDED: MARCH 12, 2018**

1. In reference to Ex. SDG&E-04-CWP, Regulator Station Improvements and Other – Budget Code 0051.0, please provide the time frame of the following projects:

- a. Dresser mechanical coupling removal
- b. Oil drip piping removal
- c. Replace buried piping in vaults
- d. Closed valves between medium and high pressure systems (separating, eliminating these valves).

**SDG&E Response 01:**

a,b,c,d Project time frames are shown in the table below. The time to complete each project is only an estimate. An accurate forecasted completion time for these projects is not possible at this time since the number of replacements or removals (and valves), their locations, and the extent of work required will be determined in the analysis phase of each project.

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## SDG&E Response 01 (Continued):

**Table 1**

2019 GRC SDG&E Gas Distribution - ORA-SDGE-153-MCL  
**Budget Code 510 RAMP Incremental Addition Project Time Frame**

RAMP Activity	Testimony Section	RAMP Risk ID:	Expense Element	Forecasted Project Start Year	Estimated Time to Complete Project
Dresser Mechanical Coupling Removal <sup>1</sup>	IV. K (BC 510), Page GOM-95	Risk ID 16	Capital	2017 (Started Planning)	3 years
Oil Drip Piping Removal <sup>2</sup>	IV. K (BC 510), Page GOM-96	Risk ID 16	Capital	2017 (Started Planning)	3 years
Buried Piping in Vaults Replacement <sup>3</sup>	IV. K (BC 510), Page GOM-96	Risk ID 16	Capital	2018	2 years
Closed Valves Between Medium and High Pressure Systems <sup>4</sup>	IV. K (BC 510), Page GOM-96, 97	Risk ID 16	Capital	2018	5 years

Notes:

- 1/ Approximately 100 Dresser couplings require removal. Each Dresser coupling will require 2 PCF fittings, traffic control and 3 excavations per job.
- 2/ Approximately 120 oil drips require removal. Each oil drip will require 2 PCF fittings, traffic control and 3 excavations per job.
- 3/ Approximately 50 vault locations with pipe and fittings that require replacement. Over 1300 Work orders require review to determine locations.
- 4/ Approximately 149 closed valves exist between medium and high pressure systems.

**APPENDIX C**  
**Errata**

## Appendix C - Errata

### SDG&E 2019 GRC Testimony Revision Log –June 2018

Exhibit	Witness	Page	Line or Table	Revision Detail
SDGE-04-R	Gina Orozco-Mejia	GOM-17	18	Change “SoCalGas” to SDG&E
SDGE-04-R	Gina Orozco-Mejia	GOM-40	28	Change \$457,000 to \$286,000 on page GOM-40, line 28. Note this is the last line before “c. Cost Drivers” There are two occurrences of \$457,000, the one requiring the change is the second occurrence on page GOM-40, line 28.
SDG&E-04-WP-R	Gina Orozco-Mejia	Page 61, 89	SDG&E-GOM-Capital-SUP-006	Column “J” in the fourth row the value “4.3” should be changed to “43.5” Units; in column “K” in the ninth row the value “\$3,570” should be changed to “\$3,520”
SDG&E-04-CWP	Gina Orozco-Mejia	Page 118, 159, 192	SDG&E-GOM-Capital-SUP-006	Column “J” in the fourth row the value “4.3” should be changed to “43.5” Units; in column “K” in the ninth row the value “\$3,570” should be changed to “\$3,520”
SDG&E-04-CWP	Gina Orozco-Mejia	Page 118, 159, 192	SDG&E-GOM-Capital-SUP-006	Column “F” in the fourth row the word “Fitting” should be changed to “Coupling”
SDG&E-04-WP-R	Gina Orozco-Mejia	Page 61, 89	SDG&E-GOM-Capital-SUP-006	Column “F” in the fourth row the word “Fitting” should be changed to “Coupling”
SDG&E-04-CWP	Gina Orozco-Mejia	Page 191	SDG&E-GOM-Capital-SUP-005	In the second table from the top, in the bottom of the first column, there is an extraneous number “22.08% “remove or ignore. In the third table from the top, in the first column the entry “5-Year 2010-2013...” should be changed to “5-Year 2012-2016...” In the fourth table from the top the title which now reads “Forecast Data (Thousands of 2013\$) should be changed to read “Forecast Data (Thousands of 2016\$)”