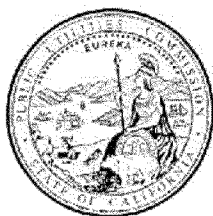


Docket:	: <u>A.13-12-012</u>
Exhibit Number	: <u>ORA-4F</u>
Commissioner	: <u>C. Peterman</u>
ALJ	: <u>J. Wong</u>
Witness	: <u>S. Logan</u>



**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 4  
Transmission Pipe Engineering Programs  
Class Location, Shallow Pipe, and  
Water and Levee Crossing

San Francisco, California  
August 11, 2014

## TABLE OF CONTENTS

I.	INTRODUCTION .....	1
II.	SUMMARY OF RECOMMENDATIONS.....	2
III.	GENERAL OVERVIEW .....	3
IV.	DISCUSSION / ANALYSIS OF CLASS LOCATION PROGRAM.....	4
	A. Class Location Expenses .....	5
	1. MWC HP.....	5
	2. MWC JT.....	7
	3. MWC JO .....	7
	B. Class Location Capital Expenditures.....	8
	1. MWC 44.....	8
	2. MWC 75.....	8
V.	DISCUSSION / ANALYSIS OF WATER AND LEVEE CROSSING PROGRAM .....	10
	A. Water and Levee Program Expenses.....	10
	1. MWC JT.....	11
	B. Water and Levee Crossing Capital Expenditures.....	11
	1. MWC 44.....	11
	2. MWC 75.....	11
VI.	DISCUSSION / ANALYSIS OF SHALLOW PIPE PROGRAM.....	12
	A. Shallow Pipe Program Expenses .....	13
	1. MWC JT.....	13
	B. Shallow Pipe Program Capital Expenditures.....	13
	1. MWC 75.....	13

# TRANSMISSION PIPE ENGINEERING PROGRAMS

## I. INTRODUCTION

This exhibit presents the analyses and recommendations of the Office of Ratepayer Advocates (ORA) regarding three of Pacific Gas and Electric Company's (PG&E) Transmission Pipe Engineering Program proposals associated with its Test Year (TY) 2015 Gas Transmission and Storage (GT&S) rate case. Specifically, this exhibit addresses PG&E's forecasts of Class Location, Water and Levee Crossing, and Shallow Pipe Program operation and maintenance (O&M) expenses for 2015 and capital expenditures for 2013 through 2015.<sup>1</sup> These programs are associated with work activities related to pipeline maintenance and reliability, station maintenance, and the Transmission Integrity Management Program (TIMP).

PG&E's activities and costs are grouped with similar types of work into a Major Work Category (MWC). The MWC's for the work activities addressed in this exhibit are as follows:

**Figure 4F-1  
Transmission Pipe Engineering Major Work Categories (MWC)**

<b>MWC</b>	<b>Category Type</b>	<b>Description</b>
MWC HP	Expense	Transmission Integrity Management Program
MWC JT	Expense	Reliability and General Maintenance
MWC JO	Expense	Pipeline Maintenance
MWC 44	Capital	Stanpac (PG&E share)
MCE 75	Capital	Pipeline Reliability

Source: PG&E Prepared Testimony, Volume1(Krannich), pp.3-5 to 3-6

PG&E's forecasts for expenses and capital expenditures are expressed in nominal dollars. ORA's recommendations are made by MWC nominal dollars which

<sup>1</sup> This exhibit does not address PG&E's Work Requested by Others and Gas Gathering Programs.

1 are then translated into the appropriate FERC accounts through the Results of  
2 Operations (RO) model.

## 3 **II. SUMMARY OF RECOMMENDATIONS**

4 The following summarizes ORA's recommendations regarding Transmission  
5 Pipe Program O&M expenses:

- 6  For the Class Location Program expenses, ORA recommends \$3.9  
7 million, while PG&E requests \$6.4 million for Test Year 2015. ORA  
8 forecasts lower unit costs per strength test than PG&E.
- 9  For the Water and Levee Crossing Program expenses, ORA recommends  
10 no adjustments to PG&E's TY 2015 forecast.
- 11  For the Shallow Pipe Program expenses, ORA recommends no  
12 adjustments to PG&E's TY 2015 forecast.

13 The following summarizes ORA's recommendations regarding Transmission  
14 Pipe Program capital expenditures:

- 15  For the Class Location Program capital expenditures, ORA recommends  
16 no adjustments for 2013 and 2014.
- 17  For the 2015 Class Location Program capital expenditures, ORA  
18 recommends \$10.8 million, while PG&E requests \$17.1 million. ORA  
19 forecasts lower miles per year of pipeline replacement projects.
- 20  For the Water and Levee Crossing Program capital expenditures, ORA  
21 recommends no adjustments for 2013, 2014, and 2015.
- 22  For the Shallow Pipe Program capital expenditures, ORA recommends no  
23 adjustments for 2013, 2014, 2015.

24

1 Table 4F-1 compares ORA's and PG&E's TY2015 forecasts of Transmission  
 2 Pipe Engineering expenses:

3 **Table 4F-1**  
 4 **Transmission Pipe Engineering Expenses for TY2015**  
 5 **(In Thousands of Dollars)**

Description (a)	ORA Recommended (b)	PG&E Proposed <sup>2</sup> (c)	Amount PG&E>ORA (d=c-b)	Percentage PG&E>ORA (e=d/b)
MWC HP	\$2,425	\$4,850	\$2,425	100%
MWC JT	\$5,605	\$5,605	\$0	0%
MWC JO	\$ 399	\$ 399	\$0	0%
Total	\$8,429	\$10,854	\$2,425	29%

6 Table 4F-2 compares ORA's and PG&E's 2013-2015 forecasts of  
 7 Transmission Pipe Program capital expenditures:

8 **Table 4F-2**  
 9 **Transmission Pipe Engineering Capital Expenditures for 2013-2015**  
 10 **(In Thousands of Dollars)**

Description	ORA Recommended			PG&E Proposed <sup>3</sup>		
	2013	2014	2015	2013	2014	2015
MWC 44	\$0	\$0	\$1,556	\$0	\$0	\$1,556
MWC 75	\$1,908	\$3,389	\$44,203	\$1,908	\$3,389	\$50,431
MWC 2J	\$2,500	\$150	\$0	\$2,500	\$150	\$0
Total	\$4,408	\$3,539	\$45,759	\$4,408	\$3,539	\$51,987

11 **III. GENERAL OVERVIEW**

12 As described by PG&E, the engineering programs analyzed in this exhibit  
 13 address threats to PG&E's gas transmission pipelines. These threats include the  
 14 risks of leaks or ruptures.<sup>4</sup> According to PG&E's Risk Mitigation Summary, the Class

<sup>2</sup> PG&E Workpapers, Chapter 4B, pp. WP 4B-2 to WP4B-3.

<sup>3</sup> PG&E Workpapers, Chapter 4B, pp. WP 4B-16 to WP 4B-17.

<sup>4</sup> PG&E Prepared Testimony, Volume1 (Mojica), p.4B-3.

1 Location Program activities are designed to mitigate the loss of supply and service.  
 2 The Shallow Pipe and Water and Levee Crossings programs are designed to  
 3 mitigate the loss of containment.<sup>5</sup> The following figure provides the key activities of  
 4 the three programs discussed in the sections below:

5  
 6  
 7

**Figure 4F-3  
 Transmission Pipe Engineering Program Activities**

<b>Program</b>	<b>Purpose</b>	<b>Key Activities</b>
Class Location	Compliance with population density standards <sup>6</sup>	Study, test, replace
Water and Levee Crossing	Evaluate underwater ad within levee threats	Survey, monitor, replace, retire
Shallow Pipe	Identify depth of cover issues	Excavation, protection, replace, retire

8 **IV. DISCUSSION / ANALYSIS OF CLASS LOCATION PROGRAM**

9 This section discusses PG&E’s proposal for its Class Location Program.

10 The following tables summarize PG&E’s request and ORA’s recommendation  
 11 for the MWCs within the Class Location Program.

12  
 13  
 14  
 15

**Table 4F-4  
 Transmission Pipe Engineering Expenses for TY2015  
 Class Location Program  
 (In Thousands of Dollars)**

<b>Description (a)</b>	<b>ORA Recommended (b)</b>	<b>PG&amp;E Proposed<sup>7</sup> (c)</b>
MWC HP	\$2,425	\$4,851
MWC JT	\$1,161	\$1,161
MWC JO	\$399	\$399
Total	\$3,985	\$6,411

<sup>5</sup> PG&E Prepared Testimony, Volume 1 (Mojica), Figure 4B-1, p. 4B-4.

<sup>6</sup> Title 49, Code of Federal Regulations – Transportation (49 CFR) Part 192.613 (PG&E Prepared Testimony, Volume1 (Mojica), p.4B-5).

<sup>7</sup> PG&E Workpapers, Chapter 4B, WP 4B-2.

1  
2  
3  
4  
5

**Table 4F-5**  
**Transmission Pipe Engineering Capital Expenditures for 2013-2015**  
**Class Location Program**  
**(In Thousands of Dollars)**

Description	ORA Recommended			PG&E Proposed <sup>8</sup>		
	2013	2014	2015	2013	2014	2015
MWC 44	\$0	\$0	\$180	\$0	\$0	\$180
MWC 75	\$224	\$1,437	\$10,648	\$224	\$1,437	\$16,876
MWC 2J	\$2,500	\$150	\$0	\$2,500	\$150	\$0
Total	\$2,724	\$1,587	\$10,828	\$2,724	\$1,587	\$17,056

6 **A. Class Location Expenses**

7 The Class Location Program recorded and forecast expenses are presented  
8 in the following table:

9 **Table 4F-6**  
10 **2011-2012 Recorded Data/2013-2015 Forecast Data**  
11 **for Class Location Programs by MWC**  
12 **(in Thousands of Dollars)**

Description	2011	2012	2013	2014	2015
MWC HP	\$0	\$0.17	\$0	\$10,114	\$4,851
MWC JT	\$0	\$2,131	\$695	\$989	\$1,161
MWC JO	\$0	\$0	\$0	\$0	\$399
MCW KF	\$5,032	\$10,513	\$0	\$0	\$0
Total	\$5,032	\$12,644	\$695	\$11,143	\$6,411

13 Source: PG&E Workpapers, Chapter 4B, WP 4B-2.

14 **1. MWC HP**

15 PG&E corrected its forecast expenses for TY 2015 to \$6.41 million, compared  
16 to its original submittal containing a forecast of \$7.27 million.<sup>9</sup> Table 4F-6 above  
17 depicts an erratic historical spending pattern, making it not conducive to average  
18 year forecasting methods. Several activities and their timing have impacted this

<sup>8</sup> PG&E Workpapers, Chapter 4B, WP 4B-2.

<sup>9</sup> PG&E Response to ORA-DR-96, Q1.and PG&E Response to ORA-DR-65, O1.

1 program's expenses. For example, the 2012 spending increased over 100 percent  
 2 due the 2011 Class Location Study taking about 18 months to complete.<sup>10</sup> The 2013  
 3 spending decreased due to the utilization of the completed Pipeline Feature List.<sup>11</sup>

4 The key cost driver for the 2014 and 2015 Class Location Program expenses  
 5 are the planned strength (hydrotest) tests, which are reflected in MWC HP. For TY  
 6 2015, the following table summarizes PG&E's and ORA assumptions used for the  
 7 program cost forecast:

8 **Table 4F-7**  
 9 **Class Location Program Expenses 2015 Forecast Assumptions**  
 10 **PG&E and ORA**

<b>TOTAL EXPENSE</b>	<b>PG&amp;E</b>	<b>ORA</b>
	<b>2015</b>	<b>2015</b>
Units (Miles)	2.09	2.09
Escalation Rate	1.055	1.055
Expense - Class Location Study	\$1,100,000	\$1,100,000
Expense - Field Verification	\$399,348	\$399,348
Strength Test Unit Cost	\$2,200,000	\$1,100,000
<b>Total Class Location Expense</b>	<b>\$6,410,738</b>	<b>\$3,985,293</b>

11  
 12 The strength test unit cost of \$2.20 million per test was supplied by the  
 13 company's Hydrotest team, according to PG&E.<sup>12</sup> As a result of this forecast, PG&E  
 14 budgets for "approximately two" strength tests at \$2.43 million each, for total  
 15 strength testing of \$4.86 million for TY 2015. ORA recommends a 50 percent  
 16 adjustment to the strength test forecast, as discussed below. ORA's TY 2015  
 17 forecast for this program totals \$3.99 million; a \$2.43 million difference from PG&E's  
 18 forecast.

19 PG&E's strength test unit cost forecast is high. First, workpaper WP4B-7  
 20 shows that the recent strength test data from 2011-2013 is about .62 miles per year,  
 21 which is significantly lower than PG&E's weighted average assumption of 2.09 miles

<sup>10</sup> PG&E Response to ORA-DR-65, O2.

<sup>11</sup> PG&E Response to ORA-DR-65, O2.

<sup>12</sup> PG&E Workpapers Supporting Chapter 4B, page WP 4B-6.



1 per year.<sup>13</sup> Second, ORA's Hydrotest witness forecasts approximately 50 percent  
 2 less cost per mile than PG&E.<sup>14</sup> Finally, PG&E does not document or provide any  
 3 support for assuming \$2.20 million per mile test in the Class Location Program, while  
 4 at the same time the company assumes \$.97 million per mile cost in the Hydrotest  
 5 Program. Therefore, for the purposes of the strength test cost assumptions for the  
 6 Class Location Program, ORA assumes a 50 percent cost reduction per mile  
 7 strength test, which reduces the unit cost to \$1.1 million per mile. The unit cost  
 8 reduction flows into the planning order line items as follows:

9 **Table 4F-8**  
 10 **Class Location Program Expenses 2015**  
 11 **Strength Tests**  
 12 **PG&E and ORA**

Planning Order	Planning Order Description	MAT	2015 PG&E Forecast	2015 ORA Forecast
5026857	Pipe Strength Test-Class Loc-Exp 2015 1	HPF	\$2,425,445	\$1,212,723
5026858	Pipe Strength Test-Class Loc-Exp 2015 2	HPF	\$2,425,445	\$1,212,723

13  
 14  
 15 **2. MWC JT**

16 MWC JT includes the costs of the class location studies. ORA reviewed  
 17 PG&E's testimony, workpapers, and discovery responses for this cost category, and  
 18 recommends no adjustments to the TY 2015 forecast provided by PG&E.

19 **3. MWC JO**

20 MWC JO includes the costs associated with field verification activities for the  
 21 Class Location Program. ORA reviewed PG&E's testimony, workpapers, and  
 22 discovery responses for this cost category, and recommends no adjustments to the  
 23 TY 2015 forecast provided by PG&E.

<sup>13</sup> Total Miles (6.87) divided by Number of Tests (11).

<sup>14</sup> ORA Witness Roberts forecasts \$0.56 million per mile instead of \$0.97 million per mile forecast by PG&E. See Ex. ORA-04C.

1 **B. Class Location Capital Expenditures**

2 The Class Location Program capital expenditures are primarily for pipeline  
 3 replacement projects in MWC 75. The other costs are for PG&E’s portion of the  
 4 Stanpac line, reflected in MWC 44.

5 **1. MWC 44**

6 PG&E forecasts about \$0.2 million for capital expenditures in MWC 44. ORA  
 7 reviewed PG&E’s testimony, workpapers, and discovery responses for this cost  
 8 category, and recommends no adjustments to the TY 2015 forecast provided by  
 9 PG&E.

10 **2. MWC 75**

11 PG&E forecasts about \$17 million in TY 2015 for pipeline replacement  
 12 projects as a result of class location studies and strength testing, while ORA  
 13 forecasts about \$11 million. The key assumptions for the forecast are reflected in the  
 14 following table:<sup>15</sup>

15 **Table 4F-9**  
 16 **Class Location Program Expenses 2015**  
 17 **Strength Tests**  
 18 **PG&E and ORA**

**TOTAL CAPITAL**

	<b>PG&amp;E 2015</b>	<b>ORA 2015</b>
Units (Miles per year)	1.68	1.06
Escalation Rate	1.07	1.07
Stanpac	\$168,144	\$168,144
<b>Total Capital</b>	<b>\$17,055,644</b>	<b>\$10,827,696</b>

**Capital Unit Cost**

	1.68	1.06	miles per year
Projected Units	1.68	1.06	
Unit Cost Per Foot	\$1,793	\$1,793	
Unit Cost Per Mile	\$9,468,349	\$9,468,349	
PG&E Identified Efficiencies	\$80,426	\$80,426	
<b>Pipeline Replacement</b>	<b>\$9,387,923</b>	<b>\$9,387,923</b>	<b>per mile</b>

<sup>15</sup> This table reflects both MWC 44 and MWC 75.

1

2 As shown in the table above the different assumption used between the  
3 forecasts is for pipeline replacement miles per year. PG&E's value of 1.68 miles per  
4 year is based on a formula provided in the workpapers. The formula weights the  
5 historical data (2000-2005) and recent data (2011-2013) of pipeline replacement  
6 project mileage. It is noteworthy that the simple average of the historical data results  
7 in 1.79 miles per year. Further, a simple average of the recent data results in 1.06  
8 miles per year.<sup>16</sup>

9 PG&E's formula gives too much weight to the historical data since the 2015  
10 assumption of 1.68 miles per year is very close to 1.79 miles per year from the 2000-  
11 2005 period. In fact, it is not clear why *any* weight is given to the somewhat stale  
12 historical data (2000-2005). In a data request, ORA asked for the mathematical and  
13 narrative description of the formula used to derive the 1.68 miles per year  
14 assumption. PG&E's response indicates that all of the *cost* data is of recent  
15 vintage.<sup>17</sup> No justification however is provided for using the recent *and* historical  
16 replacement data for the miles per year calculation. ORA recommends that for  
17 consistency and simplicity, the recent replacement data should be used for the  
18 purposes of the miles per year assumption for the pipeline replacement forecast.  
19 The assumption should be 1.06 miles per year (3.17/3) instead of 1.68 miles per  
20 year.<sup>18</sup>

21 Based on the pipeline replacement miles per year assumption, ORA's  
22 forecast for the Class Location Program TY 2015 MWC 75 is \$10.7 million,  
23 compared to PG&E's forecast of \$16.9 million for capital expenditures, a difference  
24 of \$6.2 million.

---

<sup>16</sup> 2000-2005 and 2011-2013 data from PG&E Workpapers, Chapter 4B, WP 4B-27.

<sup>17</sup> PG&E Response to ORA-DR-65 Q6.

<sup>18</sup> Pipeline Replacements Data (2011-2013), WP 4B-27.

1 **V. DISCUSSION / ANALYSIS OF WATER AND LEVEE CROSSING**  
 2 **PROGRAM**

3 This section discusses the Water and Levee Crossing Program. The  
 4 following tables summarize PG&E’s request and ORA’s recommendation for the  
 5 MWCs within the Water and Levee Crossing Program:

6  
 7 **Table 4F-10**  
 8 **Transmission Pipe Engineering Expenses for TY2015**  
 9 **Water and Levee Crossing Program**  
 10 **(In Thousands of Dollars)**

Description (a)	ORA Recommended (b)	PG&E Proposed <sup>19</sup> (c)
MWC JT	\$1,372	\$1,372
Total	\$1,372	\$1,372

11 **Table 4F-11**  
 12 **Transmission Pipe Engineering Capital Expenditures for 2013-2015**  
 13 **Water and Levee Crossing Program**  
 14 **(In Thousands of Dollars)**

Description	ORA Recommended			PG&E Proposed <sup>20</sup>		
	2013	2014	2015	2013	2014	2015
MWC 44	\$0	\$0	\$1,376	\$0	\$0	\$1,376
MWC 75	\$1,684	\$0	\$11,984	\$1,684	\$0	\$11,984
Total	\$1,684	\$0	\$13,360	\$1,684	\$0	\$13,360

15 Note: Some capital expenditures in 2013 are for MWC 83.

16 **A. Water and Levee Program Expenses**

17 The Water and Levee Crossing Program recorded and forecast expenses are  
 18 presented in the following table:  
 19

<sup>19</sup> PG&E Workpapers, Chapter 4B, WP 4B-3.

<sup>20</sup> PG&E Workpapers, Chapter 4B, WP 4B-17.

1

2

3

4

5

**Table 4F-12**  
**2011-2012 Recorded Data/2013-2015 Forecast Data**  
**for Water and Levee Crossing Program by MWC**  
**(in Thousands of Dollars)**

<b>Description</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>
MWC JT	\$.12	\$.880	\$0	\$.29	\$1,372
Total	\$.12	\$.880	\$0	\$.29	\$1,372

6

Source: PG&E Workpapers, Chapter 4B, WP-3

7

8

**1. MWC JT**

9

The activities in MWC JT for the Water and Levee Crossing Program are focused on survey work and lease assessments for the Jurisdictional State Water Crossings.<sup>21</sup> Other non-Jurisdictional work is also performed. ORA reviewed

11

PG&E’s testimony, workpapers, and discovery responses for this cost category, and recommends no adjustments to the TY 2015 forecast provided by PG&E.

12

13

14

**B. Water and Levee Crossing Capital Expenditures**

15

**1. MWC 44**

16

PG&E forecasts about \$1.4 million for Stanpac project work in the Water and Levee Crossing Program. ORA reviewed PG&E’s testimony, workpapers, and discovery responses for this cost category, and recommends no adjustments to the TY 2015 forecast provided by PG&E.

17

18

19

20

**2. MWC 75**

21

PG&E forecasts about \$12 million for various projects for TY 2015 in the Water and Levee Crossing Program. ORA reviewed PG&E’s testimony, workpapers, and discovery responses for this cost category, and recommends no adjustments to the TY 2015 forecast provided by PG&E.

22

23

24

---

<sup>21</sup> Jurisdictional under the California State Lands Commission.

1 **VI. DISCUSSION / ANALYSIS OF SHALLOW PIPE PROGRAM**

2 This section discusses the Shallow Pipe Program. The following tables  
 3 summarize PG&E's request and ORA's recommendation for the Shallow Pipe  
 4 Program:

5 **Table 4F-13**  
 6 **Transmission Pipe Engineering Expenses for TY2015**  
 7 **Shallow Pipe Program**  
 8 **(In Thousands of Dollars)**

<b>Description (a)</b>	<b>ORA Recommended (b)</b>	<b>PG&amp;E Proposed<sup>22</sup> (c)</b>
MWC JT	\$3,073	\$3,073
Total	\$3,073	\$3,073

9 **Table 4F-14**  
 10 **Transmission Pipe Engineering Capital Expenditures for 2013-2015**  
 11 **Shallow Pipe Program**  
 12 **(In Thousands of Dollars)**

<b>Description</b>	<b>ORA Recommended</b>			<b>PG&amp;E Proposed<sup>23</sup></b>		
	<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>
MWC 75	\$0	\$1,952	\$21,571	\$0	\$1,952	\$21,571
Total	\$0	\$1,952	\$21,571	\$0	\$1,952	\$21,571

13 <sup>22</sup> PG&E Workpapers, Chapter 4B, WP-3.

14 <sup>23</sup> PG&E Workpapers, Chapter 4B, WP-16.

**A. Shallow Pipe Program Expenses**

The Shallow Pipe Program recorded and forecast expenses are presented in the following table:

**Table 4F-15  
2011-2012 Recorded Data/2013-2015 Forecast Data  
for Shallow Pipe Program by MWC  
(in Thousands of Dollars)**

Description	2011	2012	2013	2014	2015
MWC JT	\$ .21	\$ .528	\$0	\$ .365	\$3,073
Total	\$ .21	\$ .528	\$0	\$ .365	\$3,073

Source: PG&E Workpapers, Chapter 4B, WP-3

**1. MWC JT**

The activities of the Shallow Pipe Program focus on mitigation measures to maintain pipelines to the original minimum depth levels when they were installed.<sup>24</sup> These activities include excavation, covering, capping, and bridging. The program expenses are increasing due to increasing miles of engineering analysis.<sup>25</sup> ORA reviewed PG&E’s testimony, workpapers, and discovery responses for this cost category, and recommends no adjustments to the TY 2015 forecast provided by PG&E.

**B. Shallow Pipe Program Capital Expenditures**

**1. MWC 75**

PG&E forecasts 2.5 miles of capital mitigation projects in the Shallow Pipe Program resulting in a forecast of \$21.6 million in capital expenditures in TY 2015.<sup>26</sup> A key driver in the forecast is the increasing need to mitigate in highly congested and populated areas, according to PG&E.<sup>27</sup> ORA reviewed PG&E’s testimony,

<sup>24</sup> PG&E Prepared Testimony, Volume 1 (Mojica), pp. 4B-19 to pp. 4B-21.

<sup>25</sup> PG&E Prepared Testimony, Volume 1 (Mojica), p. 4B-25.

<sup>26</sup> PG&E Workpapers, Chapter 4B, WP 4B-21.

<sup>27</sup> PG&E Workpapers, Chapter 4B, WP 4B-20 to 4B-22.

- 1 workpapers, and discovery responses for this cost category, and recommends no
- 2 adjustments to the TY 2015 forecast provided by PG&E.