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Commissioner	:	<u>C. Peterman</u>
ALJ	:	<u>J. Wong</u>
Witness	:	<u>O. Enyinwa</u>



OFFICE OF RATEPAYER ADVOCATES
CALIFORNIA PUBLIC UTILITIES COMMISSION

**Report on the Results of Operations
for
Pacific Gas and Electric Company
Test Year 2015
Gas Transmission and Storage Rate Case**

Chapter 8
Gas Transmission System Operations And Maintenance

San Francisco, California
August 11, 2015

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1 **I. GAS TRANSMISSION SYSTEM OPERATIONS AND MAINTENANCE**

2 This exhibit presents the analyses and recommendations of the Office of
3 Ratepayer Advocates (ORA) regarding Pacific Gas and Electric Company's (PG&E)
4 Operations and Maintenance (O&M) proposals associated with its Test Year (TY)
5 2015 Gas Transmission and Storage (GT&S) rate case. Specifically, this exhibit
6 addresses PG&E's forecasts of \$104,089,746¹ (\$104M) O&M expenses for 2015.

7 PG&E's transmission system transports gas from PG&E's various sources of
8 supply to the gas distribution system. It consists of approximately 6,750 miles of
9 pipeline, 12 compressor stations and three underground storage fields. O&M
10 expenses are for work activities that cover all gas transmission and storage assets.
11 These expenses are routine in nature and constitute the day-to-day expenses
12 incurred by a gas transmission and storage company for its operations. The typical
13 work activities associated with gas transmission system include: leakage surveys,
14 leak repairs, cathodic protection, gas compressor maintenance, gas processing,
15 liquids removal, separation, dehydration, odorization, maintenance on mains and
16 services, application of corrosion control measures, valve maintenance, regulator
17 station maintenance, monitoring meter accuracy, and locating and marking buried
18 pipes to avoid damage caused from digging by others. Additionally, there is a
19 variety of supporting work necessary to complete the field maintenance work. The
20 majority of these activities are compliance driven, preventive and corrective tasks
21 required to increase the useful life of assets, minimize the chances of them
22 becoming inoperable or failing and repairing or replacing the gas assets when they
23 become inoperative.

24 **II. SUMMARY OF RECOMMENDATIONS**

25 The following summarizes ORA's recommendations regarding O&M
26 expenses:

¹ PG&E Prepared Testimony, Volume 2 (Falk), p.8-3, Table 8-1.

- 1 □ ORA does not oppose PG&E's Stanpac Pipeline System, Locate and
2 Mark, Operate Transmission Pipeline, Right-of-Way Support, Station
3 Preventive and Corrective Maintenance, Station Projects, Permits and
4 Fees Project O&M forecasts.
- 5 □ ORA recommends adjustments for the following expenses:
- 6 ○ For Leak Management, ORA recommends a 2015 O&M
7 forecast of \$3,972,677 as compared to PG&E's forecast of
8 \$6,128,237. PG&E has not shown that significant levels of
9 remedial work or new projects need to be done to warrant the
10 increase and large spike from the 3 previous years.
- 11 ○ For Pipeline Patrol, ORA recommends a 2015 O&M forecast of
12 \$4,227,079 as compared to PG&E's forecast of \$8,553,459.
13 PG&E has not proven that that these expenses have not been
14 amply provided for in rates.
- 15 ○ For Pipeline Maintenance and Repair, ORA recommends a
16 2015 O&M forecast of \$4,368,064 as compared to PG&E's
17 forecast for \$11,199,750. The Pipeline Maintenance and Repair
18 annual expenses should not drastically change between years
19 and have been relatively stable.
- 20 ○ For Pipeline Projects, ORA recommends a 2015 O&M forecast
21 of \$8,832,429 as compared to PG&E's forecast of \$30,614,421.
22 PG&E has only described the routine O&M activities typical of
23 gas companies, which are already provided for in rates.
24

1 ORA Table 8-1 compares ORA's and PG&E's TY2015 forecasts of O&M
 2 expenses:

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 4
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**Table 8-1
 Gas Transmission System Operations and Maintenance Expenses for TY2015
 (In Thousands of Dollars)**

		g	g	g
l m	l m	l m	l r m	l t m
a a	eyvs	eyvs	eq	qoqf
a a na	e m y	e m y	eq	qoqf
a	et m t	eynt s	es m vv	vuosf
a a	eum s	e mvvt	eumt sy	rqsotf
a a a	evm s y	err n s qq	evm t r	r r s qf
a a	et nuqy	et nuqy	eq	qoqf
n n a	e v	e v	eq	qoqf
a a a	es ntrq	es ntrq	eq	qoqf
a	erum	et qnyr u	ervm sy	r qvofy
a	eq	eq	eq	qoqf
a a	eynt uy	eynt uy	eq	qoqf
	d p	d u pu u	d p	s ue

8

9 **III. DISCUSSION / ANALYSIS**

10 PG&E provides natural gas service to most communities in Northern
 11 California. PG&E system O&M activities are largely driven by the rules established
 12 by the U.S. Department of Transportation, Pipeline Safety Regulations, 49 Code of
 13 Federal Regulations 192, and the Commission's General Order 112-E. These rules
 14 specify various types of activities, such as the preparation of O&M plans, inspection,
 15 testing, leak surveys, patrolling, other activities, and their frequency.

16 Some transmission O&M work is performed for PG&E by outside contractors.
 17 Costs for work done by outside contractors are included in portions of various O&M
 18 programs. Contractors have been used for gas leak surveys and patrols.

1 ORA conducted analysis of the programs included in GT&S O&M expense.
2 The initial analysis included a review of the historical, adjusted-recorded expense
3 amounts in each account for the last five years, (2009-2013), as supplied by PG&E.²

4 With the exception of Permit and Fees Expense, PG&E claims that the
5 request for an increased expense forecast is based on its proposal to expand the
6 scope of activity in the following areas:

- 7 ○ Aerial patrols and ground patrols;
- 8 ○ Increased regulator and valve maintenance;
- 9 ○ Increased compressor station and storage field compressor preventive
10 maintenance and corrective maintenance programs; and
- 11 ○ Transmission expense projects that include unplanned pipe repairs.³

12 Additionally, PG&E plans to have an overall increase in programs and
13 projects it has been undertaking since 2011.

14 With four exceptions, ORA does not oppose PG&E's request for 2015 O&M
15 Expenses. ORA's exceptions are as follows: Leak Management, Pipeline Patrol,
16 Pipeline Maintenance and Repair and Pipeline Projects.

17 O&M expenses are considered normal day to day activities in the running of a
18 gas storage and transmission facility in order to be in compliance with regulations
19 and ensure the safety of employees and the public in general. ORA considers these
20 functions listed above to be an integral part of routine pipeline O&M and believes
21 that these expenses are already being amply provided for in rates. PG&E has not
22 demonstrated convincingly that current rates do not account for such activities. The
23 expenses proposed by PG&E are core, routine and normal expenses incurred by a
24 gas utility to keep it running on a day-to-day basis. PG&E has not shown any major
25 cost drivers, nor any sound forecasting methodologies other than its claims that
26 these increases in expenses are "necessary, reasonable and justified"⁴.

27 Furthermore, the programs and projects PG&E says it will expand have both capital

² PG&E Response to ORA-DR-005 Q2 and PG&E Workpapers, Chapter 8, p. WP 8-1.

³ PG&E Prepared Testimony, Volume 2 (Falk), p.8-2.

1 expenditures and expenses that will be addressed in other chapters of this filing. The
2 types of programs and projects PG&E plans will create a more efficiently run system.
3 This in turn will translate to lower O&M costs, less down times and improved system
4 reliability.

5 **A. Leak Management**

6 Pipeline leak management activities include leak surveys, leak repairs, leak
7 rechecks, grading and monitoring of leaks. Per 49 CFR Parts 192.703, 192.706 and
8 192.717, these are core compliance activities required of a gas utility. These
9 activities are routine and occur daily, hence, they have been provided for in rates.
10 The only year where PG&E's Leak management expense comes close to its 2015
11 forecast amount is in 2010, where the amount goes up to \$7,664,866 a 395% spike
12 from the 2009 recorded expense of \$1,549,954 that can probably be explained by
13 actions related to the San Bruno incident.

14 Table 8-2 below shows the recorded expense figures for Leak Management
15 from 2009 through 2013.⁵ As the table demonstrates, the Leak Management annual
16 expenses are not volatile. With the exception of the 2010 recorded number, which
17 shows a large spike, the 2011, 2012, and 2013 numbers reflecting PG&E's actual
18 work have been fairly stable, increasing by an average of 17% a year.⁶

19 **Table 8-2**
20 **2009-2013 Recorded Data for O&M Expenses**
21 **(In Thousands of Dollars)**

Description	2009	2010	2011	2012	2013
Leak Management	\$1,550	\$7,665	\$2,926	\$3,767	\$3,956

(Continued from previous page)

⁴ *Id.* p. 8-1.

⁵ PG&E Response to ORA-DR-005 Q2.

⁶ The increase from 2011 to 2012 was 29%, while that from 2012 to 2013 is only 5%. An average of both is 17%.

1 PG&E claims that the reason for its increase in Leak management O&M
2 expense is due to the increase in transmission miles from 5,800 to 6,750, the use of
3 aerial equipment (which is already covered in Pipeline Patrol) and possibly an
4 increase in leak repairs.⁷ However, according to PG&E, “The total population of new
5 transmission mileage will not be known until that analysis is completed in late 2014.
6 Those miles are then analyzed for new HCAs, which begin in 2015, with the final
7 analysis completed in late 2015.”⁸ Since the 920 miles of pipeline currently
8 classified as Distribution pipelines have Leak Management O&M expenses that have
9 been provided for in the PG&E Gas Distribution 2014 General Rate Case (GRC)
10 through 2016. Since this cost provided for in the 2014 Gas Distribution GRC ends in
11 2016, ORA recommends an increase of 15.8%⁹ on ORA’s 2015 forecast amount of
12 \$3,972,677, in 2017 to accommodate for this, which will result in a 2017 forecast of
13 \$4,600,360. This increase is reflected in the 2017 Post-Test Year attrition forecast
14 addressed in ORA exhibit 18.

15 Furthermore, based on PG&E’s schedule for the Transmission pipeline
16 definition change/re-classification, it is unlikely that PG&E will incur any expenses in
17 2015 and probably 2016 and therefore it is unreasonable to give PG&E its requested
18 Leak Management O&M expense for work that may not occur or be required in the
19 first two years of PG&E’s request.

20 ORA recommends use of the five-year average recorded expenses for this
21 account, which results in a forecasted expense of \$3,972,677, instead of the
22 \$6,128,237 requested by PG&E for TY 2015 and a forecasted expense of
23 \$4,600,360 for 2017. Use of the five year average recorded expenses for Leak
24 Management reflects not only the most accurate forecast value, captures the
25 variance with the 2010 recorded number, and therefore is consistent with the

⁷ PG&E Prepared Testimony, Volume 2 (Falk) p. 8-15.

⁸ PG&E Response to ORA-DR-74, Q. 9

⁹ The reclassification of 920 distribution pipelines to transmission pipelines will result in a percentage increase of 15.8% from 5,830 to 6750 miles.

1 expected costs to maintain PG&E's system over the last 2 years (2012-2013)
2 recorded spending of \$3,766,655 and \$3,956,046 which further supports ORA's
3 2015 forecast.

4 **B. Pipeline Patrol**

5 Table 8-3 below shows the recorded expense figures for Pipeline Patrol for
6 2009 through 2013. As the table shows, expenses show considerable variance from
7 the relatively stable years prior to 2012. From 2012 onward, PG&E's expenses have
8 increased by nearly \$1.5 million per year.

9 **Table 8-3**

10 **2009-2013 Recorded Data for O&M Expenses¹⁰**

11 **(In Thousands of Dollars)**

Description	2009	2010	2011	2012	2013
Required Pipeline Patrol	\$275	\$324	\$580	\$2,956	\$4,227

12 Pipeline patrols include ground patrols done by foot or vehicle and aerial
13 patrols by fixed wing aircraft or helicopter. The Ground Pipeline Patrols are usually
14 done to follow up on observations of the aerial patrols. Per 49 CFR Parts 192.705
15 and 192.613, these are core compliance activities required of a gas utility and as
16 stated above these are routine. PG&E states that, "In 2013, after re-writing the patrol
17 standard, requalifying aerial patrol pilots and ground personnel, the frequency of
18 patrols increased: approximately 6,750 miles patrolled monthly and approximately
19 1,070 miles of HCA patrolled a second time each month."¹¹ PG&E has not proven
20 that that these expenses have not been amply provided for in rates. However, ORA
21 recognizes the increase in the patrol frequency also increases the surveillance on
22 the transmission system especially in the High Consequence areas (HCA) which can
23 help increase safety and rectify any leaks more rapidly. Therefore ORA recommends
24 the use of the 2013 recorded amount of \$4,227,079, which is a more recent value

¹⁰ PG&E Response to ORA-DR-005 Q2.

¹¹ PG&E Workpapers, Chapter 8, p. WP 8-27.

1 and reflects a more up to date rate of the frequency and miles of patrol being done
2 on PG&E's transmission pipelines instead of the \$8,553,459 requested by PG&E for
3 TY 2015.

4 **C. Pipeline Maintenance and Repair**

5 Table 8-4 below shows the recorded expense figures for Pipeline
6 Maintenance and Repair from 2009 through 2013.¹²

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Table 8-4
2009-2013 Recorded Data for O&M Expenses
(in Thousands of Dollars)

Description	2009	2010	2011	2012	2013
Pipeline Maintenance & Repair	\$3,420	\$3,812	\$4,070	\$5,363	\$5,174

10 Pipeline Maintenance and Repair is basically the routine preventive and corrective
11 maintenance and repair of failed or inoperable equipment. It also includes
12 inspections to verify operation, identification, and location of regulator station
13 equipment, pipeline valves, and gas holders. PG&E proposes a forecast of
14 \$11,199,750, while ORA's forecast is \$5,268,771.

15 PG&E says work continues to escalate in this area as manual valves continue to age
16 and as they continue to replace them with automated valves.¹³ Given that
17 processes are more exactly controlled with automated valves in comparison with
18 manual valves and in turn safer requiring less support, ORA believes that the
19 upgrade to automated valves will result in lower O&M costs in this area. In a white
20 paper presented by the American Gas Association (AGA), states that:

21 "An Automatic Shut-Off Valve (ASV) is a valve that has electric or gas
22 powered actuators to operate the valve automatically based on data sent to
23 the actuator from pipeline sensors. The ASV does not allow or require human
24 evaluation or interpretation of information surrounding an event to determine if

¹² PG&E Response to ORA-DR-005 Q2.

¹³ PG&E Workpapers, Chapter 8, pp. WP 8-28.

1 the event is a legitimate incident, and will close automatically based on the
2 established criteria. The Remote Controlled Valve (RCV) requires operating
3 personnel in the remote location to review and evaluate data in their system
4 and make a determination whether a problem does, or does not, exist based
5 on available information, such as operating pressure and flow data
6 transmitted from the pipeline, or communications from the public, emergency
7 responders or company personnel on site. Based on available information, if
8 the operator determines that there is a problem that would require a valve
9 closure, they may execute a command to close the valve remotely. There are
10 potential benefits associated with the use of ASVs and RCVs. The primary
11 benefit is that ASVs and RCVs normally close more rapidly than a manually
12 operated valve that requires operating personnel to travel to the valve
13 location.”¹⁴

14 Based on the information from AGA the upgrade from manual valves to automated
15 valves will result in more efficiently run system, which will in turn translate to lower
16 O&M costs, less down times and improved system reliability. Given the lack of
17 volatility over the last five years, ORA believes this account is unlikely to vary widely
18 year-to-year. Using the two-year average recorded figure would result in a more
19 recent , stable value and reflective of the data trend in the past years.

20 ORA recommends use of the two-year average recorded expenses for this account,
21 which results in a forecasted expense of \$5,268,771, instead of the \$11,199,750
22 requested by PG&E for TY 2015. Use of the two-year average recorded expenses
23 for Pipeline Maintenance and Repair, reflects PG&E’s most recent expenses and
24 also mirrors the steadier trend over the past few years. The 2 year average figure of
25 \$5,268,771 is very comparable to the last 2 years (2012-2013) recorded numbers of
26 \$5,363,185 & \$5,174,357 which further supports ORA’s TY forecast.

¹⁴ See AGA White Paper Automatic Shut-off Valves (ASV) And Remote Control Valves (RCV)

On Natural Gas Transmission Pipelines, March 25, 2011.

1 **D. Pipeline Projects**

2 Table 8-9 below shows the adjusted-recorded expense figures for Pipeline Projects
3 for 2009 through 2013¹⁵. As the table shows, the Pipeline projects show
4 considerable variance. The data for the period 2011 to 2013 show relatively high
5 variances, as compared to other years.

6 **Table 8-9**
7 **2009-2013 Recorded Data for O&M Expenses**
8 **(In Thousands of Dollars)**

Description	2009	2010	2011	2012	2013
Pipeline Projects	\$4,903	\$2,278	\$7,203	\$17,665	\$12,113

9 According to PG&E, "Pipeline expense project repairs include leaks,
10 corrosion, weld repairs, right-of-way (erosion) and paint/coatings. Vegetation
11 management on pipeline facilities that is more than weed abatement and
12 remediation of encroachment along the pipeline system right-of-way may also be
13 pipeline expense projects."¹⁶ From the description above it appears that some of
14 the activities in this expense category are being carried out in the other expense
15 categories, such as the Right-of-Way Support, Pipeline Maintenance & Repair and
16 Leak Management. PG&E also justifies its request by stating that, "In 2013 and
17 2014, PG&E expects that there will be a level of additional work beyond that shown
18 in Table 8-14 in emergency and emergent projects that result from pipeline O&M
19 activities."¹⁷ The whole point of all the projects and programs proposed in this rate
20 case by PG&E is to decrease the need for emergent and emergency work. The
21 projects and programs PG&E is referencing are in other chapters of this rate case
22 and the expenses associated with each of them have been requested and appear
23 very ample to meet all the operational and maintenance needs. Many of these
24 projects and programs are upgrades and replacements to more innovative and

¹⁵ PG&E Response to ORA-DR-005 Q2.

¹⁶ PG&E Prepared Testimony, Volume 2 (Falk), p.8-26, Table 8-13

¹⁷ PG&E Prepared Testimony, Volume 2 (Falk), p.8-27

1 updated technologies and safety culture which minimize the need for routine O&M
2 activities that drive up costs. The whole basis for PG&E's proposed projects and
3 programs in this rate case is to have a well-run, efficient, reliable and safe gas
4 system, which will in turn results in lower costs for O&M. Furthermore, PG&E has
5 only described the routine O&M activities typical of gas companies, which are
6 already provided for in rates. PG&E is requesting an expense amount of
7 \$30,614,421, which ORA finds unreasonable and unsupportable.

8 Given how volatile the recorded expense amounts of \$7,203,271,
9 \$17,664,719 and \$12,112,889 have been between 2011, 2012 and 2013,
10 respectively, ORA recommends the use of the two-year average (2012 & 2013)
11 recorded figure as a more accurate forecast for TY 2015, incorporates the variance
12 and a more recent picture of their expense trend, and is reasonable based on the
13 reasons above. As a result, ORA recommends an expense amount of \$14,888,804.

14