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Commissioner	:	<u>C. Rechtschaffen</u>
ALJ	:	<u>S. Roscow</u>
Witness	:	<u>N. Molla</u>



OFFICE OF RATEPAYER ADVOCATES
CALIFORNIA PUBLIC UTILITIES COMMISSION

**The Office of Ratepayer Advocates’
Report on
Pacific Gas and Electric Company’s
Cost of Service and Rates for Gas
Transmission and Storage
Services for the Period 2019 - 2021**

Chapter 9: Operations and Maintenance

San Francisco, California
June 29, 2018

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1 **I. INTRODUCTION**

2 This exhibit presents the analyses and recommendations of the Office of
3 Ratepayer Advocates (ORA) regarding the Gas Operations and Maintenance (O&M)
4 proposals of Pacific Gas and Electric Company (PG&E) in its Test Year (TY) 2019
5 Gas Transmission and Storage Proceeding (GT&S). Specifically, this testimony
6 addresses PG&E’s forecast of approximately \$66.2 million¹ in Gas Pipeline O&M
7 expenses for 2019.

8 PG&E’ Gas Pipeline O&M expenses include the following six programs,
9 as well as associated StanPac costs:²

- 10 • Locate and Mark
- 11 • Leak Management
- 12 • Pipeline Patrol
- 13 • Pipeline Maintenance
- 14 • Station Maintenance
- 15 • Right-of-Way Maintenance

16 **II. SUMMARY OF RECOMMENDATIONS**

17 ORA does not oppose PG&E’s forecasts for Leak Management, Pipeline
18 Patrols, Pipeline Maintenance, and ROW Maintenance.

19 ORA recommends cost adjustments for PG&E’s forecasts for Locate and
20 Mark and Station Maintenance. ORA’s cost adjustment for Locate and Mark is based
21 on using the updated 2017 recorded unit costs, as opposed to the 2016 recorded
22 unit costs. ORA’s cost adjustment for Station Maintenance is based on the idea that

¹PG&E Prepared Testimony, p. 9-5 Table 9-2.

²PG&E Prepared Testimony, pp. 9-1 to 9-2.

1 the 3-year average is more representative of program costs than the 2016 recorded
 2 cost alone. ORA's recommended forecasted 2019 costs as a result of these
 3 changes are shown in Table 9-1.

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Table 9-1
O&M Expenses for 2019
(in Thousands of 2016 Dollars)

<i>Description</i> <i>(a)</i>	<i>ORA Recommended</i> <i>(b)</i>	<i>PG&E Proposed</i> ³ <i>(c)</i>	<i>Amount PG&E>ORA</i> <i>(d=c-b)</i>
Locate and Mark	10,583	13,234	2,651
Leak Management	6,072	6,072	0
Pipeline Patrols	6,535	6,535	0
Pipeline Maintenance	9,664	9,664	0
Station Maintenance	18,019	19,106	1,086
Right-of-Way (ROW) Maintenance	11,335	11,335	0
Various Programs - StanPac	236	236	0
Total	\$62,444	\$66,182	\$3,738

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8 III. DISCUSSION/ANALYSIS

9 A. Locate and Mark

10 The Locate and Mark Program is required in order to comply with 49
 11 Code of Federal Regulations (CFR), Part 192.614 and prevents excavations
 12 from causing damage to PG&E's transmission pipelines. In addition, California
 13 Government Code Section 4216, Article 2 requires that PG&E belong to the
 14 regional "one-call" notification known as Underground Service Alert. The
 15 Locate and Mark program consists of both Locate and Mark and Standby
 16 activities. The Locate and Mark activities consist of physically-locating and
 17 marking PG&E's transmission lines near proposed excavation sites. PG&E

³ PG&E Prepared Testimony, Table 9-2.

1 Locators respond to tickets and meet with contractors in the field. Standby
 2 activities, on the other hand, involve PG&E personnel staying on site and
 3 monitoring an excavation.

4 PG&E's 2019 forecast is based on the 2016 unit cost escalated to 2019
 5 and applied to forecasted number of Locate and Mark tickets and Standby
 6 Requests, with the assumption that the volume of both will increase by about
 7 17% from 2016 to 2019. Based on PG&E's 2017 recorded volumes of Locate
 8 and Mark tickets and Standby Requests, PG&E's projections regarding the
 9 future volumes appear reasonable. However, the 2017 unit costs for Locate
 10 and Mark tickets and Standby requests is lower than forecasted. Since 2017
 11 unit costs are the most recent, and therefore most accurate, reflection of
 12 future Locate and Mark costs, ORA used the 2017 unit cost with escalation
 13 through 2019. ORA assumed the same year over year increases in the
 14 volume of Locate and Mark tickets and Standby Requests as PG&E. Table
 15 9.2 shows PG&E and ORA's forecasted 2019 Locate and Mark costs.

16
 17 **Table 9.2: Summary of Locate and Mark Expenses for 2019 (in Thousands of \$)**

<i>Description (a)</i>	<i>ORA Recommended (b)</i>	<i>PG&E Proposed (c)</i>	<i>Amount PG&E>DRA (d=c-b)</i>	<i>Percentage PG&E>DRA (e=d/b)</i>
Locate and Mark	1,105	1,321	216	16.4%
Standby Requests	9,478	11,913	2,435	20.4%
Total	\$10,583	\$13,234	\$2,651	20%

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1 **B. Leak Management**

2 Leak management activities support compliance with 49 CFR Parts
3 192.703, 192.706, and 192.717. In 2017, new GO 112-F requirements,
4 including more frequent leak surveys and an accelerated repair schedule,
5 were imposed.⁴ PG&E began a semi-annual leak survey in 2016 in
6 preparation for these more stringent requirements.

7 PG&E’s leak management program consists of three sub-programs:
8 Leak Survey, Leak Rechecks, and Leak Repair. PG&E forecasts the Ground
9 and aerial survey mileage and number of Leak Repairs to remain consistent
10 from 2017 to 2019, and bases its forecasted unit cost on the 2016 unit cost
11 escalated through 2019. PG&E forecasts fewer Leak Rechecks in 2019
12 compared to 2016 due to the increased rate of repairs under GO 112-F, and
13 bases its unit cost on the 2016 actual unit cost escalated through 2019. ORA
14 does not oppose the assumptions and reasoning underlying PG&E’s
15 forecasted 2019 units and unit costs, and does not recommend any
16 adjustments for 2019.

17 **C. Pipeline Patrols**

18 Pipeline patrols consist of Aerial and Ground patrol, and are required by
19 49 CFR, part 192.705. PG&E patrols their entire transmission system 12
20 times per year, exceeding the frequency required by the federal code, which
21 requires patrolling four times a year at most.

22 The forecast for Aerial Patrol is also based on patrolling the entire
23 system 12 times per year, and the unit cost is forecasted to decrease due to
24 contractor conversions into full-time employees (FTEs). The forecast Ground

⁴ PG&E GT&S Testimony, Table 9-3.

1 Patrol is based on an increase in the ground patrol crew from 5 FTEs to 6,
2 and the unit cost is based on the 2016 rate escalated through 2019.

3 Pipeline patrols play an important role in identifying potential issues in
4 the transmission system, and ORA does not oppose PG&E's proposed patrol
5 frequency nor does ORA oppose PG&E's cost forecast methodology.

6 **D. Pipeline Maintenance**

7 The Pipeline Maintenance program consists of eight subprograms and
8 is required to comply with various parts of 49 CFR. PG&E forecasts the 2019
9 cost based on 2016 recorded costs escalated through 2019, with the
10 exception of the "Preventative Maintenance for SCADA"⁵ program, which
11 includes the incremental costs of maintaining an increasing number of
12 SCADA units, and the "Preventative Maintenance for Automated
13 Valves/Actuators", which includes the incremental costs associated with
14 additional automated valves/actuators.

15 The three-year average is more representative than the 2016 recorded
16 cost of the natural variance in program costs from year to year. Therefore,
17 ORA bases its recommendations on the escalated three-year average cost for
18 all sub-programs except the "Preventative Maintenance for SCADA" and
19 "Preventative Maintenance for Automated Valves/Actuators" programs. In this
20 case, however, the cost difference between the two methodologies is minor,⁶
21 and therefore ORA does not recommend an alternative forecast.

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⁵ SCADA refers to Supervisory Control and Data Acquisition.

⁶ ORA Workpapers, "ORA-09-WP-Calcs.xlsx", tab "Pipeline Maintenance."

1 **Table 9.3: Comparison of Three-year Average Forecast and PG&E Forecast**

Forecast Based on 3-Year Average	PG&E Forecast Based on 2016 Recorded	Dollars Difference	Percent Difference
\$9,900	\$9,664	-\$236	-2.4%

2

3 **E. Station Maintenance**

4 PG&E’s Station Maintenance program encompasses seven sub-
5 programs and is performed to meet the requirements of 49 CFR, Part
6 192.605. PG&E’s forecasts for all seven sub-programs are based on 2016
7 recorded costs escalated through 2019.

8 As noted in Section D above, the three-year average is more
9 representative of program costs than the 2016 cost alone because it captures
10 the year-to-year variance that can be expected. ORA therefore bases its
11 forecast on the 3-year average of 2015 to 2017 annual costs with escalation
12 through 2019, with the exception of the Preventative and Corrective
13 Maintenance Storage Wells Sub-Program, for which 2016 costs may be more
14 representative due to the introduction of new DOGGR requirements requiring
15 more frequent pressure monitoring, wellhead inspections, and leak surveys in
16 2016.⁷ Table 9.4 shows ORA’s recommended forecast as compared to
17 PG&E’s forecast.

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⁷ PG&E GT&S Testimony, Table 9-4.

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Table 9.4: Summary of Station Maintenance Expenses for 2019
(in thousands of \$)

<i>Description (a)</i>	<i>ORA Recommended (b)</i>	<i>PG&E Proposed⁸ (c)</i>	<i>Amount PG&E>DRA (d=c-b)</i>	<i>Percentage PG&E>DRA (e=d/b)</i>
Preventative Maintenance StorCompStat Piping Assets (JPA)	696	746	50	6.7%
Corrective MaintenanceStorCompStat Piping Assets (JPB)	170	169	(0.6)	-3.6%
Preventative Maintenance StorCompStat GasProcess (JPC)	1,038	887	(151)	17%
Preventative Maintenance StorCompStat GasCompressor (JPD)	1,245	1,203	(42)	3.5%
Preventative Maintenance Storage/Compressor Station Support (JPE)	2,173	2,432	258	10.6%
Corrective Maintenance StorCompStat GasProcess (JPG)	815	1,008	193	19.1%
Corrective Maintenance StorCompStat Gas Compress (JPH)	1,272	1,337	65	4.9%
Corrective Maintenance Storage/Compressor Station Support (JPI)	1,244	1,607	363	22.6%
Preventative Maintenance Power Units (JPK)	144	179	35	19.6%
Corrective Maintenance Power Units (JPL)	196	198	2	1.0%

⁸ PG&E Prepared Testimony, Table 5-16.

Station Operations (JPN)	6,398	6,710	312	4.6%
Preventative Maintenance Storage Wells (JPO)	2,094	2,094	0	0%
Corrective Maintenance Storage Wells (JPP)	536	536	0	0%
Total	\$18,020	\$19,106	\$1,086	5.7%

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2 **F. Right of Way (ROW) Maintenance**

3 The ROW Maintenance program provides safe access to facilities and
4 consists of four subprograms: Pipeline Marker Maintenance, Routine Weed
5 Abatement, Vegetation Management, and Encroachment Structures and
6 ROW Clean-Up. Beginning in 2013, PG&E had a shareholder-funded program
7 to clear the ROWs, which had become overgrown in the preceding years.⁹
8 The costs presented in PG&E's testimony represent the costs of maintaining
9 the newly cleared ROWs. PG&E's forecasts for Pipeline Marker Maintenance
10 and Vegetation Management are based, for the most part, on 2016 unit costs
11 escalated through 2019 and applied to the units of work forecasted. PG&E's
12 forecast for Routine Weed Abatement is based on a three-year average of
13 2014-2016 annual costs.

14 Though the forecasted costs seem to represent a dramatic increase in
15 spending over historic levels,¹⁰ ORA does not oppose PG&E's forecast
16 because during the shareholder funded program, only costs associated with
17 the portion of the ROW that had been reclaimed or did not require reclamation
18 were recorded, and therefore did not capture the cost maintaining all of the

⁹ ORA-DR-056, Question 2. See ORA Supporting Attachments, ORA-09-SA, p. 163.

¹⁰ PG&E GT&S Testimony Table 9-11.

1 ROWs.¹¹ As the ROWs are reclaimed, the costs associated with an increasing
 2 area will be shifted to ratepayer funding as opposed to shareholder funding.
 3 As shown in Table 9.5, the total historic costs, including shareholder costs
 4 associated with Pipeline Marker Maintenance, and Vegetation Management
 5 are significantly greater than those forecasted for 2019, as would be expected
 6 since work done through the Shareholder program involved clearing the
 7 ROWs, whereas the work forecasted for this rate case period are simply the
 8 steady state activities needed to maintain the ROWs. ORA does not oppose
 9 PG&E’s forecast with the hope that the requested funding level will lead to
 10 more sustainable maintenance of the ROWs in the future.

11 **Table 9.5: Total ROW Maintenance Costs Including Shareholder Funding (In**
 12 **Thousands of Dollars)**
 13

Description	2016 ¹²	2017 ¹³	2019 (Forecast) ¹⁴
Pipeline Marker Maintenance	8,705	4,423	946
Vegetation Management	36,023	37,687	9,163
Encroachment Structures	9,120	9,360	945

14 **IV. CONCLUSION**

15 The Commission should adopt ORA’s 2019 forecast of \$10.5 million for
 16 Locate and Mark, and \$18.0 million for Station Maintenance, rather than PG&E’s
 17 forecasts of \$13.2 million and \$19.1 million respectively. ORA does not oppose
 18 PG&E’s forecasts for Leak Management, Pipeline Patrols, Pipeline Maintenance,
 19 and ROW Maintenance.

¹¹ ORA-DR-006, Question 2. See ORA Supporting Attachments, ORA-09-SA, p. 83.

¹² Derived from ORA-DR-027, Questions 1-2 and Workpaper Table 9-1. See ORA Supporting Attachments, ORA-09-SA, pp. 83-86.

¹³ *Id.*

¹⁴ PG&E Workpaper Table 9-9.

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WITNESS QUALIFICATIONS

2 My name is Nusrat Molla. My business address is 505 Van Ness
3 Avenue, San Francisco, California, 94102. I am employed as a Utilities
4 Engineer in the Office of Ratepayer Advocates' Energy Safety and
5 Infrastructure Branch. I am responsible for ORA's testimony regarding the
6 recommended 2019 forecasts for PG&E's Operations and Maintenance
7 Program.

8 I have a Bachelor of Science in Civil and Environmental Engineering
9 from University of California, Berkeley. I am a California-registered Engineer
10 in Training (EIT), number 162397.

11 Prior to joining ORA, I conducted research in water quality and energy
12 efficiency at the National Institute of Standards and Technology, University of
13 California, Berkeley, and Lawrence Berkeley National Laboratory. Since
14 joining ORA in 2017, I have worked on, or am currently working on
15 proceedings and projects related to pipeline safety, gas and gas safety,
16 wildfires, utility pole safety and reliability, and risk assessment, including
17 SoCalGas/SDG&E's Pipeline Safety Enhancement Plan (PSEP)
18 Reasonableness Review (Application (A.) 16-09-005), SoCalGas/SDG&E's
19 PSEP Forecast (A.17-03-021), PG&E's Wildfire Expense Memorandum
20 Account application (A. 17-07-011), and PG&E's Risk Assessment Mitigation
21 Phase (A. 17-11-003).

22 This completes my prepared testimony.

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