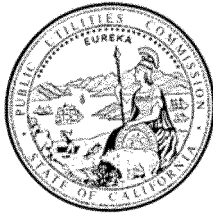


Docket:	:	<u>A.12-11-009</u>
Exhibit Number	:	<u>DRA-10</u>
Commissioner	:	<u>Florio</u>
ALJ	:	<u>Pulsifer</u>
Witness	:	<u>Chia</u>



**DIVISION OF RATEPAYER ADVOCATES  
CALIFORNIA PUBLIC UTILITIES COMMISSION**

**Report on the Results of Operations  
for  
Pacific Gas and Electric Company  
General Rate Case  
Test Year 2014**

**Gas Distribution Capital Expenditures**

San Francisco, California  
May 3, 2013

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# GAS DISTRIBUTION CAPITAL EXPENDITURES

## I. INTRODUCTION

This exhibit presents the analyses and recommendations of the Division of Ratepayer Advocates (DRA) regarding Pacific Gas and Electric Company's (PG&E) forecasts of Gas Distribution capital expenditures for 2012 through Test Year (TY) 2014.

Capital expenditures for gas distribution include plant investments to replace, repair, and protect PG&E's gas distribution system and to construct new gas distribution facilities. Capital expenditures for new business include investments to install gas infrastructure required to connect new customers to existing PG&E's system, and to accommodate existing customers' demand for increased load requirements.

## II. SUMMARY OF RECOMMENDATIONS

The following summarizes DRA's recommendations for 2012-2014:

- DRA recommends total gas distribution capital expenditures of \$368.121 million in 2012, \$420.078 million in 2013, and \$482.634 million in 2014.
- DRA is recommending capital expenditures of \$2.420 million in 2012, \$4.447 million in 2013, and \$24.851 million in 2014 for Major Work Category (MWC) 4A.
- DRA is recommending capital expenditures of \$5,000 in 2012, \$5,000 in 2013, and \$5,000 in 2014 for MWC 27.
- DRA is recommending capital expenditures of \$2.595 million in 2012, \$3.823 million in 2013, and \$3.928 million in 2014 for MWC 74.
- DRA is recommending capital expenditures of \$1.872 million in 2012, \$1.380 million in 2013, and \$1.380 million in 2014 for MWC 05.
- DRA is recommending capital expenditures of \$167.869 million in 2012, \$198.279 million in 2013, and \$215.686 million in 2014 for MWC 14.

- 1       • DRA is recommending capital expenditures of \$1.354 million in  
2       2012, \$1.354 million in 2013, and \$1.354 million in 2014 for MWC  
3       31.
- 4       • DRA is recommending capital expenditures of \$14.354 million in  
5       2012, \$14.552 million in 2013, and \$15.138 million in 2014 for  
6       MWC 47.
- 7       • DRA is recommending capital expenditures of \$69.326 million in  
8       2012, \$72.439 million in 2013, and \$72.439 million in 2014 for  
9       MWC 50.
- 10      • DRA recommends that the Commission direct PG&E to submit  
11      annual reports to the Commission's Safety and Enforcement  
12      Division, the Energy Division, and DRA on the progress of its Gas  
13      Pipeline Replacement Program such as directed in PG&E's GPRP  
14      in Decision 86-12-095.
- 15      • Due to the considerable increase requested by PG&E for MWC 14  
16      (Gas Pipeline Replacement Program) and MWC 50 (Gas  
17      Distribution Reliability) in 2014 above recent historical capital  
18      expenditures, DRA proposes a separate ratemaking mechanism for  
19      revenue recovery. This ratemaking mechanism allows PG&E  
20      authority to obtain recovery of 2014 recorded capital expenditures  
21      above DRA's 2014 forecast for MWC 14 and MWC 50. The cost to  
22      perform capital projects above DRA's 2014 forecast can be  
23      included in rates only if the capital projects are actually performed  
24      and the capital expenditures are made.
- 25      • DRA is recommending capital expenditures of \$404,000 in 2012,  
26      \$600,000 in 2013, and \$614,000 in 2014 for MWC 52.
- 27      • DRA is recommending capital expenditures of \$1.220 million in  
28      2012, \$1.220 million in 2013, and \$1.220 million in 2014 for MWC  
29      2K.
- 30      • DRA is recommending capital expenditures of \$36.737 million in  
31      2012, \$54 million in 2013, and \$71 million in 2014 for MWC 29.
- 32      • DRA is recommending capital expenditures of \$43.371 million in  
33      2012, \$39 million in 2013, and \$45 million in 2014 for MWC 51.
- 34      • DRA is recommending capital expenditures of \$14.088 million in  
35      2012, \$11.715 million in 2013, and \$13.853 million in 2014 for  
36      MWC 2F.
- 37      • DRA is recommending capital expenditures of \$12.506 million in  
38      2012, \$17.264 million in 2013, and \$16.166 million in 2014 for  
39      MWC 78.

1 Table 10-1 compares DRA's and PG&E's 2012-2014 forecasts of Gas  
 2 Distribution capital expenditures addressed in this exhibit, by Major Work Category  
 3 (MWC):

4 **Table 10-1**  
 5 **Gas Distribution Capital Expenditures for 2012-2014**  
 6 **(In Thousands of Dollars)**

Description	DRA Recommended			PG&E Proposed <sup>1</sup>		
	2012	2013	2014	2012	2013	2014
MWC 4A	\$2,420	\$4,447	\$24,851	\$4,447	\$24,851	\$62,209
MWC 27	\$5	\$5	\$5	\$1,027	\$1,000	\$246
MWC 74	\$2,595	\$3,823	\$3,928	\$2,620	\$14,481	\$14,879
MWC 05	\$1,872	\$1,380	\$1,380	\$4,825	\$15,900	\$2,558
MWC 14	\$167,869	\$198,279	\$215,686	\$172,221	\$203,886	\$331,190
MWC 31	\$1,354	\$1,354	\$1,354	\$2,800	\$2,950	\$2,890
MWC 47	\$14,354	\$14,552	\$15,138	\$14,000	\$14,552	\$15,138
MWC 50	\$69,326	\$72,439	\$72,439	\$62,707	\$72,439	\$128,055
MWC 52	\$404	\$600	\$614	\$690	\$600	\$614
MWC 2K	\$1,220	\$1,220	\$1,220	\$42,000	\$50,000	\$51,150
MWC 29	\$36,737	\$54,000	\$71,000	\$33,000	\$54,000	\$83,000
MWC 51	\$43,371	\$39,000	\$45,000	\$46,465	\$39,000	\$45,000
MWC 2F	\$14,088	\$11,715	\$13,853	\$26,919	\$27,725	\$43,722
MWC 78	\$12,506	\$17,264	\$16,166	\$37,555	\$34,210	\$61,494
Total	\$368,121	\$420,078	\$482,634	\$451,276	\$555,594	\$842,145

7 **III. GENERAL OVERVIEW**

8 As of year-end 2011, PG&E's natural gas distribution system had  
 9 approximately 42,000 miles of distribution mains and 3.3 million service lines.  
 10 PG&E's gas distribution system covers an area of 58,000 square miles and is largely  
 11 noncontiguous, with 826 Hydraulically Independent Systems (HIS). At year-end of  
 12 2011, the average age of PG&E's gas distribution assets was approximately 45  
 13 years. The distribution main was composed of approximately 21,000 miles of steel,  
 14 115 miles of cast iron, and 21,000 miles of polyethylene plastic. Approximately  
 15 5,700 miles of the polyethylene plastic are Aldyl-A brand plastic and approximately  
 16 1,200 miles of the Aldyl-A plastic mains were manufactured before 1973.

<sup>1</sup> Ex. PG&E-3, pp. 2-48, 5-31, 7-21, 8-26, 9-27, 11-43, and 12-15

1 Approximately 1.2 million of PG&E's gas services are steel, 16,000 are copper, and  
2 2.1 million are polyethylene plastic.<sup>2</sup>

3 PG&E says it forecasts gas distribution capital expenditures by first  
4 establishing the level of work required to provide safe and reliable service to its  
5 customers. In most cases, the work related to an MWC can be expressed in terms  
6 of one or more basic units of activity. The cost of the basic unit of activity is  
7 calculated. Most unit cost forecasts are based on the prior year's unit cost  
8 (calculated as capital expenditures divided by the number of units of activity  
9 performed), which is then adjusted to reflect productivity variance, cost escalation,  
10 changes in work complexity, and any changes to the activities that define the unit of  
11 work. All costs related to that unit are included in the unit cost, including labor,  
12 contracts, and overheads.<sup>3</sup>

### 13 **A. PG&E's Request**

14 PG&E is requesting gas distribution capital expenditures of \$451million in  
15 2012, \$556 million in 2013, and \$842 million in 2014.<sup>4</sup> The 2011 recorded capital  
16 expenditure for gas distribution is \$307.9 million. The 2014 capital expenditures  
17 forecast is \$534 million more than 2011 recorded capital expenditures which  
18 represent a 274 percent increase above 2011 recorded levels.<sup>5</sup>

19 Some of the major cost drivers are:

- 20 1. The Pathfinder Project seeks to convert key gas distribution asset  
21 and maintenance information from existing legacy and paper-based  
22 systems to the SAP and Geographic Information System (GIS)  
23 systems as discussed in MWC 2F. PG&E forecasts the Pathfinder

---

<sup>2</sup> Ex. PG&E-3, p. 1-7 and p. 2-7

<sup>3</sup> Ex. PG&E-3, p. 7-20

<sup>4</sup> Ex. PG&E-3, p. 1-40, Table 1-5, line 12

<sup>5</sup> Ex. PG&E-3, p. 1-40, Table 1-5, line 12



- 1 Project will cost \$65.5 million in capital expenditures during 2011 to  
2 2015.<sup>6</sup>
- 3 2. Gas Distribution Control Center -Monitoring Devices Project (MWC  
4 4A) covers the costs associated with the installation of devices,  
5 related software, and supporting telecommunication radio system  
6 assets to monitor and control the gas distribution network. PG&E  
7 forecasts the MWC 4A project to cost \$62.2 million capital  
8 expenditures in 2014.<sup>7</sup>
- 9 3. PG&E proposes an increase from its current practice of replacing  
10 30 miles of distribution main per year to 180 miles per year in MWC  
11 14 and MWC 50. Starting in 2014, PG&E proposes to increase the  
12 replacement of cast iron and pre-1940 steel mains from 30 miles to  
13 60 miles and to replace 100 miles of Aldyl-A plastic mains per year.  
14 This will cost an additional \$254 million in 2014 which is 336  
15 percent above 2011 recorded capital expenditures for gas  
16 distribution main replacement in MWC 14.<sup>8</sup> In MWC 50, PG&E  
17 proposes to replace 20 miles of post-1940 steel mains and to install  
18 an additional 1,055 emergency shutdown zone valves per year  
19 starting in 2014. This will cost an additional \$68.7 million or 117  
20 percent above 2011 recorded capital expenditures in MWC 50.<sup>9</sup>
- 21 4. Gas Operations Headquarters Building and Lease (MWC 78) is  
22 PG&E's project to relocate and consolidate employees and  
23 contractors from various Walnut Creek and San Francisco buildings  
24 into a single 250,000 square foot building in San Ramon. PG&E  
25 forecasts a total cost of \$28.8 million in capital expenditures for this  
26 project from 2012 to 2016.<sup>10</sup>
- 27 5. Gas Control/Dispatch Center Building (MWC 78) is PG&E's  
28 proposal to create a new gas control center that will co-locate the  
29 gas distribution control center, transmission control center, dispatch  
30 center and gas operations in San Ramon. PG&E forecasts the new

---

<sup>6</sup> Ex. PG&E-3, p. 11-12 and Ex. PG&E-3, Workpapers, p. WP 11-31

<sup>7</sup> Ex. PG&E-3, p. 2-39

<sup>8</sup> Ex. PG&E-3, p. 8-10

<sup>9</sup> Ex. PG&E-3, p. 8-22

<sup>10</sup> Ex. PG&E-3, Workpapers, pp. WP 12-22 to WP 12-25

1 facility will cost \$25.4 million in capital expenditures for 2012 and  
2 2013.<sup>11</sup>

3 6. Gas Control Hot Backup Project (MWC 78) is PG&E's proposal to  
4 create a Gas Distribution and Dispatch mirror image hot backup  
5 site that is outside of the Bay Area in the event the San Ramon  
6 facility goes down. PG&E forecasts \$33.4 million in capital  
7 expenditures for this new facility during 2014 to 2016.<sup>12</sup>

8 7. New Gas Training Center Building (MWC 78) is PG&E's proposal to  
9 build a new training center facility for PG&E's Gas Operations.  
10 PG&E forecasts \$57.2 million in capital expenditures for this new  
11 facility during 2012 to 2015.<sup>13</sup>

12 8. Gas Distribution Leak Replacement/High Pressure Regulator  
13 Replacement (MWC 2K): In 2011, PG&E began rebuilding and  
14 replacing 4,700 High Pressure Regulator-Type stations (HPR).  
15 PG&E forecasts \$214.9 million in capital expenditures for the  
16 replacement of the HPR stations during 2011 to 2015.<sup>14</sup>

## 17 **B. Authorized vs. Recorded Expenditures**

18 In PG&E's 2011 GRC, the Commission ordered the utility to provide periodic  
19 compliance filings showing authorized and recorded expenses and capital  
20 expenditures, by Major Work Category (MWC), for electric distribution, electric  
21 generation, and gas distribution.<sup>15</sup>

22 Keeping with the intent of that order, DRA provides the following historical  
23 comparison of authorized versus recorded capital expenditures for the MWCs  
24 addressed in this exhibit.

---

<sup>11</sup> Ex. PG&E-3, Workpapers, pp. WP 12-27 to WP 12-29

<sup>12</sup> Ex. PG&E-3, Workpapers, pp. WP 12-33 to WP 12-34

<sup>13</sup> Ex. PG&E-3, Workpapers, pp. WP 12-38 to WP 12-40

<sup>14</sup> Ex. PG&E-3, Workpapers, pp. WP 8-60 to 8-62

<sup>15</sup> Decision (D.)11-05-018, *mimeo.*, Ordering Paragraph 42, at pp. 98-99.

1  
2  
3  
4

**Table 10-2**  
**2007-2012 Authorized vs. Recorded Gas Distribution Capital Expenditures**  
**for Major Work Categories 05, 14, 27, 29, 2K, 31, 47, 4A, 50, 51, 52, 74, and 78**  
**(In Thousands of Dollars)**

MWC		Year					
		2007	2008	2009	2010	2011	2012
05	Authorized	\$0	\$0	\$0	\$0	\$400	\$269
	Recorded	\$1,382	\$1,490	\$2,224	\$766	\$1,040	\$1,872
14	Authorized	\$70,493	\$59,767	\$65,155	\$65,833	\$123,707	\$172,221
	Recorded	\$76,916	\$105,603	\$99,470	\$102,063	\$127,010	\$167,869
27	Authorized	\$717	\$617	\$668	\$675	\$332	\$1,027
	Recorded	\$15	\$73	\$17	\$15	\$9	\$5
29	Authorized	\$61,655	\$50,533	\$52,141	\$52,684	\$23,708	\$33,000
	Recorded	\$67,925	\$46,375	\$30,825	\$23,627	\$32,078	\$36,737
2K	Authorized	\$0	\$0	\$0	\$0	\$15,000	\$42,000
	Recorded	\$0	\$0	\$293	\$1,220	\$19,648	\$60,144
31	Authorized	\$3,687	\$3,224	\$3,550	\$3,587	\$2,465	\$2,800
	Recorded	\$3,612	\$4,300	\$3,166	\$2,547	\$1,443	\$1,354
47	Authorized	\$11,532	\$10,092	\$11,920	\$11,737	\$12,000	\$14,000
	Recorded	\$8,143	\$12,062	\$8,384	\$14,893	\$12,521	\$14,354
4A	Authorized	\$0	\$0	\$0	\$0	\$0	\$0
	Recorded	\$0	\$0	\$0	\$0	\$0	\$2,420
50	Authorized	\$16,261	\$15,604	\$17,878	\$18,064	\$39,390	\$59,207
	Recorded	\$10,961	\$14,954	\$29,495	\$33,394	\$58,512	\$69,326
51	Authorized	\$18,659	\$16,008	\$17,291	\$17,471	\$36,337	\$53,999
	Recorded	\$15,870	\$26,294	\$25,716	\$37,063	\$50,847	\$43,371
52	Authorized	\$209	\$174	\$183	\$185	\$702	\$1,000
	Recorded	\$256	\$375	\$251	\$600	\$509	\$404
74	Authorized	\$0	\$0	\$0	\$0	\$0	\$0
	Recorded	\$209	\$193	\$326	\$781	\$772	\$2,595
78	Authorized	\$0	\$0	\$0	\$0	\$0	\$0
	Recorded	\$29	\$2,978	\$446	\$29	\$496	\$12,506

5 Source: Authorized and recorded data from Master Data Request Chapter 24 and Pacific Gas and  
6 Electric Company's March 30, 2012 Budget Report in Compliance with California Public Utilities  
7 Commission Decision 11-05-018

8 **IV. DISCUSSION / ANALYSIS OF SYSTEM OPERATIONS GAS**  
9 **CONTROL (MWC 4A)**

10 This section discusses PG&E's and DRA's 2012 to 2014 forecasts for capital  
11 expenditures for PG&E's system operations gas control in MWC 4A. PG&E is  
12 requesting capital expenditures of \$4.447 million in 2012, \$24.851 million in 2013,

1 and \$62.209 million in 2014.<sup>16</sup> The 2011 recorded capital expenditures for system  
 2 operations gas control is \$0. PG&E's 2014 capital expenditures forecast is \$62.209  
 3 million more than 2011 recorded capital expenditures.<sup>17</sup> DRA recommends capital  
 4 expenditures of \$2.420 million in 2012, \$4.447 million in 2013, and \$24.851 million in  
 5 2014 for system operations gas control.

6 The following table summarizes PG&E's request and DRA's recommendation  
 7 for the MWCs within System Operations Gas Control.

8 **Table 10-3**  
 9 **DRA's and PG&E's 2012 to 2014 Capital Expenditure Forecasts**  
 10 **MWC 4A**  
 11 **(In Thousands of Dollars)**

Description	DRA Recommended			PG&E Proposed <sup>18</sup>		
	2012	2013	2014	2012	2013	2014
MWC 4A	\$2,420 <sup>19</sup>	\$4,447	\$24,851	\$4,447	\$24,851	\$62,209

12 **A. MWC 4A-Monitoring Devices**

13 PG&E is forecasting capital expenditures of \$4.447 million in 2012, \$24.851  
 14 million in 2013, and \$62.209 million in 2014 for MWC 4A<sup>20</sup> which cover costs  
 15 associated with the installation of devices, related software, and supporting  
 16 telecommunication radio system assets to monitor and control the gas distribution  
 17 network.<sup>21</sup>

<sup>16</sup> Ex. PG&E-3, p. 1-40, Table 1-5, line 12

<sup>17</sup> Ex. PG&E-3, p. 2-3, Table 2-2

<sup>18</sup> Ex. PG&E-3, p. 2-39, Table 2-11

<sup>19</sup> PG&E's response to DRA-PG&E-108, Question 3, Attachment 1

<sup>20</sup> Additional capital expenditures for IT (MWC 2F) and building management (MWC 78) are required for the Gas Distribution Control Center (Ex. PG&E-3, p. 2-38).

<sup>21</sup> Ex. PG&E-3, p. 2-39

1 DRA recommends capital expenditures of \$2.420 million in 2012, \$4.447  
 2 million in 2013, and \$24.851 million in 2014 for MWC 4A. The following table  
 3 provides the recorded 2007 to 2012 data for MWC 4A.

4 **Table 10-4**  
 5 **2007-2012 Recorded Data for MWC 4A**  
 6 **(In Thousands of Dollars)**

Description	2007	2008	2009	2010	2011	2012
MWC 4A	\$0	\$0	\$0	\$0	\$0	\$2,420

7 Source: 2007-2011 data from Ex. PG&E-3, Workpapers, p. WP 2-13. 2012 data from DRA-PG&E-  
 8 108, Q. 3

9 **1. Overview of PG&E’s Forecast for MWC 4A**

10 PG&E is proposing to establish a Gas Distribution Control Center (Control  
 11 Center) in San Ramon. The Control Center will be co-located with a new gas  
 12 dispatch center and the transmission control center.<sup>22</sup> PG&E asserts that the  
 13 Control Center is a key element of PG&E’s implementation of a safety plan required  
 14 by Senate Bill (SB) 705.<sup>23</sup> SB 705 enacted Public Utilities Code §961 which  
 15 requires PG&E to implement a safety plan, consistent with best industry practices,  
 16 that, among other things, provides “For appropriate and effective system controls.”<sup>24</sup>

17 PG&E currently controls its gas distribution system locally rather than  
 18 centrally.<sup>25</sup> PG&E currently monitors its gas distribution system with methods that  
 19 require manual intervention in the field, which PG&E claims causes a lag between  
 20 data collection and response.<sup>26</sup> PG&E currently has some limited real-time  
 21 distribution oversight provided by Gas Control at approximately 275 continuously

---

<sup>22</sup> Ex. PG&E-3, p. 2-1, footnote 1. The costs for the transmission control center are not part of PG&E’s 2014 GRC.

<sup>23</sup> Ex. PG&E-3, p. 2-5

<sup>24</sup> Ex. PG&E-3, p. 2-5, footnote 3

<sup>25</sup> Ex. PG&E-3, p. 2-6

<sup>26</sup> Ex. PG&E-3, p. 2-7

1 monitored distribution locations, mainly district regulator stations. Some local  
2 distribution oversight is enabled during the winter season by approximately 150  
3 alarmed electronic monitoring devices which alert local on-call distribution  
4 supervisors if pressure set points are exceeded.<sup>27</sup>

5 PG&E proposes to establish a centralized gas distribution Control Center that  
6 is functionally similar to its existing gas transmission Control Center. PG&E's gas  
7 transmission Control Center uses Supervisory Control and Data Acquisition  
8 (SCADA) technology to monitor pressures, flows, and related data at approximately  
9 14,000 points on the gas transmission system where alarms notify the Gas Control  
10 of operating conditions that need attention.<sup>28</sup>

11 PG&E claims the Control Center will help mitigate its gas operations system  
12 through new procedures and enhanced system visibility and control. The proposed  
13 Control Center will have real-time visibility of the pressures and flows within PG&E's  
14 gas distribution system and provide remote control capability to key distribution  
15 facilities such as regulators and valves.<sup>29</sup>

16 PG&E planned for the new Control Center control room and the first tranche  
17 of monitoring and control devices to be up and running by December 2012. PG&E  
18 proposes to install approximately 900 monitoring and control devices in 2012 and  
19 2013 and 3,400 devices from 2014 through 2016, for a total of 4,300 devices. PG&E  
20 intends to have 85 percent of the distribution system to have a minimum of one  
21 remote monitoring point at each distribution regulator, and one remote monitoring  
22 device at a critical low point per hydraulically independent system. PG&E intends to  
23 have 90 percent of regulators and valves that are identified as critical to have remote  
24 control capability. This will result in approximately 850 Remote Terminal Units  
25 (RTU) installed at distribution regulators, more than 2,000 electronic recorders at

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<sup>27</sup> Ex. PG&E-3, p. 2-7

<sup>28</sup> Ex. PG&E-3, p. 2-7

<sup>29</sup> Ex. PG&E-3, p. 2-1

1 other critical system locations.<sup>30</sup> The following table provides PG&E's 2012 to 2014  
 2 forecasts of the number of gas control monitor units to be installed.

3 **Table 10-5**  
 4 **PG&E's 2012 to 2014 Forecasts of Gas Control Monitor Units<sup>31</sup>**

Description	2012	2013	2014
Gas Control Monitor (Monitoring of pressure and flow at regulation stations)-RTU	0	0	128
Gas Control Monitor (Monitoring of pressure at regulation stations, Maximum Allowable Operating Pressure (MAOP) valves, and critical facilities)-Electronic Pressure Recorders	12	203	378
Gas Control Monitor (Monitoring of pressure at HIS low points and Critical non-core customers, and some non-HIS systems)-Electronic Pressure Recorder (ER-portable)	130	500	500
Gas Control Remote Monitoring and Control [Monitoring of pressure and flow at regulation stations, control of regulator set points, control of fire valves (associated with regulation stations)]-RTU	5	67	127

5 PG&E had forecasted to install 12 gas control monitoring devices at  
 6 regulation stations, MAOP valves and Critical facilities to monitor pressure in 2012.  
 7 PG&E did not install any of these gas control monitoring devices in 2012 because  
 8 the installation technology required testing and development of design standards  
 9 prior to installation. PG&E experienced a delay in testing of the equipment and  
 10 development of the documentation. PG&E still needs to prepare site specific  
 11 designs. PG&E plans to include the 2012 installations with the 2013 installations  
 12 once the site specific designs are prepared.<sup>32</sup>

<sup>30</sup> Ex. PG&E-3, p. 2-9

<sup>31</sup> Ex. PG&E-3, Workpapers, pp. WP 2-40 to WP 2-41

<sup>32</sup> PG&E's response to DRA-PG&E-081, Question 4

1 PG&E had forecasted to install 130 gas control monitor devices of pressure at  
2 Hydraulically Independent Systems (HIS) low points and critical non-core customers  
3 (ERXs) in 2012. PG&E installed two of the 130 gas control monitor devices  
4 forecasted for 2012. Based on previous experience with the SmartMeter program,  
5 PG&E halted work and decided to perform a proactive outreach program to its  
6 customers prior to installation because the ERX technology is designed for  
7 installation on service risers. PG&E plans to include the deferred installations with  
8 the 2013 installations.<sup>33</sup>

9 PG&E had forecasted to install five gas control monitoring and control devices  
10 of pressure and flow at regulation stations, control of regulator set points and control  
11 of fire valves in 2012. PG&E did not install any of these gas control monitoring  
12 RTUs in 2012 because PG&E's testing of the control elements indicated that the  
13 technology may not be appropriate for low-pressure stations. Once the technology  
14 issue is resolved, PG&E plans to incorporate the five RTUs forecasted in 2012 into  
15 the 2013 schedule.<sup>34</sup>

16 PG&E expects to face significant permitting and system operation issues as  
17 the installation of these devices are on existing underground facilities.<sup>35</sup> PG&E  
18 states that it may need to obtain several permits from the town, city, or county  
19 depending on the location of the project. These permits include, but are not limited  
20 to, an encroachment permit to conduct construction activity in a public place; a  
21 permit to alter traffic (which includes the development of a traffic plan); a surface-  
22 mounted facility permit to attach a device such as a radio transmitter to an above-  
23 ground fixture or building; a night noise permit if night work is required to avoid traffic  
24 disruption; and a temporary or permanent construction easement. Some permits  
25 may require public notice periods which may need public hearings. PG&E may need  
26 permits from other jurisdictions such as public transit agencies, port authorities, state

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<sup>33</sup> PG&E's response to DRA-PG&E-081, Question 5

<sup>34</sup> PG&E's response to DRA-PG&E-081, Question 6

<sup>35</sup> Ex. PG&E-3, p. 2-21



1 and national park services, and CalTrans. In isolated instances, PG&E may need to  
2 acquire environmental permits from the Department of Fish and Wildlife, the Air  
3 Quality Board, or similar agencies if they impinge on environmentally sensitive  
4 areas. Based on PG&E's experience with environmental permits, it may take two to  
5 twelve months from the time of request to the time of issuance, but longer time  
6 frames are possible.<sup>36</sup>

7 PG&E must also receive the permission of its customers to attach more than  
8 2,000 pressure recorders on the customer service risers and installation of surface-  
9 mounted facilities. Based on PG&E's experience with the SmartMeter Program in  
10 which PG&E experienced significant customer resistance to deployment, PG&E  
11 determined that the large-scale deployment of pressure recorders, as well as  
12 surface-mounted facilities, must involve significant up-front coordination and  
13 communication with local government and potentially affected customers to ensure  
14 maximum acceptance and minimum disruption. PG&E plans to address the  
15 concerns of the government and its customers before it proceeds. PG&E does not  
16 have an estimate of the time the outreach will require but expects it to be  
17 significant.<sup>37</sup>

18 Regarding the system operation issues, PG&E states that installing RTUs is a  
19 significant construction project in which PG&E crews and third-party contractors  
20 must be coordinated. PG&E must develop and follow a clearance – a step-by-step  
21 plan to ensure the monitoring and safe execution of work performed on the gas  
22 system. PG&E says that for RTUs to be installed at a regulator station, a PG&E  
23 crew must bypass the regulator and control pressure manually while equipment is  
24 placed inside the station piping. For RTUs in locations where bypass is not feasible,  
25 other manual operations (e.g., the injection of compressed natural gas or  
26 backfeeding from other systems) must be executed to maintain service continuity.

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<sup>36</sup> PG&E's response to DRA-PG&E-081, Question 8

<sup>37</sup> PG&E's response to DRA-PG&E-081, Question 8

1 PG&E says that these construction projects must be coordinated with other  
2 ongoing work. PG&E expects these construction projects to be coordinated with  
3 other ongoing work. PG&E expects a great deal of potential interdependency  
4 among the various construction, maintenance, and inspection projects that may  
5 need to be scheduled concurrently, and expects scheduling challenges to deploy  
6 resources safely and efficiently. PG&E says that all of these projects are subject to  
7 their own dynamics, and delays or changes in one can affect the others. This often  
8 affects the timeliness of qualified crew and contractor availability.<sup>38</sup> Although PG&E  
9 does not expect significant operational issues for the installation of electronic  
10 recording devices, PG&E has identified significant coordination, communication, and  
11 negotiation with customers and local governments.<sup>39</sup>

## 12 2. Discussion of DRA's Recommendation for MWC 4A

13 DRA does not oppose PG&E's proposed Gas Distribution Control Center and  
14 the installation of monitoring and control devices on the gas distribution system.  
15 However, DRA recommends lower capital expenditures of \$2.420 million in 2012,  
16 \$4.447 million in 2013, and \$24.851 million in 2014 compared to PG&E's request in  
17 MWC 4A for the reasons discussed below.

18 DRA recommends using the recorded 2012 capital expenditures for MWC 4A  
19 which is \$2.420 million. DRA's 2012 forecast of \$2.420 million is \$2.027 million or  
20 46% less than PG&E's 2012 forecast of \$4.447 million. DRA recommends shifting  
21 PG&E's forecast out by one year for this MWC, due to the various delays  
22 experienced by PG&E. DRA's 2013 forecast of \$24.851 million reflects PG&E's  
23 2012 estimate and is \$20.404 million less than PG&E's 2013 forecast. DRA's 2014  
24 forecast of \$24.851 million is equal to PG&E's 2013 forecast but is \$37.358 million  
25 less than PG&E's 2014 forecast.

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<sup>38</sup> PG&E's response to DRA-PG&E-081, Question 8

<sup>39</sup> PG&E's response to DRA-PG&E-081, Question 8

1 SB 705 does not require specific actions or practices nor does it define  
2 industry best practices. SB 705 requires gas utilities to implement safety plans that  
3 are consistent with best practices in the gas industry. PG&E states that having a  
4 centralized control center and real-time distribution monitoring and control system  
5 are industry best practices.<sup>40</sup>

6 PG&E's forecast for 2012 to 2014 are excessive and overly optimistic given  
7 the current circumstances and recent facts. PG&E installed only two of the 130 gas  
8 control monitoring (Monitoring of pressure at HIS low points and Critical non-core  
9 customers, and some non-HIS systems)-Electronic Pressure Recorders (ER-  
10 portable) it forecasted to install and none of the other gas control monitors.<sup>41</sup> PG&E  
11 faced technology issues and permitting issues as well as system operation issues  
12 which significantly affected the schedule to install the gas control monitoring devices.

13 PG&E encountered technology problems that delayed installation of the gas  
14 control monitoring devices scheduled for 2012. First, PG&E did not install the twelve  
15 RTUs at pipeline mains near regulation stations to monitor pressure because the  
16 technology required testing and development of design standards prior to  
17 installation. PG&E experienced a delay in testing of the equipment and  
18 development of the documentation. PG&E still needs to prepare site specific  
19 designs. Second, PG&E did not install any of the five gas control monitoring RTUs  
20 at low pressure regulation stations in 2012 because PG&E's testing of the control  
21 elements indicated that the technology may not be appropriate for low-pressure  
22 stations.

23 PG&E faces significant permitting and system operation issues. In addition,  
24 PG&E must receive the permission of its customers and the government to attach  
25 more than 2,000 pressure recorders on the customer service risers and installation  
26 of surface-mounted facilities. PG&E plans to address the concerns of the  
27 government and its customers before it proceeds. There is currently no estimate of

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<sup>40</sup> PG&E's response to DRA-PG&E-081, Question 1

<sup>41</sup> PG&E Response to DRA-PG&E-081, Questions 4, 5, and 6

1 the time the outreach will require but PG&E expects it to be significant. Therefore,  
 2 DRA recommends shifting PG&E's forecast for 2012 to 2013 and PG&E's forecast  
 3 for 2013 to 2014 due to all these significant issues related to the various  
 4 requirements, delay, and timing associated with the project.

5 **V. DISCUSSION / ANALYSIS OF PIPE, METER AND OTHER**  
 6 **PREVENTATIVE MAINTENANCE (MWC 27)**

7 This section discusses PG&E's and DRA's 2012 to 2014 forecasts for capital  
 8 expenditures for PG&E's pipe, meter and other preventative maintenance in MWC  
 9 27. PG&E is requesting capital expenditures of \$1.027 million in 2012, \$1.0 million  
 10 in 2013, and \$246,000 in 2014 for PG&E's pipe, meter and other preventative  
 11 maintenance.<sup>42</sup> The 2011 recorded capital expenditures for PG&E's pipe, meter  
 12 and other preventative maintenance is \$9,000. The 2014 capital expenditures  
 13 forecast is \$237,000 more than 2011 recorded capital expenditures.

14 The following table summarizes PG&E's request and DRA's recommendation  
 15 for the MWCs within Pipe, Meter and Other Preventative Maintenance.

16 **Table 10-6**  
 17 **DRA's and PG&E's 2012 to 2014 Capital Expenditures Forecasts**  
 18 **Pipe, Meter and Other Preventive Maintenance**  
 19 **(In Thousands of Dollars)**

Description	DRA Recommended			PG&E Proposed <sup>43</sup>		
	2012	2013	2014	2012	2013	2014
MWC 27	\$5	\$5	\$5	\$1,027	\$1,000	\$246

20  
 42 Ex. PG&E-3, p. 5-29, Table 5-7

43 Ex. PG&E-3, p. 5-31



1 The Meter Protection Program is a long standing program that has been in  
 2 existence since 1990.<sup>47</sup> A review of 2007 to 2012 recorded capital expenditures  
 3 shows that capital expenditures have been decreasing from \$17,000 in 2009 to  
 4 \$9,000 in 2011 and then \$5,000 in 2012. The highest recorded capital expenditure  
 5 for the last six years occurred in 2008 when it was \$73,000. Therefore, DRA  
 6 recommends using the 2012 recorded capital expenditures of \$5,000 as the 2013  
 7 and 2014 forecasts of capital expenditures for MWC 27. The following provides  
 8 DRA's and PG&E's 2012 to 2014 capital expenditures forecasts for MWC 27.

9 **Table 10-8**  
 10 **DRA's and PG&E's 2012 to 2014 Capital Expenditures Forecasts**  
 11 **MWC 27**  
 12 **(In Thousands of Dollars)**

Description	DRA Recommended			PG&E Proposed <sup>48</sup>		
	2012	2013	2014	2012	2013	2014
MWC 27	\$5	\$5	\$5	\$1,027	\$1,000	\$246

13  
 14 **VI. DISCUSSION / ANALYSIS OF GAS FIELD SERVICES AND**  
 15 **RESPONSE (MWC 74)**

16 This section discusses PG&E's and DRA's 2012 to 2014 forecasts for capital  
 17 expenditures for PG&E's Gas Field Services and Response. PG&E is requesting  
 18 capital expenditures of \$2.620 million in 2012, \$14.481 million in 2013, and \$14.879  
 19 million in 2014 for gas field services and response.<sup>49</sup> The 2011 recorded capital  
 20 expenditures for gas field services and response is \$772,000. PG&E's 2014 capital  
 21 expenditures forecast is \$14.107 million or 1,927% more than 2011 recorded capital  
 22 expenditures.

<sup>47</sup> PG&E's response to DRA-PG&E-020, Question 2, Attachment 1

<sup>48</sup> Ex. PG&E-3, p. 5-31

<sup>49</sup> Ex. PG&E-3, p. 7-21, Table 7-10

1 The following table summarizes PG&E's request and DRA's recommendation  
 2 for the MWCs within Gas Field Services and Response.

3 **Table 10-9**  
 4 **DRA's and PG&E's 2012 to 2014 Capital Expenditures Forecasts**  
 5 **Gas Field Services and Response**  
 6 **(In Thousands of Dollars)**

Description	DRA Recommended			PG&E Proposed <sup>50</sup>		
	2012	2013	2014	2012	2013	2014
MWC 74	\$2,595	\$3,420	\$3,510	\$2,620	\$14,481	\$14,879

7 **A. MWC 74**

8 MWC 74 captures labor costs to replace regulators that are capitalized in  
 9 plant in service.<sup>51</sup> The forecast capital cost of purchasing regulators is addressed in  
 10 New Business and Work at the Request of Others in Section MWC 29.

11 PG&E is requesting capital expenditures of \$2.620 million in 2012, \$14.481  
 12 million in 2013, and \$14.879 million in 2014 for MWC 74. The 2011 recorded capital  
 13 expenditures for MWC 74 is \$772,000. PG&E's 2014 capital expenditures forecast  
 14 is \$14.107 million or 1,927% more than 2011 recorded capital expenditures.

15 DRA is recommending capital expenditures of \$2.595 million in 2012, \$3.420  
 16 million in 2013, and \$3.510 million in 2014. DRA recommends using the recorded  
 17 2012 capital expenditures of \$2.595 million for the 2012 forecast for MWC 74.  
 18 DRA's forecasts capital expenditures of \$3.823 million in 2013 and \$3.928 million for  
 19 2014 for MWC 74. The reasons for DRA's 2013 and 2014 forecast for MWC 74 are  
 20 discussed below.

21 The following table provides the recorded 2007 to 2012 capital expenditures  
 22 for MWC 74.

23  
<sup>50</sup> Ex. PG&E-3, p. 7-21, Table 7-10

<sup>51</sup> Ex. PG&E-3, p. 7-11

**Table 10-10**  
**2007-2012 Recorded Data for MWC 74**  
**(In Thousands of Dollars)**

Description	2007	2008	2009	2010	2011	2012
MWC 74	\$209	\$193	\$326	\$781	\$772	\$2,595

Source: 2007-2011 data from Ex. PG&E-3, Workpapers p. WP 7-18. 2012 data from DRA-PG&E-108, Question 8, Attachment 1

PG&E states that the majority of PG&E’s commercial size regulators have non-internal relief valves (IRV) and they are over 20 years old. PG&E claims that the valve material in these regulators hardens and becomes less resilient as they age and impacts the valve’s ability to lock-up and limit pressure build-up under low or no-flow conditions. PG&E proposes to replace the non-IRV commercial regulators with IRV commercial regulators to mitigate this risk and better facilitate compliance with federal pipeline safety regulators. PG&E claims that new IRV regulators will better ensure safe delivery of distribution pressure to customer gas lines and equipment.<sup>52</sup>

PG&E’s information is based on experience with commercial and residential regulators, experience with other rubber products, and discussions with others in the industry. According to PG&E, the only way to determine that a particular valve does not need to be replaced would be to perform periodic lock-up checks on that valve. PG&E says since the labor cost to perform the test would be the same as the cost to replace the regulator and the uncertainty of future performance of the regulator, the prudent course of action is to replace all non-IRV commercial regulators.<sup>53</sup>

PG&E has not taken an inventory of commercial non-IRV regulators. PG&E used professional experience and engineering judgment to estimate the number of commercial non-IRV regulators in the inventory to be roughly 100,000.<sup>54</sup> PG&E was

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<sup>52</sup> Ex. PG&E-3, pp. 7-11 to 7-12

<sup>53</sup> PG&E’s response to DRA-PG&E-013, Question 1

<sup>54</sup> PG&E’s response to DRA-PG&E-013, Question 1



1 unable to provide an exact count of non-IRV commercial regulators that were  
 2 replaced with IRV commercial regulators for 2007 through September 2012.<sup>55</sup>  
 3 PG&E is unsure whether paper records exist in local offices on the number of non-  
 4 IRV commercial regulators that were replaced.<sup>56</sup> PG&E provides a summary of the  
 5 records of the number of regulators that were replaced from PG&E's Field  
 6 Automation System (FAS) as shown below.

7 **Table 10-11**  
 8 **Number of Regulators Replaced Based on PG&E's FAS<sup>57</sup>**

Line No.	Description of FAS Data	2007	2008	2009	2010	2011	Jan-Sept 2012
1	Commercial Regulator Replacements based on Commercial FAS Codes	775	848	755	654	810	873
2	Commercial Regulator Replacements Based on Other FAS Codes	11,153	13,248	16,458	14,525	10,752	13,912
3	Total of lines 1 & 2	11,928	14,096	17,213	15,179	11,027	14,785
4	Total Number of Regulator Replacement Records by Year <sup>58</sup>	58,124	49,377	48,829	47,012	44,816	53,823

9 To forecast the 2012 to 2014 unit costs to replace the non-IRV commercial  
 10 regulators, PG&E doubled the 2011 unit cost of \$342 derived from dividing total  
 11 2011 recorded capital expenditures for MWC 74 by the 2011 recorded number of  
 12 regulator replacements.<sup>59</sup> According to PG&E, the large commercial non-IRV  
 13 regulators require a two-person truck to replace the regulators compared to a one-

<sup>55</sup> PG&E's response to DRA-PG&E-013, Question 1.k

<sup>56</sup> PG&E's response to DRA-PG&E-013, Question 1.k

<sup>57</sup> PG&E's response to DRA-PG&E-013, Question 1.k

<sup>58</sup> Line 4 provides the total number of regulator replacements based on FAS data which reflects both commercial and residential replacements.

<sup>59</sup> Ex. PG&E-3, p. 7-12

1 person truck to replace residential regulators.<sup>60</sup> PG&E assumes that the 2011 unit  
 2 cost of \$342 is for a one-person truck to replace a residential regulator. However,  
 3 according to the information provided by PG&E, “The 2011 unit cost containing both  
 4 residential and commercial units break out is not available.”<sup>61</sup> Therefore, the 2011  
 5 unit cost is actually a blended unit cost that contains both residential and commercial  
 6 regulator replacements. The following table provides PG&E’s 2011 recorded units  
 7 replaced and recorded unit cost and the 2012 to 2014 forecasts of units replaced  
 8 and the forecast unit costs for regulator replacements.

9 **Table 10-12**  
 10 **PG&E’s Recorded and Forecast Units and Capital Expenditures for MWC 74<sup>62</sup>**

Description	2011 Recorded	2012 Forecast	2013 Forecast	2014 Forecast
Residential Regulator Replacement Units	2,260	2,260	2,260	2,260
Residential Regulator Replacement-Capitalized Labor	\$771,943	\$411,337	\$422,720	\$434,302
Unit cost residential regulator replacement	\$342 <sup>63</sup>	\$182	\$187	\$192
Commercial Regulator Replacement units		2,924	20,000	20,000
Commercial Regulator Replacement-Capitalized Labor		\$2,000,000	\$14,058,000	\$14,444,230
Unit Cost Commercial Regulator replacement		\$684	\$703	\$722

11 PG&E forecasted to replace 2,924 units of non-IRV commercial regulators at  
 12 a unit cost of \$684 for a total capitalized labor cost of \$2 million in 2012. PG&E did  
 13 not replace any of the 2,924 units of non-IRV commercial regulators forecasted for  
 14 2012.<sup>64</sup> PG&E replaced 28,568 residential regulators at a total cost of \$2.581  
 15 million in 2012.

<sup>60</sup> Ex. PG&E-3, pp. 7-11 to 7-12

<sup>61</sup> Ex. PG&E-3, p. 7-13

<sup>62</sup> Ex. PG&E-3, p. 7-13

<sup>63</sup> The 2011 unit cost contains both residential and commercial units because a break out was not available.

<sup>64</sup> PG&E’s response to DRA-PG&E-149

1 Table 10-13 below shows PG&E's 2012 recorded data for MWC 74. The 2012  
 2 recorded unit cost of regulator replacement is \$90.33. PG&E further distinguishes  
 3 the unit costs by saying that the unit cost of a regular residential regulator  
 4 replacement as a single job was \$217 and the unit cost of a regular residential  
 5 regulator replacement work in conjunction with other jobs was \$70 in 2012 as shown  
 6 in the following table provided by PG&E of the breakdown for the 2012 regulator  
 7 replacements.<sup>65</sup> A review of 2012 residential regulator replacements in the table  
 8 below shows that 86% of the residential regulator replacements were performed in  
 9 conjunction with other jobs at a unit cost of \$70. Only 14% of the 2012 residential  
 10 regulator replacements were replaced as a single job at a unit cost of \$217.

11 **Table 10-13**  
 12 **2012 Recorded Capital Expenditures and Unit Cost for MWC 74<sup>66</sup>**

Description	Number of Units	Capital Expenditure	Unit Cost
Regular Replacements based on single job	3,946	\$852,620	\$216.58
Regular Replacements work performed in conjunction with other jobs	24,622	\$1,725,913	\$70.10
Total Regulator Replacements	28,568	\$2,580,533	\$90.33

13 DRA does not oppose PG&E's 2013 and 2014 unit forecasts for residential  
 14 regulator replacement. However, DRA recommends using the 2012 unit cost of \$90  
 15 to forecast residential regulator replacements in 2013 and \$92 in 2014. Another  
 16 reason that DRA recommends using the 2012 recorded unit cost of \$90 instead of  
 17 the 2011 recorded unit cost of \$342 is because the 2011 unit cost contains both  
 18 residential and commercial regulator replacements.

19 As discussed above, PG&E estimates it has approximately 100,000 non-IRV  
 20 commercial regulators that it proposes to replace at a rate of 20,000 non-IRV  
 21 commercial regulators starting in 2013. In 2013, PG&E forecasted to replace 20,000  
 22 non-IRV commercial regulators at a unit cost of \$703 for a total capital cost of

<sup>65</sup> PG&E's response to DRA-PG&E-149

<sup>66</sup> PG&E's response to DRA-PG&E-149

1 approximately \$14 million in 2013 and a unit cost of \$722 for a total capital cost of  
 2 approximately \$14.4 million in 2014.

3 DRA agrees with PG&E’s proposal to start replacing 20,000 non-IRV  
 4 commercial regulators in 2013. However, DRA recommends the unit cost of \$181  
 5 for 2013 and the unit cost \$186 for 2014. DRA forecasted the 2013 and 2014 unit  
 6 costs by doubling the 2012 unit cost to replace a residential regulator which is  
 7 consistent with PG&E’s assumption that large commercial non-IRV regulators  
 8 require a two-person truck to replace the regulators as compared to a one-person  
 9 truck to replace residential regulators.<sup>67</sup> The following table provides DRA’s  
 10 recommended MWC 74 capital expenditures forecasts for 2012 to 2014.

11 **Table 10-14**  
 12 **DRA’s Forecast Units and Capital Expenditures for MWC 74**

Description	2012 Recorded	2013 Forecast	2014 Forecast
Residential Regulator Replacement Units		2,260	2,260
Unit cost residential regulator replacement		\$90	\$92
Residential Regulator Replacement-Capitalized Labor		\$203,400	\$207,920
Commercial Regulator Replacement units		20,000	20,000
Unit Cost Commercial Regulator replacement		\$181	\$186
Commercial Regulator Replacement-Capitalized Labor		\$3,620,000	\$3,720,000
Total	\$2,595,000	\$3,823,400	\$3,927,920

13

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<sup>67</sup> Escalation of 2.75%

1 The following table provides DRA's and PG&E's 2012 to 2014 capital  
 2 expenditures for MWC 74.

3 **Table 10-15**  
 4 **DRA's and PG&E's 2012 to 2014 Capital Expenditures Forecasts**  
 5 **MWC 74**  
 6 **(In Thousands of Dollars)**

Description	DRA Recommended			PG&E Proposed <sup>68</sup>		
	2012	2013	2014	2012	2013	2014
MWC 74	\$2,595 <sup>69</sup>	\$3,823	\$3,928	\$2,620	\$14,481	\$14,879

7 **VII. DISCUSSION / ANALYSIS OF GAS DISTRIBUTION CAPITAL**  
 8 **AND INVESTMENT PLANNING (MWCs 05, 14, 31, 47, 50, 52, and**  
 9 **2K)**

10 This section discusses the 2012 to 2014 capital expenditures forecasts for  
 11 MWC 05 (Tools and Equipment), MWC 14 (Gas Distribution Pipeline Replacement),  
 12 MWC 31 (Natural Gas Vehicle), MWC 47 (Gas Distribution Capacity), MWC 50 (Gas  
 13 Distribution Reliability), MWC 52 (Gas Distribution Leak Replacement/Emergency  
 14 Response), and MWC 2K (Gas Distribution Replacement/Convert Customer High  
 15 Pressure Regulator).

16 The following table summarizes PG&E's request and DRA's recommendation  
 17 for the MWCs within Gas Distribution Capital and Investment Planning.

18

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<sup>68</sup> Ex. PG&E-3, p. 7-21, Table 7-10

<sup>69</sup> PG&E's response to DRA-PG&E-108, Question 8, Attachment 01

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2  
3  
4

**Table 10-16**  
**Forecasts of Gas Distribution Capital Expenditures for 2012-2014**  
**Gas Distribution Capital and Investment Planning**  
**(In Thousands of Dollars)**

Description	DRA Recommended			PG&E Proposed <sup>70</sup>		
	2012	2013	2014	2012	2013	2014
MWC 05	\$1,872	\$1,380	\$1,380	\$4,825	\$15,900	\$2,558
MWC 14	\$167,869	\$198,279	\$215,686	\$172,221	\$203,886	\$331,190
MWC 31	\$1,354	\$1,354	\$1,354	\$2,800	\$2,950	\$2,890
MWC 47	\$14,354	\$14,552	\$15,138	\$14,000	\$14,552	\$15,138
MWC 50	\$69,326	\$72,439	\$72,439	\$62,707	\$72,439	\$128,055
MWC 52	\$404	\$600	\$614	\$690	\$600	\$614
MWC 2K	\$1,220	\$1,220	\$1,220	\$42,000	\$50,000	\$51,150
Total	\$256,399	\$289,824	\$307,831	\$299,243	\$360,327	\$531,595

5 **A. MWC 05-Tools and Equipment**

6 MWC 05 includes the capital expenditures for tools and equipment such as  
7 leak survey equipment, locate and mark equipment, and valve changes.<sup>71</sup> The  
8 following provides the 2007 to 2012 recorded capital expenditures for MWC 05.

9  
10  
11

**Table 10-17**  
**2007-2012 Recorded Data for MWC 05**  
**(In Thousands of Dollars)**

Description	2007	2008	2009	2010	2011	2012
Tools & Equipment	\$1,382	\$1,490	\$2,224	\$766	\$1,040	\$1,872
Fleet	----	----	----	----	----	----
Total	\$1,382	\$1,490	\$2,224	\$766	\$1,040	\$1,872

12 Source: 2007-2011 data from Ex. PG&E-3, Workpapers, p. WP 8-1. 2012 data from DRA-PG&E-  
13 108, Question 3

14

<sup>70</sup> Ex. PG&E-3, p. 8-26.

<sup>71</sup> Ex. PG&E-3, p. 8-4

1                   **1. Tools and Equipment**

2                   PG&E is requesting capital expenditures of \$2.825 million in 2012, \$2.5  
3 million in 2013, and \$2.558 million in 2014. PG&E states that the forecast for gas  
4 distribution tools and equipment is based on historical spending, the expected life-  
5 cycle replacement of obsolete equipment and specific technology purchases.

6                   DRA recommends using the 2012 recorded capital expenditures of \$1.872  
7 million for the 2012 forecast of capital expenditures which is \$953,000 or 34 percent  
8 less than PG&E's 2012 forecast for Tools and Equipment. DRA recommends using  
9 the five-year average (2007 to 2011) of \$1.380 million for the 2013 and 2014  
10 forecasts of capital expenditures for Tools and Equipment. DRA's 2013 forecast is  
11 \$1.120 million less than PG&E's 2013 forecast and the 2014 forecast is \$1.289  
12 million less than PG&E's 2014 forecast for tools and equipment.

13                   **2. Fleet**

14                   PG&E includes the 2012 and 2013 forecasts for the cost associated with  
15 additional fleet needs that PG&E did not capture in Exhibit PG&E-3, Chapter 3,  
16 Transportation Services.<sup>72</sup> PG&E included the 2012 and 2013 vehicle forecasts in  
17 Gas Operations instead of as part of Transportation Services because it claims that  
18 the need for vehicles had not been identified at the time the Transportation Services  
19 forecast were finalized.<sup>73</sup> PG&E is forecasting capital expenditures for vehicles of  
20 \$2 million in 2012 and \$13.4 million in 2013 as part of MWC 05. PG&E states that  
21 the forecast for 2012 includes capital expenditures for vehicles for the additional 40  
22 Gas Service Representatives (GSR). PG&E states that the forecast for 2013  
23 includes the purchase of additional vehicles for Maintenance and Construction  
24 (M&C) to support increasing capital and Operations and Maintenance work.<sup>74</sup>

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<sup>72</sup> Ex. PG&E-3, pp. 8-4 to 8-5

<sup>73</sup> PG&E's response to DRA-PG&E-023, Question 2

<sup>74</sup> Ex. PG&E-3, p. 8-5

1 DRA addresses the 2012 and 2013 forecasts for Gas Operations' capital  
 2 expenditures for vehicles in DRA's recommendation for Transportation Services'  
 3 vehicle forecast (MWC 04). This will allow a historical review and a complete  
 4 understanding of PG&E's forecasts for capital expenditures for vehicles. In  
 5 response to a data request for the breakdown of the 2012 recorded capital  
 6 expenditures by tools and equipment and fleet for MWC 05, PG&E replied:

7 Fleet actuals are not captured within the Gas Distribution Line of  
 8 Business, rather Shared Services. In 2012, Gas distribution  
 9 transferred a total of \$3.1 million dollars to Shared Services to  
 10 supplement the need for additional fleet activities above the initial fleet  
 11 allocation to support Gas Distribution.<sup>75</sup>

12 DRA's discussion of PG&E's fleet forecasts is found in Exhibit DRA-18  
 13 (Shared Services and Information Technology Costs). The following table  
 14 summarizes DRA's and PG&E's 2012 to 2014 forecasts for MWC 05.

15 **Table 10-18**  
 16 **DRA's and PG&E's 2012 to 2014 Capital Expenditures Forecasts**  
 17 **MWC 05**  
 18 **(In Thousands of Dollars)**

Description	DRA Recommended			PG&E Proposed <sup>76</sup>		
	2012	2013	2014	2012	2013	2014
Tools & Equipment	\$1,872	\$1,380	\$1,380	\$2,825	2,500	\$2,669
Fleet				\$2,000	\$13,400	
Total	\$1,872	\$1,380	\$1,380	\$4,825	\$15,900	\$2,669

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<sup>75</sup> PG&E's response to DRA-PG&E-221, Question 1

<sup>76</sup> Ex. PG&E-3, p. 8-5



1 **B. MWC 14 – Gas Distribution Pipeline Replacement Program**

2 MWC 14 covers the activities and capital expenditures related to PG&E’s Gas  
 3 Pipeline Replacement Program (GPRP).<sup>77</sup> The following table provides the  
 4 recorded 2007 to 2012 capital expenditures for MWC 14.

5 **Table 10-19**  
 6 **2007-2012 Recorded Data for MWC 14**  
 7 **(In Thousands of Dollars)**

Description	2007	2008	2009	2010	2011	2012
MWC 14	\$76,916	\$105,603	\$99,470	\$102,063	\$127,010	\$167,869

8 Source: 2007-2011 data from Ex. PG&E-3, Workpapers, p. WP 8-1. 2012 data from DRA-PG&E-  
 9 108, Question 3

10 The following table provides the 2007 to 2011 recorded data for MWC 14 in  
 11 units.

12 **Table 10-20**  
 13 **2007-2011 Recorded Data for MWC 14 in Units**<sup>78</sup>  
 14 **(In Thousands of Dollars)**

Description	Unit of Measure/Unit Cost	2007	2008	2009	2010	2011
Cast Iron & Pre-1940 steel	Unit in Feet	136,141	145,268	149,438	129,863	144,290
Cast Iron & Pre-1940 steel	Unit Cost	\$411	\$427	\$405	\$463	\$519
Sub-Total-Cast Iron & Pre-1940 Steel		\$56,005	\$62,034	\$60,569	\$60,122	\$74,868
Copper Service	Unit in Service	2,006	6,176	5,629	5,841	7,402
Copper Service	Unit Cost	\$10,424	\$7,055	\$6,911	\$7,180	\$6,950
Sub-Total-Copper Service		\$20,911	\$43,569	\$38,901	\$41,941	\$51,443
Plastic Pipe	Unit in Feet					1,498
Plastic Pipe	Unit Cost					467
Sub-Total-Plastic Pipe						\$699
MWC 14 Total		\$76,916	\$105,603	\$99,470	\$102,063	\$127,010

<sup>77</sup> Ex. PG&E-3, p. 8-6

<sup>78</sup> Ex. PG&E-3, Workpapers, p. WP 8-5

1 PG&E established the GPRP in 1985 to replace aging gas distribution and  
2 transmission pipe throughout its system. The GPRP was originally targeted for  
3 completion by the end of 2010 but was extended to 2014 to mitigate expansions in  
4 the program scope and to reduce the impacts from increasing costs and service  
5 disruptions especially in heavily urban areas.<sup>79</sup> The scope of the program initially  
6 covered cast iron and pre-1931 steel main. In 2002, there was a scope re-  
7 evaluation in which the pipe population evaluated for replacement was expanded to  
8 include pre-1940 gas main of significant risk.<sup>80</sup>

9 As of December 31, 2011, PG&E replaced a total of 2,161 miles of cast iron,  
10 pre-1940 steel and other seismically sensitive distribution main within this program  
11 and 179,731 services. PG&E has replaced 90 percent of the gas main originally  
12 identified for replacement, including more than 91 percent of the main in locations of  
13 high seismic risk. At the end of 2011, PG&E states that 48 miles of cast iron main  
14 and 149 miles of steel main remain in the GPRP program.<sup>81</sup>

#### 15 **1. PG&E's Forecasts for MWC 14**

16 PG&E forecasts capital expenditures of \$172.221 million in 2012, \$203.886  
17 million in 2013, and \$331.190 million in 2014 for MWC 14. PG&E recorded capital  
18 expenditures of \$127 million in 2011 for MWC 14.<sup>82</sup> The following table summarizes  
19 in greater detail PG&E's 2012 to 2014 forecasts of capital expenditures for MWC 14.  
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<sup>79</sup> Ex. PG&E-3, Workpapers, p. WP 8-98 and Ex. PG&E-3, p. 8-6

<sup>80</sup> Ex. PG&E-3, p. 8-6; Workpapers, WP 8-99

<sup>81</sup> Ex. PG&E-3, Workpapers, p. WP 8-92

<sup>82</sup> Ex. PG&E-3, p. 8-10

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**Table 10-21**  
**PG&E's 2012 Recorded and 2012-2014 Forecasts of Capital Expenditures for MWC 14<sup>83</sup>**  
**(In Thousands of Dollars)**

Description	Unit of Measure/Unit Cost	Recorded 2012 <sup>84</sup>	Forecast		
			2012	2013	2014
Cast Iron & Pre-1940 steel	Unit in Feet	149,952	161,454	183,216	316,800
Cast Iron & Pre-1940 steel	Unit Cost	\$523	\$489	\$504	\$516
Sub-Total: Cast Iron & Pre-1940 Steel		\$78,445	\$78,951	\$92,370	\$163,391
Copper Service	Unit in Service	7,500	7,500	4,213	250
Copper Service	Unit Cost	\$7,350	\$7,620	\$7,217	\$7,383
Sub-Total: Copper Service		\$51,838	\$57,150	\$30,405	\$1,846
Plastic Pipe	Unit in Feet	126,984	121,208	264,000	528,000
Plastic Pipe	Unit Cost	\$357	\$298	\$307	\$314
Sub-Total: Plastic Pipe		\$35,245	\$36,120	\$81,111	\$165,953
MWC 14 Total		\$165,528	\$172,221	\$203,886	\$331,190

4

5 **2. Gas Pipeline Replacement Program**

6 As of August 2, 2011, PG&E transitioned from the GPRP into a risk mitigation  
7 and distribution integrity management program (DIMP) approach that will provide  
8 ongoing evaluations of the risk to all pipelines.<sup>85</sup> According to PG&E, the average  
9 operating life of the pipe in PG&E's system today is 45 years and approximately  
10 11,600 miles of main was installed before 1960. PG&E claims that the historical  
11 replacement rate of approximately 30 miles of cast iron and pre-1940 steel per year  
12 is an inadequate replacement rate to prevent service quality and safety from  
13 declining.<sup>86</sup>

14 Beginning in 2014, PG&E proposes to replace 180 miles of distribution main  
15 per year. PG&E forecasts 160 miles of distribution pipe per year to be recorded in

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<sup>83</sup> Ex. PG&E-3, p. 8-10

<sup>84</sup> PG&E's response to DRA-PG&E-173, Question 4 (2012 Actual units are based on projects with completed documentation and unit costs only take into account non-recurring costs and year to year carry over cost, therefore, unit cost is not equal to \$Actuals/Units.)

<sup>85</sup> Ex. PG&E-3, Workpapers, p. WP 8-104

<sup>86</sup> Ex. PG&E-3, p. 8-8

1 MWC 14. The 160 miles of main include 100 miles of plastic pipes and 60 miles of  
2 cast iron and pre-1940 steel pipe. PG&E forecasts 20 miles per year of post-1940  
3 steel main to be recorded in MWC 50.<sup>87</sup>

4 PG&E's long-term proposal is to continuously re-evaluate the leak rate trend  
5 and other risk factors to ensure the right number of miles will be replaced to  
6 decrease the leak rates to the system-wide average and to otherwise reduce risk. It  
7 expects to replace the population of pipe materials in its proposal based on the  
8 current performance of these pipe materials. If the risk of other pipe materials  
9 proves to be higher, the population of pipe with the highest risk will be replaced.<sup>88</sup>

### 10 **3. Copper Service Replacement Program**

11 Beginning in 2007, PG&E redistributed funding and resources originally  
12 targeted for the GPRP to replace copper services under a new Copper Service  
13 Replacement Program. PG&E identified approximately 42,000 copper services for  
14 replacement.<sup>89</sup> At the end of 2011, PG&E replaced 36,813 copper services at a  
15 cost of \$247 million.<sup>90</sup> PG&E proposes to replace all know copper service by the  
16 end of 2013, other than approximately 500 services to be replaced after 2013 due to  
17 street moratoria.<sup>91</sup>

### 18 **4. Plastic Replacement**

19 PG&E has approximately 5,735 miles of Aldyl-A plastic pipe in service in its  
20 distribution system. PG&E says that Aldyl-A pipe manufactured prior to 1983 can  
21 become brittle and crack when subjected to external forces, especially when

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<sup>87</sup> Ex. PG&E-3, pp. 8-8 to 8-9

<sup>88</sup> Ex. PG&E-3, p. 8-9

<sup>89</sup> Ex. PG&E-3, p. 8-7

<sup>90</sup> Ex. PG&E-3, Workpapers, p. WP 8-117

<sup>91</sup> Ex. PG&E-3, p. 8-7

1 exposed to high soil temperatures, which may limit service life.<sup>92</sup> Starting in 2014,  
2 PG&E is requesting to replace 100 miles of plastic pipe per year for 15 years to  
3 decrease the leak rate to the system average.<sup>93</sup> The plastic pipe to be replaced will  
4 likely be Aldyl-A pipe. If non-Aldyl-A plastic is identified as riskier than the Aldyl-A  
5 plastic, it will be replaced first.<sup>94</sup> The primary factors established within PG&E's  
6 Distribution Integrity Management to identify the capital replacement projects for  
7 Aldyl-A mains and services include:

- 8 • Plastic vintage: DuPont Aldyl-A produced between 1969 and 1984 being  
9 the primary focus for mains 1 ¼-inch or greater.
- 10 • Pipe location and proximity to structures and areas of public assembly.
- 11 • Leak activity and source.<sup>95</sup>

## 12 **5. DRA's Recommendation for MWC 14**

13 DRA agrees that PG&E should have a risk mitigation and distribution integrity  
14 management program to provide ongoing evaluations of the risk to all pipelines and  
15 to enhance both public safety and system reliability. PG&E's current pipeline  
16 replacement program is in compliance with state and federal regulations.<sup>96</sup> PG&E  
17 implemented its GPRP in 1985 and has acquired considerable knowledge about its  
18 gas pipeline system. PG&E's average replacement rate has been approximately 27  
19 miles of gas distribution pipes per year from 2007 to 2012.<sup>97</sup>

20 The proposed increase of the annual distribution pipe replacement rate  
21 should decrease PG&E's leak rate and improve the integrity of its gas distribution

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<sup>92</sup> Ex. PG&E-3, p. 4-20

<sup>93</sup> Ex. PG&E-3, p. 8-8

<sup>94</sup> Ex. PG&E-3, p. 8-9

<sup>94</sup> PG&E's response to DRA-PG&E-031, Question 8, Rev01

<sup>96</sup> PG&E's response to DRA-PG&E-173, Question 14

<sup>97</sup> Ex. PG&E-3, Workpapers, p. WP 8-5 and DRA-PG&E-173, Question 4

1 system. DRA reviewed PG&E's historical gas pipeline replacement rate in its  
2 analysis. DRA's recommendation considers the cost benefits and the increased cost  
3 per year as well as the feasibility of PG&E's resources to complete the increased  
4 rate of pipeline replacement.

5 DRA considers other PG&E projects and programs requested in this GRC  
6 that improves the integrity of PG&E's gas distribution system in addition to the  
7 annual distribution pipe replacement program. For example, PG&E requested  
8 capital expenditures for a Gas Distribution Control Center and monitoring and control  
9 devices that will improve safety and operations. PG&E has requested changing its  
10 leak survey and repair activities which should further improve the integrity of PG&E's  
11 gas distribution system.

#### 12 **6. DRA's 2012 Forecast for MWC 14**

13 DRA recommends a forecast of \$167.869 million for 2012, \$198.279 million  
14 for 2013, and \$215.686 million for MWC 14 for 2014. DRA's forecast for 2012 uses  
15 PG&E's recorded capital expenditures of \$167.869 million which is \$4.352 million  
16 less than PG&E's 2012 forecast for MWC 14.

#### 17 **7. DRA's 2013 Forecast for MWC 14**

18 DRA forecasts capital expenditures of \$198.279 million in 2013 for MWC 14.  
19 The forecast of capital expenditures of \$198.279 million is \$5.607 million less than  
20 PG&E's 2013 forecast of capital expenditures for MWC 14. DRA's 2013 forecast is  
21 \$71 million or 56 percent above PG&E's 2011 recorded capital expenditures and  
22 \$30 million higher than the 2012 recorded capital expenditures.

23 DRA agrees to PG&E's 2013 forecast for the number of units for the  
24 replacement of cast iron and pre-1940 steel pipes, the replacement of copper  
25 service, and the replacement of Aldyl-A plastic pipes. DRA agrees with PG&E's  
26 2013 forecast of the unit costs for cast iron and pre-1940 steel pipes. DRA  
27 recommends a different 2013 unit cost for the replacement of Aldyl-A plastic pipes.  
28 DRA recommends using the 2012 recorded unit cost for the replacement of Aldyl-A  
29 plastic pipes of \$278 per foot and escalated to \$286 per foot as the 2013 unit cost.  
30 In 2011, PG&E replaced 1,498 feet of Aldyl-A plastic pipes at a unit cost of \$467 per

1 foot. In 2012, PG&E significantly increased the amount of Aldyl-A plastic pipes  
2 replaced to 126,984 feet (approximately 24 miles) at a unit cost of \$278 per foot.  
3 The 2012 recorded unit cost provides a reasonable basis to forecast the 2013 and  
4 2014 unit costs for the replacement of Aldyl-A plastic pipes. Since PG&E completed  
5 a significant increase of plastic pipe replacements in 2012 compared to 2011, the  
6 2012 recorded unit cost is based on a larger quantity of cost data to forecast 2013  
7 and 2014 as well as being the more recent cost data. The details of DRA's 2013  
8 forecast are shown in Table 10-22.

#### 9 **8. DRA's 2014 Forecast for MWC 14**

10 DRA forecasts capital expenditures of \$215.686 million for MWC 14 in 2014.  
11 DRA's 2014 forecast of capital expenditures is \$115.304 million or 35 percent less  
12 than PG&E's 2014 forecast of capital expenditures for MWC 14. DRA's 2014  
13 forecast is \$87 million or 70 percent above PG&E's 2011 recorded capital  
14 expenditures, and \$48 million higher than the 2012 recorded capital expenditures.

15 DRA agrees to PG&E's 2014 forecast of the number of units and the unit cost  
16 for the replacement of copper services. DRA took into consideration that PG&E  
17 replaced approximately 28.4 miles of Cast Iron and Pre-1940 steel pipes and  
18 approximately 24 miles of Aldyl-A plastic pipes in 2012 which provide indications of  
19 the available PG&E resources for future distribution pipe replacement.

20 DRA forecasts the replacement of 50 miles of cast iron and pre-1940 steel  
21 pipes instead of the 60 miles of cast iron and pre-1940 steel pipes proposed by  
22 PG&E in 2014. DRA agrees with PG&E's forecast of the unit cost of \$516 per foot  
23 for the replacement of cast iron and pre-1940 steel pipes. PG&E has 48 miles of  
24 cast iron pipes in its system that it proposes to completely replace by the end of  
25 2014.<sup>98</sup> PG&E replaced 63,250 feet (approximately 12 miles) of cast iron pipe in

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<sup>98</sup> Ex. PG&E-3, Workpapers, p. WP 8-32

1 2012 and forecasted to replace 80,400 feet (approximately 15 miles) of cast iron  
2 pipe in 2013.<sup>99</sup>

3 First, DRA forecasts the replacement of 50 miles of pre-1940 steel pipes and  
4 cast iron pipes in 2014 compared to the 60 miles proposed by PG&E. DRA's more  
5 conservative figure is due to the uncertainty associated with PG&E's ability to ramp  
6 up its resources and related services to replace twice the historical replacement  
7 levels of cast iron and pre-1940 steel pipes as well as its proposal to increase the  
8 replacement rate of plastic pipes to 100 miles. DRA's forecast represents an  
9 achievable figure while increasing the miles of pipeline replacement.

10 Second, DRA is recommending 50 miles of pre-1940 steel pipes and cast iron  
11 pipes in 2014 because of the preliminary nature and uncertainty associated with  
12 PG&E's proposal. This is exemplified by PG&E's response to DRA's data request to  
13 provide a list of all gas distribution pipes that need to be replaced by location, type of  
14 material (i.e. pre-1940, post-1940, cast iron, plastic), vintage, length of pipe, and  
15 reasons for replacement. PG&E replied:

16 PG&E has not compiled a list of all gas distribution pipes that need to  
17 be replaced at this time. However, PG&E is reviewing approximately  
18 42,000 miles of mains and associated services based upon risk  
19 ranking and priority values. Attachment GRC2014-Ph-1\_DR\_DRA173-  
20 Q05Atch01 is a list of the 2013 replacement projects for Aldyl-A pipe.  
21 Please refer to PG&E's response to DRA\_173-Q06 for pre-1940 steel  
22 and DRA\_173-Q07 for post-1949 steel pipe replacement projects  
23 PG&E plans to begin in 2013.<sup>100</sup>

24 Another DRA data request asked PG&E to provide a list of pre-1940 steel  
25 main gas distribution pipe that PG&E plans to replace in 2014 by location, vintage,  
26 length of pipe, and reason for replacement. The PG&E response shows the  
27 preliminary nature of its proposal. PG&E replied:

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<sup>99</sup> PG&E's response to DRA-PG&E-173, Question 2 (d. and e.)

<sup>100</sup> PG&E's response to DRA-PG&E-173, Question 5



1 Attachment GRC2014-PH-1\_DRA\_173-Q07Atch01 provides a list of  
2 preliminary footage targets to be replaced or deactivated by division,  
3 although individual projects have yet to be identified. The specific  
4 vintage and length of pipe cannot be confirmed at this time due to the  
5 preliminary nature of the list. The reasons for replacement are  
6 described in PG&E's response to question DRA\_178-Q06.<sup>101</sup>

7 PG&E's attachment to this data response shows a target of 60 miles of pre-  
8 1940 steel pipes for 2014 but a planned deactivation of 39 miles for 2014. As its  
9 response indicates, the list is preliminary and PG&E has not yet identified individual  
10 projects and the specific vintage and length of pipe cannot be confirmed at this time.

11 DRA forecasts the replacement of 50 miles of Aldyl-A plastic pipes in 2014  
12 compared to the 100 miles of Aldyl-A plastic pipes proposed by PG&E. The reports  
13 from the NTSB or the Department of Transportation do not expressly direct the  
14 replacement of Aldyl-A plastic pipe but direct operators to closely monitor the  
15 performance of older Aldyl-A pipe and identify and replace in a timely manner any  
16 such pipe that indicates poor performance through evaluation.<sup>102</sup> DRA doubled  
17 PG&E's 2012 recorded replacement miles of plastic pipes of 24 miles to forecast the  
18 plastic pipe replacement rate in 2014. PG&E's 2014 forecast to quadruple the  
19 replacement rate for plastic pipes of the 2012 recorded replacement rate is very high  
20 at this juncture, given the lack of detailed information provided by PG&E.

21 DRA recommends using the 2012 recorded unit cost for the replacement of  
22 Aldyl-A plastic pipes and escalating it to a 2014 unit cost forecast of \$294 per foot.  
23 The following table provides DRA's 2012 to 2014 forecasts for MWC 14.

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<sup>101</sup> PG&E's response to DRA-PG&E-173, Question 7

<sup>102</sup> PG&E's response to DRA-PG&E-048, Question 6

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**Table 10-22  
DRA's 2012-2014 Forecasts Data for MWC 14  
(In Thousands of Dollars)**

Description	Unit of Measure/Unit Cost	2012 <sup>103</sup>	2013	2014
Cast Iron & Pre-1940 steel	Unit in Feet	149,952	183,216	264,000
Cast Iron & Pre-1940 steel	Unit Cost	\$523	\$504	\$516
Sub-Total: Cast Iron & Pre-1940 Steel		\$78,445	\$92,370	\$136,224
Copper Service	Unit in Service	7,500	4,213	250
Copper Service	Unit Cost	\$6,912	\$7,217	\$7,383
Sub-Total: Copper Service		\$51,838	\$30,405	\$1,846
Aldyl-A Plastic Pipe	Unit in Feet	126,984	264,000	264,000
Aldyl-A Plastic Pipe	Unit Cost	\$278	\$286 <sup>104</sup>	\$294
Sub-Total: Aldyl-A Plastic Pipe		\$35,245	\$75,504	\$77,616
MWC 14 Total		\$167,869 <sup>105</sup>	\$198,279	\$215,686

4            Although DRA recommends a lower 2014 forecast of capital expenditures  
5 compared to PG&E, DRA is recommending a separate ratemaking mechanism for  
6 MWC 14 that is discussed below. The following table provides DRA's and PG&E's  
7 2012 to 2014 capital expenditures forecast for MWC 14.  
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<sup>103</sup> PG&E's response to DRA-PG&E-173, Question 4(a). Differences due to rounding.

<sup>104</sup> DRA divided PG&E's 2012 recorded capital expenditures for plastic pipe replacement of \$35.245 million with 2012 recorded units of 126,984 feet to calculate a unit cost of \$278 and used escalation of 2.75% to derive a 2013 unit cost of \$286 per foot and a 2014 unit cost of \$294. (PG&E's response to DRA-PG&E-173, Question 4(a))

<sup>105</sup> DRA used the total capital expenditures for MWC 14 provided in PG&E's response to DRA-PG&E-108, Question 03, Attachment 1 which is different than total capital expenditures provided in response to DRA-PG&E-173, Question 4(a).

**Table 10-23**  
**DRA's and PG&E's 2012 to 2014 Capital Expenditures Forecasts**  
**MWC 14**  
**(In Thousands of Dollars)**

Description	DRA Recommended			PG&E Proposed <sup>106</sup>		
	2012	2013	2014	2012	2013	2014
MWC 14	\$167,869	\$198,279	\$215,686	\$172,221	\$203,886	\$331,190

**9. Annual Progress Reports**

DRA recommends that the Commission direct PG&E to submit annual reports to the Commission's Safety and Enforcement Division, DRA, and the Energy Division on the progress of its Gas Pipeline Replacement Program such as directed in PG&E's GPRP in Decision 86-12-095.

**10. Ratemaking Mechanism for MWC 14**

DRA recommends a separate ratemaking mechanism that allows PG&E authority to request recovery of 2014 recorded capital expenditures in excess of DRA's 2014 forecast of \$215.7 million but not to exceed PG&E's 2014 forecast of \$331 million for MWC 14. DRA recommends that the cost to replace gas distribution pipes above DRA's 2014 forecast be included in rates only if the gas distribution pipes are actually replaced and capital expenditures are made.

PG&E's 2014 forecast of \$331 million is significantly higher than recorded 2007 to 2011 capital expenditures for MWC 14. The five year average (2007 to 2011) of recorded capital expenditures was \$102 million for MWC 14. PG&E's recorded capital expenditures were \$167.9 million in 2012, and are forecasted to be \$198.3 million in 2013 by DRA. PG&E is forecasting a significant increase of \$163 million or 97 percent above 2012 recorded capital expenditures for 2014.

DRA's recommendation of a separate mechanism is similar to the agreements reached in the Gas Accord IV and Gas Accord V Settlements for transmission capital projects in which the costs of large local transmission capital

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<sup>106</sup> Ex. PG&E-3, p. 8-26

1 projects were not covered by the local transmission revenue requirements or rates of  
2 the Settlement Agreements until the projects are actually built.<sup>107</sup> A separate  
3 mechanism provides a balance between the needs for a safe gas distribution  
4 pipeline system and the lowest possible rate for service consistent with reliable and  
5 safe service levels. A separate mechanism will prevent PG&E from receiving more  
6 funding for a gas distribution pipeline replacement program than actually needed to  
7 replace the distribution pipelines. For example, in discussing PG&E's GPRP in the  
8 1996 GRC, Decision 95-12-055 states:

9       Notwithstanding PG&E's underspending of budgeted funds in this  
10       program in every year since 1985, PG&E has kept the program on  
11       target: after 40% of the program's timeline has elapsed, PG&E has  
12       completed 39% of the program. Apparently, we have funded this  
13       program at levels that are higher than required to fulfill program goals.  
14       With this in mind, we believe PG&E should be able to continue its  
15       targeted level of construction with less funding. We grant PG&E \$4.3  
16       million for PRP and \$77.2 million in capital costs, the same amounts  
17       PG&E spent in 1993. With this funding, PG&E shall maintain the pace  
18       of its program, consistent with program goals of completing targeted  
19       replacements by the end of 2009.<sup>108</sup>

20       DRA recommends that PG&E file an advice letter in February of 2015 to  
21       request recovery of 2014 recorded capital expenditures above DRA's 2014 forecast.  
22       PG&E would be permitted to recover the revenue requirement associated with the  
23       incremental capital expenditure effective March 1, 2015.

#### 24       **C. MWC 31 – Natural Gas Vehicles**

25       PG&E is forecasting capital expenditures of \$2.8 million in 2012, \$2.95 million  
26       in 2013, and \$2.89 million in 2014 for MWC 31. PG&E is requesting capital  
27       expenditures to replace obsolete compressors, to add additional storage at six of its  
28       stations, and to purchase equipment replacement at the end of their service life.  
29       PG&E is not forecasting to increase the number of stations but rather to keep the

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<sup>107</sup> Decision 07-09-045, p. 7 and Decision 11-04-031, p. 15

<sup>108</sup> D. 95-12-055, p. 56

1 existing natural gas fueling infrastructure safe in compliance for PG&E's fleet,  
2 customers, and portable Compressed Natural Gas trailers.<sup>109</sup> The following table  
3 provides the recorded 2007 to 2012 capital expenditures for MWC 31.

4 **Table 10-24**  
5 **2007-2012 Recorded Data for MWC 31**  
6 **(In Thousands of Dollars)**

Description	2007	2008	2009	2010	2011	2012
MWC 31	\$3,612	\$4,300	\$3,166	\$2,547	\$1,443	\$1,354

7 Source: 2007-2011 data from Ex. PG&E-3, Workpapers, p. WP 8-4. 2012 data from DRA-PG&E-  
8 108, Question 3

9 DRA is recommending a capital expenditures forecast of \$1.354 million in  
10 2012, \$1.354 million in 2013, and \$1.354 million in 2014 for MWC 31. DRA  
11 recommends using the 2012 recorded capital expenditures of \$1.354 million for the  
12 2012, 2013, and 2014 forecasts, as explained below.

13 First, a review of the recorded capital expenditures shows that capital  
14 expenditures have been decreasing since 2008 from \$4.3 million to \$1.354 million in  
15 2012. Second, PG&E had forecasted capital expenditures of \$2.8 million in 2012  
16 but recorded capital expenditures were only \$1.354 million or 48 percent of the 2012  
17 forecast. Third, PG&E states that it is not forecasting to increase the number of  
18 CNG stations. However, PG&E has included in its forecast the installation of two  
19 new CNG stations for \$1 million in 2012 and \$800,000 in 2013.<sup>110</sup> PG&E did not  
20 perform any work to install these CNG stations in 2012. Based on PG&E's  
21 testimony that it is not forecasting to increase the number of CNG stations, DRA  
22 recommends the removal of the \$800,000 from PG&E's 2013 forecast. Fourth, a  
23 comparison of the forecasted and recorded capital expenditures for 2012 projects  
24 show that many of the recorded capital expenditures were less than the forecasted

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<sup>109</sup> Ex. PG&E-3, p. 8-11

<sup>110</sup> PG&E's response to DRA-PG&E 148, Question 1, Attachment 01, Install CNG Station, LNG/CNG North Yard and South Yard

1 capital expenditures. For example, PG&E forecasts to add additional storage at six  
 2 of its stations during 2012 to 2016. PG&E forecasted \$800,000 in 2012 to add CNG  
 3 storage at its Cupertino Service Center but only recorded \$398,000 in 2012 or  
 4 approximately 50 percent less than the amount of capital expenditures forecasted by  
 5 PG&E. Therefore, DRA's recommendation to use the recorded 2012 capital  
 6 expenditures for the 2013 and 2014 forecasts provides a reasonable level of funding  
 7 for MWC 31. The following table provides DRA's and PG&E's 2012 to 2014 forecast  
 8 for MWC 31.

9  
 10 **Table 10-25**  
 11 **DRA's and PG&E's 2012 to 2014 Capital Expenditures Forecasts**  
 12 **MWC 31**  
**(In Thousands of Dollars)**

Description	DRA Recommended			PG&E Proposed <sup>111</sup>		
	2012	2013	2014	2012	2013	2014
MWC 31	\$1,354	\$1,354	\$1,354	\$2,800	\$2,950	\$2,890

13  
 14 **D. MWC 47 – Gas Distribution Capacity**

15 MWC 47 covers capacity additions to meet load growth by reinforcing existing  
 16 gas systems to increase its capacity. MWC 47 activities include installing new main;  
 17 installing new or replacing existing regulator stations; replacing regulators and  
 18 regulator station equipment; installing distribution valves to separate gas systems;  
 19 and adding capacity for future growth.<sup>112</sup> The following table provides the 2007 to  
 20 2012 recorded capital expenditures for MWC 47.

21 **Table 10-26**  
 22 **2007-2012 Recorded Data for MWC 47**  
 23 **(In Thousands of Dollars)**

Description	2007	2008	2009	2010	2011	2012
MWC 47	\$8,143	\$12,062	\$8,384	\$14,893	\$12,521	\$14,354

24 Source: 2007-2011 data from Ex. PG&E-3, Workpapers, p. WP 8-4. 2012 data from DRA-PG&E-  
 25 108, Question 3

<sup>111</sup> Ex. PG&E-3, p. 8-26

<sup>112</sup> Ex. PG&E-3, p. 8-11

1 DRA recommends using the 2012 recorded capital expenditures of \$14.354  
 2 million for the 2012 forecast for MWC 47. DRA agrees with PG&E's forecasts of  
 3 capital expenditures of \$14.552 million in 2013 and \$15.138 million in 2014 for MWC  
 4 47. The following table provides DRA's and PG&E's 2012 to 2014 forecasts of  
 5 capital expenditures for MWC 47.

6 **Table 10-27**  
 7 **DRA's and PG&E's 2012 to 2014 Capital Expenditures Forecasts**  
 8 **MWC 47**  
 9 **(In Thousands of Dollars)**

Description	DRA Recommended			PG&E Proposed <sup>113</sup>		
	2012	2013	2014	2012	2013	2014
MWC 47	\$14,354	\$14,552	\$15,138	\$14,000	\$14,552	\$15,138

10  
 11 **E. MWC 50 – Gas Distribution Reliability**

12 MWC represents capital installation or replacement of gas facilities to improve  
 13 system reliability, replace aging facilities and maintain compliance with pipeline  
 14 safety regulations. These replacements include facilities that have reached the end  
 15 of their useful life, facilities that have a relatively high likelihood of failure and  
 16 facilities that have failed. Similar to MWC 14, PG&E's forecast includes continuing  
 17 the existing MWC 50 replacement programs, but also increasing the rate of overall  
 18 pipeline replacement.<sup>114</sup> The following table provides the 2007 to 2012 recorded  
 19 capital expenditures for MWC 50.

20 **Table 10-28**  
 21 **2007-2012 Recorded Data for MWC 50**  
 22 **(In Thousands of Dollars)**

Description	2007	2008	2009	2010	2011	2012
MWC 50	\$10,961	\$14,954	\$29,495	\$33,394	\$58,512	\$69,326

23 Source: 2007-2011 data from Ex. PG&E-3, Workpapers, p. WP 8-4. 2012 data from DRA-PG&E-  
 24 108, Question 3

<sup>113</sup> Ex. PG&E-3, p. 8-26

<sup>114</sup> Ex. PG&E-3, pp. 8-14 and 8-15

1 PG&E is forecasting capital expenditures of \$62.707 million in 2012, \$72.439  
 2 million in 2013, and \$128.056 million in 2014 for MWC 50. The following table  
 3 provides a breakdown of PG&E's forecast of MWC 50.

4 **Table 10-29**  
 5 **PG&E's 2011 Recorded and 2012 to 2014 Forecasts for MWC 50<sup>115</sup>**  
 6 **(In Thousands of Dollars)**

Item	Recorded 2011	Forecast		
		2012	2013	2014
Main replacement	\$12,457	\$14,175	\$10,648	\$10,893
Main replace (LP to HP)	--	\$10,085	\$21,296	\$40,848
Service replacement	\$11,644	\$11,592	\$11,952	\$11,980
Service replacement (3 Yr Survey)	--	--	--	\$2,051
Regulator Station	\$14,252	\$14,640	\$14,339	\$18,014
Cathodic Protection	\$3,002	\$2,545	\$2,400	\$2,455
Miscellaneous	\$11,810	\$5,530	\$5,500	\$5,627
CP Remote Monitoring	\$433	\$640	\$2,805	\$2,870
Emergency Valves	--	--	--	\$27,818
Overbuilds	\$4,913	\$3,500	\$3,500	\$5,500
<b>TOTAL</b>	<b>\$58,512</b>	<b>\$62,707</b>	<b>\$72,439</b>	<b>\$128,056</b>

7

8 **1. Main**

9 PG&E is forecasting capital expenditures of \$24 million in 2012, \$32 million in  
 10 2013, and \$51.741 million in 2014 for main replacements in MWC 50.<sup>116</sup> PG&E is  
 11 forecasting \$51.741 million for main replacements in 2014 which is \$39.3 million or  
 12 316 percent above 2011 recorded capital expenditures of \$12.457 million.<sup>117</sup>  
 13 Historically, PG&E included all main replacements not covered by GPRP in MWC  
 14 50. Going forward, most of this work will be included in MWC 14. For post-1940

<sup>115</sup> Ex. PG&E-3, p. 8-22

<sup>116</sup> Ex. PG&E-3, p. 8-22

<sup>117</sup> Ex. PG&E-3, p. 8-22



1 steel, PG&E proposes to replace 20 miles annually for 60 years to decrease the leak  
2 rate to the system average in the following two areas:

- 3 • Emergent main replacement, i.e., pipe that needs to be replaced  
4 but was not identified for planned replacement as part of the  
5 Integrity Management-driven pipeline replacement program. PG&E  
6 is forecasting replacing 21,120 feet of emergent main per year at a  
7 base 2014 unit cost of \$516 for a total forecast of \$10.9 million in  
8 2014.<sup>118</sup>
  
- 9 • Replacement of PG&E's low pressure systems (10 inches of water  
10 column) to high pressure systems. Much of this work is being done  
11 in conjunction with cast iron and pre-1940 steel replacement  
12 projects in low pressure systems. PG&E is forecasting replacing  
13 79,200 feet of low pressure main to high pressure at a base 2014  
14 unit cost of \$516 for a total forecast of \$40.9 million in 2014.<sup>119</sup>

## 15 **2. Service Replacement**

16 PG&E is forecasting capital expenditures of \$11.6 million in 2012, \$12 million  
17 in 2013, and \$14 million in 2014 for service replacement in MWC 50.<sup>120</sup> PG&E is  
18 forecasting \$14 million for service replacements in MWC 50 for 2014 which is \$2.4  
19 million or 21 percent above 2011 recorded capital expenditures of \$11.6 million.<sup>121</sup>  
20 PG&E is forecasting an additional 250 services to be replaced annually starting in  
21 2014 due to the shift in PG&E's proposal to increase the frequency of leak survey  
22 from a minimum frequency of five years to three years.<sup>122</sup>

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<sup>118</sup> Ex. PG&E-3, p. 8-16

<sup>119</sup> Ex. PG&E-3, Workpapers, p. WP 8-75

<sup>120</sup> Ex. PG&E-3, Workpapers, p. WP 8-79

<sup>121</sup> Ex. PG&E-3, Workpapers, p. WP 8-79

<sup>122</sup> Ex. PG&E-3, p. 8-17

1                   **3. Regulator Station Replacement**

2                   PG&E is forecasting capital expenditures of \$14.6 million in 2012, \$14.3  
3 million in 2013, and \$18 million in 2014 for regulator station replacement in MWC  
4 50.<sup>123</sup> PG&E is forecasting \$18 million for regulator station replacements for 2014  
5 which is \$3.8 million or 26 percent above 2011 recorded capital expenditures of \$14  
6 million. PG&E proposes to increase the rate of replacement because there are  
7 approximately 2,800 regulator stations system-wide with an average age of 35  
8 years. PG&E's plan is to proactively eliminate obsolete, deteriorated, or unreliable  
9 equipment rather than wait until the end of its useful life or until failure. PG&E  
10 proposes to replace or retrofit 70 regulator stations annually at a base 2014 unit cost  
11 of \$257,350 per regulator station starting in 2014.<sup>124</sup>

12                   **4. Cathodic Protection and Miscellaneous**

13                   PG&E is forecasting capital expenditures of \$8 million in 2012, \$7.9 million in  
14 2013, and \$8.1 million in 2014 for cathodic protection and miscellaneous capital  
15 projects in MWC 50.<sup>125</sup> PG&E is forecasting \$8.1 million for cathodic protection and  
16 miscellaneous capital projects for 2014 which is \$6.7 million or 45 percent below  
17 2011 recorded capital expenditures of \$14.8 million.<sup>126</sup> PG&E forecasts \$2.5 million  
18 for cathodic protection and \$5.6 million for miscellaneous capital projects such as  
19 valve replacements and service cut offs.<sup>127</sup>

20  

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<sup>123</sup> Ex. PG&E-3, Workpapers, p. WP 8-33

<sup>124</sup> Ex. PG&E-3, p. 8-18

<sup>125</sup> Ex. PG&E-3, Workpapers, pp. WP 8-81 and WP 8-87

<sup>126</sup> Ex. PG&E-3, pp. 8-18 to 8-19

<sup>127</sup> Ex. PG&E-3, p. 8-39, Workpapers, pp. WP 8-81, WP 8-86, and WP 8-87

1                   **5. Valves-Emergency Shutdown Zones**

2                   PG&E is forecasting capital expenditures of \$27.8 million in 2014 to install  
3 1,055 emergency shutdown valves per year starting in 2014 to be completed in 2016  
4 in MWC 50. Emergency shutdown zone valves are used to isolate portions of the  
5 gas distribution system during an emergency. PG&E’s current standard requires  
6 shutdown zones to not exceed 40,000 services, or 500 services in locations with  
7 building that are predominately four stories or higher. PG&E proposes to adopt a  
8 lower services count consistent with best practices in the gas industry.<sup>128</sup>

9                   **6. Installation of Remote Cathodic Protection**  
10                   **Monitoring**

11                   PG&E is forecasting capital expenditures of \$640,000 in 2012, \$2.8 million in  
12 2013, and \$2.9 million in 2014 for the installation of remote monitoring of the  
13 cathodic protection systems in MWC 50. PG&E recorded capital expenditures of  
14 \$433,000 in 2011 for this project. These remote monitoring devices allow  
15 continuous visibility of the Cathodic Protection Areas where these devices are  
16 installed. Without remote cathodic protection monitors, PG&E sends corrosion  
17 mechanics to physically visit each “pipe-to-soil” location at least six times a year.  
18 PG&E had forecasted installing some units in the 2011 GRC, but has not done so  
19 due to land rights issues that PG&E expects to resolve by 2014.<sup>129</sup>

20                   **7. Overbuilds**

21                   PG&E is forecasting capital expenditures of \$3.5 million in 2012, \$3.5 million  
22 in 2013, and \$5.5 million in 2014 for MWC 50 overbuilds which address main and  
23 service relocations to clear overbuild conflicts. PG&E is forecasting \$5.5 million for

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<sup>126</sup> Ex. PG&E-3, p. 8-19

<sup>129</sup> Ex. PG&E-3, pp. 8-19 and 8-20

1 overbuild projects for 2014 which is \$600,000 or 12 percent above 2011 recorded  
2 capital expenditures of \$4.9 million.<sup>130</sup>

### 3 **8. DRA's Forecast for MWC 50**

4 DRA is recommending capital expenditures \$69.326 million in 2012, \$72.439  
5 million in 2013, and \$72.439 million in 2014 for MWC 50.

6 DRA is recommending using the 2012 recorded capital expenditures for MWC  
7 50 of \$69.326 million which is \$6.619 million or 11 percent above PG&E's 2012  
8 forecast of \$62.707 million. DRA has reviewed PG&E's 2013 forecast of capital  
9 expenditures of \$72.439 million and agrees with PG&E's forecast.

10 DRA recommends using PG&E's 2013 forecast of capital expenditures of  
11 \$72.439 million for MWC 50 as the 2014 forecast of capital expenditures. First, DRA  
12 is recommending using PG&E's 2013 forecast of capital expenditures for the 2014  
13 forecast because of the uncertainty regarding PG&E's ability to ramp up its  
14 resources to replace an additional 20 miles of post-1940 steel pipes starting in 2014  
15 for MWC 50 as well as twice the historical replacement levels of cast iron and pre-  
16 1940 steel pipes and 100 miles of plastic pipes requested in MWC 14. In 2011,  
17 PG&E replaced 4,284 feet (approximately 0.81 miles) of main outside of the  
18 GPRP.<sup>131</sup>

19 Second, as discussed above in MWC 14, PG&E's proposal is preliminary in  
20 nature as PG&E has not compiled a list of all gas distribution pipes that need to be  
21 replaced at this time.<sup>132</sup>

22 Third, PG&E is currently in compliance with its Utility Standard 5000 and  
23 Federal and State safety code requirements for emergency shutdown zone  
24 requirements. PG&E is forecasting capital expenditures of \$27.8 million in 2014 to  
25 install 1,055 emergency shutdown valves per year starting in 2014 to be completed

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<sup>130</sup> Ex. PG&E-3, p. 8-21 and Ex. PG&E-3, Workpapers, p. WP 8-85

<sup>131</sup> Ex. PG&E-3, p. 8-17

<sup>132</sup> PG&E's response to DRA-PG&E-173, Question 5

1 in 2016 in MWC 50. DRA sent PG&E a data request, “Is PG&E currently in  
2 compliance with Utility Standard 5000 as well as other federal and state safety or  
3 code requirements in regards to emergency shutdown zone size requirements? If  
4 not, please explain.” PG&E replied as follows:

5 PG&E is in compliance with its Utility Standard 5000 and Federal and  
6 State safety code requirements for emergency shutdown zone  
7 requirements. PG&E says that neither the Federal or State codes  
8 specify how large or small emergency shutdown zones should be.  
9 Federal code 49CFR 192.181 only provides relative gas system factors  
10 and guidance when sizing emergency zones. PG&E’s Utility Standard  
11 5000 allows for zone sizes up to 500 services “*in all locations having*  
12 *buildings that are predominantly four stories or higher and/or are wall-*  
13 *to-wall paved in major, metropolitan downtown business and*  
14 *commercial areas. In all other locations, zones shall not be greater*  
15 *than 40,000 services.*” We are in compliance with these requirements.

16 However, PG&E is proposing to reduce the size of 236 emergency  
17 shutdown zones down to between 5,000 and 10,000 customers, and  
18 limit the number of shut down valves to 20 valves per zone as part of  
19 PG&E’s comprehensive effort to improve the safety of its gas system  
20 and improve its ability to respond to and control gas during  
21 emergencies. Implementation of this change would result in updating  
22 Utility Standard 5000.

23 PG&E’s territory currently has 1,100 Emergency Shutdown Zones with  
24 approximately 9,500 valves-400 of these zones (and 3,958 valves) are  
25 within San Francisco Division alone. The request for funding in the  
26 GRC is to bring PG&E’s other Divisions into closer alignment with San  
27 Francisco Division’s emergency zone sizing as part of our overall effort  
28 to improve response times to gas emergencies, improve the safety of  
29 our gas distribution system, minimize impact to customers and provide  
30 more operational flexibility. Additionally, benchmarking shows that  
31 PG&E’s current standard has a higher number of customers per zone  
32 than its peers.

33 Fourth, PG&E cannot identify where the proposed 3,165 new emergency  
34 zone shutdown valves would be installed. This factor creates uncertainty regarding  
35 the significant increase requested by PG&E in this MWC. In response to DRA’s data  
36 request to provide a list and description of where the proposed 3,165 new valves  
37 would be installed, PG&E replied:

38

1 This is unknown at this time. PG&E has analyzed all 1,100 ESZs and  
 2 identified that 236 specific ESZ would be targeted for further analysis.  
 3 Each of the targeted ESZs will require additional review on nearby and  
 4 adjacent zones to determine impacts.<sup>133</sup>

5 Fifth, PG&E’s service replacement forecast includes an additional 250  
 6 services that will be replaced each year starting in 2014 due to PG&E’s proposal to  
 7 increase the frequency of leak survey from a minimum frequency of five years to  
 8 three years. Since DRA is recommending maintaining the frequency of leak survey  
 9 at five years as discussed in Exhibit DRA-9 (Gas Distribution Expense), the service  
 10 replacement forecast should remain at the 2013 forecast level. Although DRA  
 11 recommends a lower 2014 forecast of capital expenditures compared to PG&E, DRA  
 12 is recommending a separate ratemaking mechanism for MWC 50 that is discussed  
 13 below. The following table provides DRA’s and PG&E’s 2012 to 2014 forecasts for  
 14 capital expenditures for MWC 50.

15 **Table 10-30**  
 16 **DRA’s and PG&E’s 2012 to 2014 Capital Expenditures Forecasts**  
 17 **MWC 50**  
 18 **(In Thousands of Dollars)**

Description	DRA Recommended			PG&E Proposed <sup>134</sup>		
	2012	2013	2014	2012	2013	2014
MWC 50	\$69,326	\$72,439	\$72,439	\$62,707	\$72,439	\$128,055

19

20 **9. Annual Progress Reports**

21 DRA recommends that the Commission direct PG&E to submit annual reports  
 22 to the Commission’s Safety and Enforcement Division and DRA on the progress of  
 23 its gas pipeline replacement program such as directed in PG&E’s GPRP in Decision  
 24 86-12-095.

<sup>133</sup> PG&E’s response to DRA-PG&E-173, Question 9(c)

<sup>134</sup> Ex. PG&E-3, p. 8-26



**Table 10-32**  
**DRA's and PG&E's 2012 to 2014 Capital Expenditures Forecasts**  
**MWC 52**  
(In Thousands of Dollars)

Description	DRA Recommended			PG&E Proposed <sup>136</sup>		
	2012	2013	2014	2012	2013	2014
MWC 52	\$404	\$600	\$614	\$690	\$600	\$614

**G. MWC 2K – Gas Distribution Leak Replacement/High Pressure Regulator Replacement**

PG&E is forecasting capital expenditures of \$42 million in 2012, \$50 million in 2013, and \$51.150 million in 2014 for MWC 2K.<sup>137</sup> PG&E has approximately 4,700 High Pressure Regulators (HPR) which are also commonly referred to as “Farm Taps.” These are small diameter (i.e., usually ¾ inch) regulator sets served off of a transmission pipeline (PG&E refers to these installations as an HPR set). PG&E reported in its February 2011 Accelerated Gas Transmission System Aerial and Ground Leak Survey Trends Report (Leak Survey Trends Report) that the majority of leaks on the transmission system were on the HPR facilities. Starting in 2011, PG&E began a program to rebuild or replace HPR-Type stations. PG&E targets rebuilding or replacing approximately 1,000 HPR sets and/or small district regulator stations each year over the next several years to address potential atmospheric corrosion and equipment deterioration.

DRA is recommending using 2010 recorded capital expenditures of \$1.220 million as the forecasts for each year of 2012 to 2014 for MWC 2K. The recorded 2010 capital expenditures provide a historical level of capital expenditures for MWC 2K prior to PG&E's program to rebuild and replace the HPR Type stations in 2011. The following table provides the 2007 to 2012 recorded capital expenditures for MWC 2K.

<sup>136</sup> Ex. PG&E-3, p. 8-26

<sup>137</sup> Ex. PG&E-3, p. 8-26



1  
2  
3

**Table 10-33**  
**2007-2012 Recorded Data for MWC 2K**  
**(In Thousands of Dollars)**

Description	2007	2008	2009	2010	2011	2012
MWC 2K	\$0	\$0	\$293	\$1,220	\$19,648	\$60,144

4 Source: 2007-2011 data from Ex. PG&E-3, Workpapers, p. WP 8-4. 2012 data from DRA-PG&E-  
5 108, Question 3

6 DRA is recommending that the rebuilding and replacement of the HPR-Type  
7 stations should be requested and recorded as gas transmission capital expenditures  
8 and should not be recorded as gas distribution capital expenditure in PG&E's 2014  
9 GRC. First, PG&E clearly states in its 2011 Leak Survey Trends Report that the  
10 HPR facilities are a gas transmission asset. PG&E's 2011 Leak Survey Trends  
11 Report was completed in response to the California Public Utilities Commission's  
12 (CPUC or Commission) Resolution L-403, Ordering Paragraph 12, that directed  
13 PG&E to conduct an accelerated leak survey of all natural gas transmission  
14 pipelines, giving priority to segments in Class 3 and Class 4 locations, within one  
15 month of the date of the September 13, 2010 letter and to take corrective action as  
16 required.<sup>138</sup> PG&E states in its 2011 Leak Survey Trends Report, "As discussed  
17 above, a significant number of leaks are associated with small diameter (i.e., usually  
18 ¾ inch) regulator sets served off of a transmission pipeline (PG&E refers to these  
19 installations as an HPR set). These facilities are considered transmission because  
20 they meet the PHMSA transmission definition of operating above the 20% specified  
21 minimum yield strength (SMYS)."<sup>139</sup>

22 Second, PG&E's explanation of why the HPR set is distribution rather than  
23 transmission is not persuasive. In response to a DRA data request, PG&E says  
24 "[s]ince the High Pressure Regulator (HPR) Farm Tap set regulates pressure from  
25 transmission down to distribution (less than or equal to 60 psig), PG&E considers

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<sup>138</sup> Ex. PG&E-3, Workpapers, p. WP 6-115

<sup>139</sup> Ex. PG&E-3, Workpapers, p. WP 6-125

1 the asset distribution.”<sup>140</sup> This statement is inconsistent with PG&E’s definition of a  
2 transmission pipeline and a distribution pipeline that states:

3 *Transmission pipelines are generally larger and operate at a higher*  
4 *pressure than distribution pipelines. Transmission pipelines transport*  
5 *the natural gas from the compressor stations and storage facilities to*  
6 *regulators which reduce the pressure before reaching the distribution*  
7 *system. The distribution system feeds the smaller lines that deliver*  
8 *gas to individual businesses or residences.*<sup>141</sup>

9 PG&E’s definition of the transmission pipelines is consistent with the  
10 recommendation that the HPR facilities are part of the transmission system. The  
11 HPR facilities reduce the pressure of the natural gas from the transmission pipelines  
12 before it reaches the distribution system. The natural gas is not in the distribution  
13 system until it is at a pressure less than or equal to 60 psig.

14 Third, PG&E was unable to identify the process used at the time of installation  
15 when asked how the capital expenditures of the HPR-type stations were recorded  
16 (i.e., gas distribution or gas transmission capital expenditures) when the HPR  
17 facilities were first installed into the transmission system. PG&E responded, “It is  
18 difficult to identify the exact process that was used at the time of installation due to  
19 the majority of High Pressure (HPR)-type stations, about 88 percent predating the  
20 year 2000 and SAP recording. In some cases, the HPR was installed at the time of  
21 the transmission pipeline, which may have been in the late 1920s or early  
22 1930s.”<sup>142</sup> PG&E’s response that it is difficult to identify the process inconsistent  
23 with a review of the inventory of the HPR-type stations shows that over 280 units of  
24 HPR-type stations have a vintage year of 2000 or newer.<sup>143</sup> PG&E should be able  
25 to accurately identify how these HPRs installed after the year 2000 were recorded.

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<sup>140</sup> PG&E’s response to DRA-PG&E-106, Question 3

<sup>141</sup> <http://www.pge.com/myhome/edusafety/systemworks/gas/faq/>

<sup>142</sup> PG&E response to DRA-PG&E-066, Question 2(a)

<sup>143</sup> PG&E’s response to DRA-PG&E-066, Question 1, Attachment 1

1 Also, DRA identified some of the HPRs had vintage years listed as 2007 and 2008  
 2 while the 2007 and 2008 recorded capital expenditures for MWC 2K show \$0. The  
 3 capital expenditures to install the 2007 and 2008 HPRs were not recorded in MWC  
 4 2K.

5 Fourth, PG&E asserts that the maintenance on HPRs has always been  
 6 recorded within distribution expense in MWCs FH and HY and that the capital  
 7 expenditures for HPRs should also be covered under distribution with Gas  
 8 Operations.<sup>144</sup> However, the maintenance of Farm Tap Regulator Sets (HPRs)  
 9 could not have been part of MWC FH in the past as PG&E states that the  
 10 maintenance of Farm Tap Regulator Sets (HPRs) is a new type of work that started  
 11 in 2013 to be performed under MWC FH.<sup>145</sup> Due to all the above reasons, DRA  
 12 concludes that the capital expenditures for HPR-type stations should not be  
 13 recovered through PG&E's 2014 GRC as part of gas distribution. The following  
 14 table provides DRA's and PG&E's 2012 to 2014 forecasts of capital expenditures for  
 15 MWC 2K.

16 **Table 10-34**  
 17 **DRA's and PG&E's 2012 to 2014 Capital Expenditures Forecasts**  
 18 **MWC 2K**  
 19 **(In Thousands of Dollars)**

Description	DRA Recommended			PG&E Proposed <sup>146</sup>		
	2012	2013	2014	2012	2013	2014
MWC 2K	\$1,220	\$1,220	\$1,220	\$42,000	\$50,000	\$51,150

20  
 21  
 144 PG&E's response to DRA-PG&E-066, Question 2(b)

145 PG&E's response to DRA-PG&E-106, Question 1(d)

146 Ex. PG&E-3, p. 8-26

1 **VIII. DISCUSSION / ANALYSIS OF NEW BUSINESS and WORK AT**  
 2 **THE REQUEST OF OTHERS**

3 This section discusses the forecast of capital expenditures for the New  
 4 Business (NB) and Work at the Request of Others (WRO) for gas distribution. Work  
 5 in the NB Program includes installing gas infrastructure required to connect new  
 6 customers to PG&E’s distribution systems and to accommodate increased load from  
 7 existing customers. Work in the WRO Program includes relocating PG&E’s existing  
 8 gas distribution and service facilities at the request of governmental agencies or  
 9 other third parties.<sup>147</sup>

10 The following table summarizes PG&E’s request and DRA’s recommendation  
 11 for the MWCs within New Business and Work at the Request of Others.

12 **Table 10-35**  
 13 **Gas Distribution Capital Expenditures for 2012-2014**  
 14 **New Business and Work at the Request of Others**  
 15 **(In Thousands of Dollars)**

Description	DRA Recommended			PG&E Proposed <sup>148</sup>		
	2012	2013	2014	2012	2013	2014
MWC 29	\$36,737	\$54,000	\$71,000	\$33,000	\$54,000	\$83,000
MWC 51	\$43,371	\$39,000	\$45,000	\$46,465	\$39,000	\$45,000
Total	\$80,108	\$93,000	\$116,000	\$79,465	\$93,000	\$128,000

16 **A. MWC 29-Gas New Business**

17 MWC 29 includes the cost of building new gas distribution systems, including  
 18 associated services, to provide service to both residential and non-residential  
 19 customers.<sup>149</sup> MWC 29 has the following categories of work:

- 20 · Residential-Subdivision Backbone
- 21 · Residential-Subdivision Service

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<sup>147</sup> Ex. PG&E-3, p. 9-1

<sup>148</sup> Ex. PG&E-3, p. 9-27

<sup>149</sup> Ex. PG&E-3, p. 9-10



1 the regional non-residential building permit value data from Moody’s Economy.com  
 2 to develop non-residential connects growth rates.<sup>153</sup>

3 There are three residential NB work components which are subdivision  
 4 backbone, subdivision services, and other residential.<sup>154</sup> PG&E developed the unit  
 5 cost forecast for residential and non-residential work (except for residential  
 6 subdivision backbone work) using a 3-year historical average for each forecasting  
 7 component, escalated to current year dollars. PG&E used a correlation formula to  
 8 calculate the residential subdivision backbone component unit costs.<sup>155</sup>

9 PG&E is forecasting a residential new customer connect growth rate of 53  
 10 percent for 2013 and 62.5 percent for 2014 based on the regional building permit  
 11 data from Moody’s Economy.com and IHS Global Insight.<sup>156</sup> PG&E forecasts  
 12 20,449 overall residential new connections in 2013 and 33,228 in 2014. PG&E  
 13 forecasts 2,342 overall non-residential new connections in 2013 and 2,551 in 2014.  
 14 The following table provides the units of overall residential new connections and  
 15 overall non-residential new connections for 2007 to 2012 recorded and 2013 and  
 16 2014 forecasts.

17 **Table 10-37**  
 18 **PG&E’s 2007 to 2012 Recorded and 2013 to 2014 NB Units**<sup>157</sup>  
 19 **MWC 29**

Description	Recorded						Forecast	
	2007	2008	2009	2010	2011	2012	2013	2014
Overall Residential Connections	43,591	26,550	17,737	14,745	12,258	15,765	20,449	33,228
Overall Non-Residential Connections	5,242	4,196	3,028	2,301	2,060	2,242	2,342	2,551

<sup>153</sup> Ex. PG&E-3, p. 9-15

<sup>154</sup> Ex. PG&E-3, p. 9-14

<sup>155</sup> Ex. PG&E-3, p. 9-16

<sup>156</sup> Ex. PG&E-3, Workpapers, p. WP 9-39

<sup>157</sup> Ex. PG&E-3, Workpapers, p. WP 9-39; PG&E’s response to DRA-PG&E-119-Supplemental, Questions 2 and 3

1                   **2. DRA’s Forecast - MWC 29**

2                   DRA is forecasting capital expenditures of \$36.787 million for 2012, \$54  
3 million for 2013, and \$71 million for 2014. DRA is recommending using the recorded  
4 2012 capital expenditures of \$36.787 million for the 2012 forecast of capital  
5 expenditures for MWC 29. DRA agrees with PG&E’s 2013 capital expenditures  
6 forecast of \$54 million in 2013 for MWC 29.

7                   DRA forecasts capital expenditures of \$71 million for MWC 29 in 2014. DRA  
8 recommends an increase of \$17 million from the 2013 forecast of capital  
9 expenditures to forecast the 2014 forecast which is the equivalent forecasted  
10 increase of capital expenditures from 2012 recorded capital expenditures to the  
11 2013 forecast for MWC 29. PG&E’s 2014 capital expenditures forecast of \$83  
12 million, based on a residential new customer connect growth rate of 62.5 percent in  
13 2014, is excessive in comparison to the 2007 to 2012 recorded capital expenditures  
14 for MWC 29. DRA’s more conservative figure is due to uncertainty associated with  
15 future economic conditions and how they may impact new connections.

16                  PG&E forecasts a 62.5 percent residential new customer growth rate from  
17 2013 to 2014. Table 10-37 shows 33,228 overall residential new connections in  
18 2014 which is 24 percent less than the 2007 recorded overall residential new  
19 connections of 43,591. PG&E forecasts 2,551 overall non-residential new  
20 connections in 2014 which is 51 percent less than the 2007 recorded overall non-  
21 residential new connections of 5,242. Table 10-36 shows that PG&E recorded  
22 capital expenditures of \$68 million in 2007 for MWC 29. DRA’s 2014 forecast of \$71  
23 million in capital expenditures is reasonable in comparison to the higher recorded  
24 residential and non-residential new connections that resulted in capital expenditures  
25 of \$68 million in 2007 for MWC 29.

26

1 **Table 10-38**  
2 **DRA's and PG&E's 2012 to 2014 Capital Expenditures Forecasts**  
3 **MWC 29**  
4 **(In Thousands of Dollars)**

Description	DRA Recommended			PG&E Proposed <sup>158</sup>		
	2012	2013	2014	2012	2013	2014
MWC 29	\$36,737	\$54,000	\$71,000	\$33,000	\$54,000	\$83,000

5  
6 **B. MWC 51-Gas WRO**

7 MWC 51 covers capital expenditures for relocating gas distribution main and  
8 service facilities at the request of a governmental agency or other third party (e.g.  
9 customers and developers).<sup>159</sup> The following table provides the 2007 to 2012  
10 recorded capital expenditures for MWC 51.

11 **Table 10-39**  
12 **2007-2012 Recorded Data for MWC 51**  
13 **(In Thousands of Dollars)**

Description	2007	2008	2009	2010	2011	2012
MWC 51	\$15,870	\$26,294	\$25,716	\$37,063	\$50,847	\$43,371

14 Source: 2007-2011 data from Ex. PG&E-3, Workpapers, p. WP 9-13. 2012 data from DRA-PG&E-  
15 108, Question 3, Attachment 01

16 PG&E is forecasting capital expenditures of \$46.465 million in 2012, \$39  
17 million in 2013, and \$45 million in 2014. PG&E uses two indices to forecast MWC  
18 51. The first compares historic WRO expenditures normally associated with NB  
19 developments against the comparable change in NB expenditures in MWC 29. The  
20 second index compares recorded non-reimbursed WRO expenditures generated by  
21 governmental agencies against a government-spending forecast.

<sup>158</sup> Ex. PG&E-3, p. 9-27

<sup>159</sup> Ex. PG&E-3, p. 9-18



1 **1. DRA's 2012 to 2014 Forecast for MWC 51**

2 DRA is recommending capital expenditures of \$43.371 million for 2012, \$39  
 3 million in 2013, and \$45 million in 2014 for MWC 51. DRA recommends using the  
 4 2012 recorded capital expenditures of \$43.371 million which is \$3.094 million or 6.7  
 5 percent less than PG&E's 2012 forecast for MWC 51. DRA agrees with PG&E's  
 6 forecast of capital expenditures of \$39 million in 2013 and \$45 million in 2014 for  
 7 MWC 51. The following table provides DRA's and PG&E's 2012 to 2014 forecast of  
 8 capital expenditures for MWC 51.

9 **Table 10-40**  
 10 **DRA's and PG&E's 2012 to 2014 Capital Expenditures Forecasts**  
 11 **MWC 51**  
 12 **(In Thousands of Dollars)**

Description	DRA Recommended			PG&E Proposed <sup>160</sup>		
	2012	2013	2014	2012	2013	2014
MWC 51	\$43,371	\$39,000	\$45,000	\$46,465	\$39,000	\$45,000

13 **IX. DISCUSSION / ANALYSIS OF GAS OPERATIONS TECHNOLOGY**  
 14 **PROJECTS**

15 This section discusses the capital expenditures related to the Information  
 16 Technology (IT) projects specific to Gas Operations. The following table  
 17 summarizes PG&E's request and DRA's recommendation for MWC 2K within Gas  
 18 Operations Technology Projects.

19 **Table 10-41**  
 20 **Gas Distribution Capital Expenditures for 2012-2014**  
 21 **Gas Operations Technology Projects**  
 22 **(In Thousands of Dollars)**

Description	DRA Recommended			PG&E Proposed <sup>161</sup>		
	2012	2013	2014	2012	2013	2014
MWC 2F	\$12,506	\$11,115	\$11,617	\$26,919	\$27,725	\$43,722

<sup>160</sup> Ex. PG&E-3, p. 9-27

<sup>161</sup> Ex. PG&E-3, p. 11-43



1           DRA is recommending using the 2012 recorded capital expenditures of  
2 \$14.088 million which is \$12.831 million less than PG&E's 2012 forecast for MWC  
3 2F. DRA is recommending capital expenditures of \$11.715 million in 2013 which is  
4 \$16.610 million less than PG&E's 2013 forecast for MWC 2F. DRA is  
5 recommending capital expenditures of \$11.617 million which is \$32.105 million less  
6 than PG&E's 2014 forecast for MWC 2F. The following table provides DRA's and  
7 PG&E's 2012 to 2014 forecasts of capital expenditures for IT projects in MWC 2F.  
8

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**Table 10-43**  
**DRA's and PG&E's 2012 to 2014 Capital Expenditures Forecasts for MWC 2F**  
**(In Thousands of Dollars)**

Description	DRA Recommended			PG&E Proposed <sup>168</sup>		
	2012	2013	2014	2012	2013	2014
<b>Gas Distribution Asset Management</b>						
Pathfinder Project	\$3,081 <sup>169</sup>	\$3,000	\$3,000	\$14,440	\$16,690	\$16,690
Estimator Toolset Enhancements		\$2,847	\$2,917		\$3,310	\$3,392
Gas Control IT Applications	recorded			\$1,715		
DIMP IT Enhancements		\$2,580			\$3,000	
Technical Info Library Re-Platform	\$134 <sup>170</sup>			\$1,010		
GEMS Rewrite	\$2,258 <sup>171</sup>			\$1,970		
<b>Subtotal</b>		<b>\$8,427</b>	<b>\$5,917</b>	<b>\$19,135</b>	<b>\$23,000</b>	<b>\$20,082</b>
<b>Public Safety &amp; Integrity Management</b>						
Public Safety Initiatives			\$860			\$1,000
New Regulatory Reporting Requirements			\$1,376			\$1,600
Radios for GSR for Backup Purposes			\$0			\$8,000
<b>Subtotal</b>		<b>\$0</b>	<b>\$2,236</b>			<b>\$10,600</b>
<b>Gas Operations</b>						
Gas Control Center Radio System	\$4,208 <sup>172</sup>	\$2,000	\$2,000	\$7,138	\$2,325	\$2,325
Gas Operations IT Enhancements	recorded			\$246		
FAS Upgrade		\$688			\$800	
<b>Subtotal</b>		<b>\$2,088</b>	<b>\$2,000</b>	<b>\$7,384</b>	<b>\$3,125</b>	<b>\$2,325</b>
<b>Mobile</b>						
Mobile for Long-Cycle Work			\$950			\$1,540
Mobile for Short-Cycle Work		\$600	\$600	\$400	\$1,600	\$3,000
Mobile Extension & Enhancement to Additional Crews			\$0			\$1,800
Mobile Device Replacement/Upgrade			\$0			\$1,875
Testing and Conforming Applications to Vendor Upgrades			\$2,150			\$2,500
<b>Subtotal</b>			<b>\$3,700</b>	<b>\$400</b>	<b>\$1,600</b>	<b>\$10,715</b>
<b>GAS DISTRIBUTION TOTAL</b>	<b>\$14,088<sup>173</sup></b>	<b>\$11,715</b>	<b>\$13,853</b>	<b>\$26,919</b>	<b>\$27,725</b>	<b>\$43,722</b>

<sup>168</sup> Ex. PG&E-3, Workpapers, pp. WP 11-31, WP 11-35, WP 11-40, WP 11-45, WP 11-49, WP 11-52, WP 11-55, WP 11-59, WP 11-64, WP 11-69, WP 11-73, WP 11-78, WP 11-82, WP 11-86, WP 11-90, WP 11-93, WP 11-101, and WP 11-104

<sup>169</sup> PG&E's response to DRA-PG&E-112, Question 2

<sup>170</sup> PG&E's response to DRA-PG&E-113, Question 1

<sup>171</sup> PG&E's response to DRA-PG&E-113, Question 2

<sup>172</sup> PG&E's response to DRA-PG&E-175, Question 6

1                   **1. Pathfinder Project**

2                   PG&E’s proposed Pathfinder Project seeks to convert key gas distribution  
3 asset and maintenance information from existing legacy and paper-based systems  
4 to the SAP and Geographic Information System (GIS) systems. The information  
5 pertaining to its gas distribution system is currently contained in paper records or in  
6 a legacy Computer-Aided Design Drafting (CADD) system called the Gas and  
7 Electric Mapping System (GEMS). The Pathfinder Project would convert information  
8 about PG&E’s gas distribution mains, services, valves, regulators, and other critical  
9 assets from the current system to a GIS system. The full scope of Pathfinder  
10 includes consolidating information into SAP and then linking the SAP and GIS  
11 databases to permit risk assessments using the information across both SAP and  
12 GIS.<sup>174</sup>

13                   In 2008, PG&E began implementing a base GIS project, which was referred  
14 to as the Automated Mapping and Facilities Management (AM/FM) Project to  
15 stabilize the mapping tools and to convert gas and electric maps to a common  
16 landbase. The AM/FM Project was an enterprise GIS project intended to integrate  
17 various electronic and non-electronic data sources into a unified and comprehensive  
18 system originally scheduled to be completed in 2012. In the 2011 GRC, PG&E  
19 forecasted capital expenditures for the AM/FM Project under MWC 53. The 2011  
20 GRC Settlement Agreement did not provide specific values for most MWCs. PG&E  
21 imputed regulatory values for MWCs that are not specified in the settlement, but not  
22 by projects.<sup>175</sup> The following table provides the forecast capital expenditures as  
23 presented in the 2011 GRC for the AM/FM Project.

24

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(continued from previous page)

<sup>173</sup> PG&E’s 2012 recorded capital expenditures for MWC 2F from DRA-PG&E-108, Question 3, Attachment 01

<sup>174</sup> Ex. PG&E-3, p. 11-12

<sup>175</sup> Ex. PG&E-3, p. 3-10 and PG&E’s response to DRA-PG&E-112, Question 2(c)

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**Table 10-44**  
**PG&E's 2011 GRC Forecast of Capital Expenditures for AM/FM Project**<sup>176</sup>  
**Gas and Electric Mapping**  
**(In Thousands of Dollars)**

Description	2011 GRC Project	2009	2010	2011	Total
MWC 53	Gas and Electric Mapping	\$5,780	\$6,400	\$14,300	\$26,480

5 PG&E halted the AM/FM Project in December 2010 in order to more  
6 thoroughly analyze the changes to the requirements of the Gas Operations  
7 organization.<sup>177</sup> PG&E decided that the GIS should be more than merely a  
8 “mapping” tool and should include data on what condition the assets are in and the  
9 characteristics and settings associated with each asset. PG&E brought the AM/FM  
10 Project to a close in September 2011 and soon after re-launched into separate  
11 GIS/Facilities Management projects for electric distribution, gas distribution, electric  
12 transmission, and gas transmission.<sup>178</sup> The gas distribution portion of the AM/FM  
13 Project transitioned to the Pathfinder Project after 2011. When the AM/FM Project  
14 was originally forecast in the 2011 GRC, the Distribution Integrity Management  
15 Program regulations were under development and the information requirements  
16 necessary to perform these risk assessments were unclear. Now that the program  
17 rules have been enacted, PG&E claims that the scope of the original AM/FM Project  
18 was not expansive enough to meet the future business requirements and was re-  
19 scoped and reinitiated as the Pathfinder Project for the gas distribution business.<sup>179</sup>  
20 Beginning in 2011, MWC 2F became the sole identifier for all IT capital expenditures  
21 and replaced all previous MWCs (03, 21, 53, and 85) that were used for IT work.

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<sup>176</sup> PG&E's response to DRA-PG&E-112, Question 2(c)

<sup>177</sup> Ex. PG&E-3, p. 3-10

<sup>178</sup> Ex. PG&E-3, p. 3-11

<sup>179</sup> Ex. PG&E-3, p. 11-11

1 The following table provides 2009 to 2011 recorded capital expenditures for  
 2 MWC 2F for both electric and gas.<sup>180</sup>

3 **Table 10-45**  
 4 **PG&E's 2009 to 2011 Recorded Capital Expenditures for MWC 2F<sup>181</sup>**  
 5 **(In Thousands of Dollars)**

Description	2011 GRC Project	2009	2010	2011	Total
MWC 2F	Base Geographical Information System (GIS)-Electric	\$2,716	\$5,322	\$710	\$8,748
MWC 2F	Electric Distribution GIS			\$2,179	\$2,179
MWC 2F	Base GIS-Gas Distribution	\$712	\$2,921	\$1,827	\$5,460
MWC 2F	Gas Distribution Pathfinder GIS			\$1,016	\$1,016
Total Capital		\$3,428	\$8,243	\$5,732	\$17,403

6 PG&E forecasted capital expenditures of \$26.480 million for the Gas and  
 7 Electric Mapping Project (MWC 53) in the 2011 GRC as shown in Table 10-44.  
 8 PG&E recorded capital expenditures of \$17.403 million during 2009 to 2011 for the  
 9 Gas and Electric Mapping base GIS project as shown in Table 10-45. PG&E claims  
 10 that it expects to spend the amount forecast for the AM/FM project by the end of  
 11 2013.<sup>182</sup>

12 PG&E forecasted capital expenditures of \$14.440 million in 2012, \$16.690  
 13 million in 2013, and \$16.690 million in 2014 for the Pathfinder Project. PG&E  
 14 recorded capital expenditures of \$3.081 million in 2012 for the Pathfinder Project.<sup>183</sup>

15 DRA recommends using the 2012 recorded capital expenditures of \$3.0  
 16 million as the 2013 and 2014 forecasts for the Pathfinder Project. PG&E has  
 17 requested ratepayer funding for mapping and records management activities,  
 18 database enhancements, upgrades and consolidations, and mapping and records

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<sup>180</sup> PG&E's response to DRA-PG&E-112, Question 2(c)

<sup>181</sup> PG&E's response to DRA-PG&E-112, Question 2(c)

<sup>182</sup> PG&E's response to DRA-PG&E-112, Question 2(c)

<sup>183</sup> PG&E's response to DRA-PG&E-112, Question 2(b)

1 conversions in past GRCs.<sup>184</sup> As discussed above, PG&E forecasted \$26.4 million  
 2 in capital expenditures for the Gas and Electric Mapping base GIS Project in the  
 3 2011 GRC but PG&E has recorded total capital expenditures of \$17.4 million during  
 4 2009 to 2011 for this project. Although PG&E expected to spend the amount  
 5 forecasted in the 2011 GRC for the AM/FM Project (transitioned to Pathfinder  
 6 Project after 2011) by the end of 2013, and forecasted capital expenditures of  
 7 \$14.440 million for the Pathfinder Project in 2012; PG&E only recorded \$3.081  
 8 million in 2012 or 21 percent of the forecast.<sup>185</sup> Therefore, DRA is recommending  
 9 capital expenditures forecasts of \$3 million for 2013 and \$3 million for 2014. The  
 10 following provide DRA's and PG&E's 2012 to 2014 forecasts of capital expenditures  
 11 for the Pathfinder Project.

12 **Table 10-46**  
 13 **Gas Distribution Capital Expenditures for 2012-2014**  
 14 **Pathfinder Project**  
 15 **(In Thousands of Dollars)**

Description	DRA Recommended			PG&E Proposed <sup>186</sup>		
	2012	2013	2014	2012	2013	2014
Pathfinder Project	\$3,081	\$3,000	\$3,000	\$14,440	\$16,690	\$16,690

16

<sup>184</sup> During PG&E's 2011 GRC, DRA noted that in 2006 PG&E's MIP2 was later incorporated into its Business Transformation (BT) GIS Project which was closed in December 2007 and all spending for the project stopped. In 2008, PG&E re-initiated the GIS project and renamed it AM/FM. In regards to costs incurred for PG&E's BT GIS Project that was closed in December 2007, PG&E states "To the extent possible, PG&E will leverage the software application development that was completed under the BT GIS initiative. It is unclear at this time whether and how much work from the Land Base, GIS Software, and/or Data Conversion phases can be leveraged, but PG&E anticipates being able to leverage some of this work." (PG&E's 2011 GRC Exhibit (PG&E-3) page 16 to 19).

<sup>185</sup> PG&E's response to DRA-PG&E-112, Question 2(c)

<sup>186</sup> Ex. PG&E-3, p. 11-15







1 **4. Public Safety Initiatives**

2 The Public Safety Initiatives includes projects to improve public safety, such  
3 as Pipeline Dig-In Sensors and Monitoring, the Emergency Management Portal, and  
4 GIS Damage and Safety Models. PG&E is forecasting capital expenditures of \$1  
5 million in 2014.<sup>191</sup>

6 DRA does not take issue with this project, but recommends a forecast of  
7 \$860,000 in capital expenditures which is \$140,000 or 14 percent less than PG&E's  
8 forecast for 2014 for the Public Safety Initiatives. DRA's recommendation is based  
9 on DRA's global recommendation to reduce PG&E's forecasts of IT projects which  
10 are calculated using the "Concept Estimate Tool" by 14 percent as discussed in  
11 Exhibit DRA-18. The following table provides DRA's and PG&E's 2014 forecast of  
12 capital expenditures for the Public Safety Initiatives.

13 **Table 10-49**  
14 **Gas Distribution Capital Expenditures for 2012-2014**  
15 **Public Safety Initiatives**  
16 **(In Thousands of Dollars)**

Description	DRA Recommended			PG&E Proposed <sup>192</sup>		
	2012	2013	2014	2012	2013	2014
Public Safety Initiatives	\$0	\$0	\$860	\$0	\$0	\$1,000

17  
18 **5. New Regulatory Reporting Requirements Project**

19 The New Regulatory Reporting Requirements Project is to allow PG&E to  
20 meet the requirement of new regulations involving reporting requirements, new  
21 functionalities and other types of compliance, such as revisions to Department of  
22 Transportation (DOT) regulations. PG&E is forecasting capital expenditures of \$1.6  
23 million in 2014.

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<sup>191</sup> Ex. PG&E-3, pp. 11-21 and 11-22

<sup>192</sup> Ex. PG&E-3, p. 11-22

1 DRA does not take issue with this project, but is recommending a forecast of  
 2 \$1.376 million which is \$224,000 or 14 percent less than PG&E’s forecast for the  
 3 New Regulatory Reporting Requirements Project for 2014. DRA’s recommendation  
 4 is based on DRA’s global recommendation to reduce PG&E’s forecasts of IT  
 5 projects which are calculated using the “Concept Estimate Tool” by 14 percent as  
 6 discussed in Exhibit DRA-18. The following table provides DRA’s and PG&E’s 2014  
 7 forecast of capital expenditures for the New Regulatory Reporting Requirements  
 8 Project.

9 **Table 10-50**  
 10 **Gas Distribution Capital Expenditures for 2012-2014**  
 11 **New Regulatory Reporting Requirements Project**  
 12 **(In Thousands of Dollars)**

Description	DRA Recommended			PG&E Proposed <sup>193</sup>		
	2012	2013	2014	2012	2013	2014
New Regulatory Reporting Req.	\$0	\$0	\$1,376	\$0	\$0	\$1,600

13  
 14 **6. Radios for Gas Service Representatives (GSR) for**  
 15 **Backup Purposes Project**

16 PG&E is forecasting capital expenditures of \$8 million in 2014 to expand the  
 17 capacity of the mobile radio system to accommodate about 850 new users.<sup>194</sup> The  
 18 Radios for GSR for Backup Purposes Project will provide GSR, dispatch operators,  
 19 and supervisors access to a private mobile radio system. PG&E claims that this  
 20 project is needed because cellular coverage is limited in certain geographic areas  
 21 and that the lack of reliability and availability of the cellular system during  
 22 emergencies.<sup>195</sup> The work includes the addition of new frequency channels on the  
 23 existing mountain tops that PG&E’s Radio Refresh project installed during its initial

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<sup>193</sup> Ex. PG&E-3, p. 11-22

<sup>194</sup> Ex. PG&E-3, p. 11-24

<sup>195</sup> Ex. PG&E-3, p. 11-23

1 phase. The work also includes installing mobile radios in GSR vehicles and  
2 providing dispatch operators and supervisors with radio consoles to access the radio  
3 system.<sup>196</sup>

4 PG&E requested funding the Radio Network Refresh Project in the 2011 GRC  
5 which was established to replace PG&E's legacy voice mobile radio systems with a  
6 single integrated trunked radio network for all of PG&E's "push to talk" voice radio  
7 services. The Radio Network Refresh Project was originally established to provide  
8 radio communications across departments and field crews within PG&E's various  
9 Functional Areas: Gas and Electric Distribution; Gas and Electric Transmission;  
10 Hydro Generation and General Services. PG&E recorded capital expenditures of  
11 approximately \$56 million during 2009 to 2012 for the Radio Network Refresh  
12 Project. This part of the project is in its final stages and will be complete in 2013.<sup>197</sup>

13 DRA is recommending a forecast of \$0 which is \$8 million less than PG&E's  
14 forecast for the Radios for GSR for Backup Purposes Project in 2014. PG&E has  
15 not supported its request that GSRs need radios for backup purposes. First, the  
16 GSRs have several options available for communication. Currently, GSRs,  
17 dispatchers, and supervisors use desk top computers, laptops, landline telephones,  
18 email, Mobile-Connect laptops in vehicles, as well as mobile telephones for voice  
19 and text communications.<sup>198</sup>

20 Second, PG&E has not supported that all GSRs need radios for backup  
21 purposes. DRA asked PG&E why it is necessary to have radio consoles and new  
22 frequency channels for 850 new users and not for a smaller number of users since  
23 this is a backup radio system. PG&E replied:

24 All vehicles and dispatch need to be equipped with radios to ensure  
25 communication and business continuity in the event of a major  
26 emergency where loss of phone and cell communication is likely to

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<sup>196</sup> Ex. PG&E-3, pp. 11-23 and 11-24

<sup>197</sup> PG&E's response to DRA-PG&E-116, Question 1 (a, b, and c)

<sup>198</sup> PG&E's response to DRA-PG&E-116, Question 1(f)

1 occur. PG&E cannot predict which employees will be called upon to  
2 respond to an emergency. Supplying only some employees with  
3 radios would thus create undue risk in the event of an emergency.<sup>199</sup>

4 The responsibilities of a GSR are to complete gas service requests from  
5 customers such as investigating reports of possible gas leaks, carbon monoxide  
6 monitoring, customer requests for starts and stops of gas service, appliance pilot  
7 relights, and appliance safety checks.<sup>200</sup> The percentage of GSRs' work that is  
8 performed on PG&E's transmission facilities is diminutive.<sup>201</sup> If a GSR is the first  
9 responder to an emergency, the GSRs have sufficient methods to communicate to  
10 perform its job. PG&E provides radio service through the Radio Network Refresh  
11 Project to its departments and field crews in the Gas and Electric Transmission and  
12 Distribution as well as the Hydro General and General Services in case of a major  
13 emergency.

14 Third, DRA asked PG&E to "provide a copy of all analysis regarding the  
15 quality of cellular coverage and the problems the poor cellular coverage has affected  
16 PG&E as well as during emergencies." PG&E has not performed any analysis.  
17 PG&E responded:

18 No analysis was performed on the cellular coverage and the problems  
19 of poor cellular coverage. Use of back up radios is considered a best  
20 practice by utilities and emergency responders to ensure  
21 communication and business continuity in the event of a major  
22 emergency where loss of phone and cell communication is likely to  
23 occur. Although no analysis of poor cellular coverage was performed  
24 PG&E can provide some examples of where cellular coverage was not  
25 available due to limited cell capacity resulting from heavy usage or  
26 where the cellular system is temporarily shut down. For example,  
27 these problems occurred during recent BART protests.<sup>202</sup>

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<sup>199</sup> PG&E's response to DRA-PG&E-116, Question 1(j)

<sup>200</sup> Ex. PG&E-3, p. 7-1

<sup>201</sup> PG&E's response to DRA-PG&E-175, Question 4

<sup>202</sup> PG&E's response to DRA-PG&E-116, Question 1(i)

1 For the reasons described above, DRA recommends that the Commission  
 2 reject PG&E’s request for capital expenditures of \$8 million for the Radios for GSR  
 3 for Backup Purposes Project. The following table provides DRA’s and PG&E’s 2014  
 4 forecast of capital expenditures for the Radios for GSRs for Backup Purposes  
 5 Project.

6 **Table 10-51**  
 7 **Gas Distribution Capital Expenditures for 2012-2014**  
 8 **Radios for GSRs for Backup Purposes**  
 9 **(In Thousands of Dollars)**

Description	DRA Recommended			PG&E Proposed <sup>203</sup>		
	2012	2013	2014	2012	2013	2014
Radios for GSRs for Backup Purposes	\$0	\$0	\$0	\$0	\$0	\$8,000

10  
 11 **7. Gas Control Center Radio System**

12 The Gas Control Center Radio System includes the installation of  
 13 approximately 5,000 radios for improved operations of the gas SCADA system to  
 14 expand the coverage of the private field SCADA network to provide data connectivity  
 15 to distribution regulator stations, valves and ERX stations. PG&E is forecasting  
 16 capital expenditures of \$7.138 million in 2012, \$2.325 million in 2013, and \$2.325  
 17 million in 2014.

18 DRA is recommending a forecast of capital expenditures of \$4.208 million for  
 19 2012 which is \$2.930 million less than PG&E’s 2012 forecast. DRA is using the  
 20 2012 recorded capital expenditures for the Gas Control Center Radio System. DRA  
 21 is recommending capital expenditures of \$2 million for the 2013 forecast and \$2  
 22 million for the 2014 forecast which is \$325,000 less than PG&E’s 2013 and 2014  
 23 forecasts. DRA’s recommendation is based on its global recommendation to reduce  
 24 PG&E’s forecasts of IT projects by 14 percent which are calculated using the  
 25 “Concept Estimate Tool” as discussed in Exhibit DRA-18. The following table

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<sup>203</sup> Ex. PG&E-3, p. 11-24.

1 provides DRA's and PG&E's 2012 to 2014 forecasts for the Gas Control Center  
2 Radio System Project.

3 **Table 10-52**  
4 **Gas Distribution Capital Expenditures for 2012-2014**  
5 **Gas Control Center Radio System**  
6 **(In Thousands of Dollars)**

Description	DRA Recommended			PG&E Proposed <sup>204</sup>		
	2012	2013	2014	2012	2013	2014
Gas Control Center Radio System	\$4,208	\$2,000	\$2,000	\$7,138	\$2,325	\$2,325

7

8 **8. Field Automation System (FAS) Upgrade Project**

9 PG&E proposes to enhance the FAS system which consists of an upgrade to  
10 the FAS system and integration with the Customer Collection and Billing (CC&B)  
11 system in order to dispatch GSRs in response to alarms from the gas distribution  
12 Control Center. PG&E is forecasting capital expenditures of \$800,000 in 2013 for  
13 this project.

14 DRA does not take issue with this project, but is recommending capital  
15 expenditures of \$688,000 in 2013 which is \$112,000 or 14 percent less than PG&E's  
16 2013 forecast for the FAS Upgrade Project. DRA's recommendation is based on its  
17 global recommendation to reduce PG&E's forecasts of IT projects by 14 percent  
18 which are calculated using the "Concept Estimate Tool" as discussed in Exhibit  
19 DRA-18. The following table provides DRA's and PG&E's 2014 forecast of capital  
20 expenditures for the FAS Upgrade Project.

21

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<sup>204</sup> Ex. PG&E-3, p. 11-26



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**Table 10-53**  
**Gas Distribution Capital Expenditures for 2012-2014**  
**FAS Upgrade Project**  
**(In Thousands of Dollars)**

Description	DRA Recommended			PG&E Proposed <sup>205</sup>		
	2012	2013	2014	2012	2013	2014
FAS Upgrade	\$0	\$688	\$0	\$0	\$800	\$0

5

6

**9. Mobile for Long-Cycle Work**

7

PG&E is forecasting capital expenditures of \$1.540 million in 2014 for the Mobile for Long-Cycle Work Project. This forecast assumes that PG&E will need to upgrade FAS and configure Ventyx, GIS and SAP as well as install the mobile devices and communication equipment in the trucks. PG&E’s forecast assumes having 196 trucks performing Long-Cycle work for gas distribution.<sup>206</sup>

11

In response to DRA’s request, PG&E states that each mobile device costs \$5,000 and the installation unit cost of \$3,400 which include Microsoft Office software, MobileConnect software, vehicle cradle, vehicle mounting hardware, four hours of Field Support and additional MobileConnect support labor costs. PG&E says that the Ventyx user license cost is \$700 per device. PG&E assumed other costs in the “Concept Estimate Tool” for this project.<sup>207</sup>

18

PG&E forecasted a total capital expenditure cost of \$6.330 million for the Mobile for Long-Cycle Work Project for 2014 to 2016.<sup>208</sup> Based on PG&E’s assumption of 196 trucks and a total 2014 to 2016 capital expenditure forecast of \$6.330 million would mean that it would cost \$32,296 for each mobile device.

19

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21

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<sup>205</sup> Ex. PG&E-3, p. 11-39

<sup>206</sup> Ex. PG&E-3, p. 11-33

<sup>207</sup> PG&E’s response to DRA-PG&E-188, Question 2

<sup>208</sup> Ex. PG&E-3, p. 11-33 (2014 forecast=\$1.540M; 2015 forecast=\$1.540M; 2016 forecast=\$3.25M)

1 DRA is recommending a forecast of \$950,000 in capital expenditures for the  
 2 Mobile for Long-Cycle Work Project in 2014. DRA assumes a cost of \$1.0 million to  
 3 upgrade FAS and configure Ventyx, GIS and SAP, which is based on the \$1.4  
 4 million in capital expenditures that PG&E recorded in 2012 to modify the software  
 5 applications for the mobile devices that PG&E's Leak Survey and Locate and Mark  
 6 crews received in 2012.<sup>209</sup> DRA is also assuming that some of the modifications to  
 7 the software applications for the mobile devices distributed to PG&E's Leak Survey  
 8 and Locate and Mark crews are applicable to the mobile devices for the long-cycle  
 9 work. As discussed in the next section, DRA is also providing capital expenditures  
 10 to upgrade FAS and configure Ventyx, GIS and SAP in the Mobile for Short-Cycle  
 11 Crew Project which are applicable to this project.

12 DRA is using a unit cost of \$9,100 which consists of the device cost of  
 13 \$5,000, the installation cost of \$3,400, and the Ventyx user license cost of \$700. At  
 14 \$9,100 per device for 196 trucks and the \$1.0 million software upgrade costs, the  
 15 total capital forecast is approximately \$2.8 million or \$950,000 normalized over three  
 16 years starting in 2014. The following table provides DRA's and PG&E's forecast for  
 17 the Mobile for Long-Cycle Work for 2014.

18 **Table 10-54**  
 19 **Gas Distribution Capital Expenditures for 2012-2014**  
 20 **Mobile for Long-Cycle Work**  
 21 **(In Thousands of Dollars)**

Description	DRA Recommended			PG&E Proposed <sup>210</sup>		
	2012	2013	2014	2012	2013	2014
Mobile for Long-Cycle Work	\$0	\$0	\$950	\$0	\$0	\$1,540

22  
 23

<sup>209</sup> PG&E's response to DRA-PG&E-188, Question 6(e)

<sup>210</sup> Ex. PG&E-3, p. 11-33

1                   **10. Mobile for Short-Cycle Crews**

2                   PG&E is forecasting capital expenditures of \$400,000 in 2012, \$1.6 million in  
3 2013, and \$3 million in 2014 for the Mobile for Short-Cycle Crews Project.<sup>**211**</sup> The  
4 Mobile for Short-Cycle Crews involves the installation of mobile devices and  
5 communication equipment in the trucks assigned to the Short-Cycle work crews. The  
6 forecast assumes that there will be modifications to FAS to accommodate five  
7 workflows (leak investigation and repair, abandoned facilities, new facility  
8 installation, corrective maintenance and mapping) and configurations of Ventyx, GIS,  
9 and SAP. PG&E’s forecast assume that PG&E will have 149 trucks performing  
10 Short-Cycle work for gas distribution.<sup>**212**</sup>

11                   In response to DRA’s request, PG&E states that each mobile device costs  
12 \$5,000 and the installation unit cost of \$3,400 which include Microsoft Office  
13 software, MobileConnect software, vehicle cradle, vehicle mounting hardware, four  
14 hours of Field Support and additional MobileConnect support labor costs. PG&E  
15 says that the Ventyx user license cost is \$700 per device. PG&E assumed other  
16 costs in the “Concept Estimate Tool” for this project.<sup>**213**</sup>

17                   PG&E forecasted a total capital expenditure cost of \$12.5 million for the  
18 Mobile for Short-Cycle Work Project for 2012 to 2016.<sup>**214**</sup> Based on PG&E’s  
19 assumption of 146 trucks and a total 2012 to 2016 capital expenditure forecast of  
20 \$12.5 million would mean that it would cost approximately \$84,000 for each mobile  
21 device.

22                   DRA is recommending a forecast of \$600,000 in capital expenditures for the  
23 Mobile for Short-Cycle Work Project in 2013 and 2014. DRA assumes \$1.0 million

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<sup>**211**</sup> Ex. PG&E-3, p. 11-35

<sup>**212**</sup> Ex. PG&E-3, p. 11-34

<sup>**213**</sup> PG&E’s response to DRA-PG&E-188, Question 9

<sup>**214**</sup> Ex. PG&E-3, p. 11-35 (2012 forecast=\$400,000; 2013 forecast=\$1.6 M; 2014 forecast=\$3 M; 2015 forecast=\$4 M; 2016 forecast=\$3.50 M)

1 to upgrade FAS and configure Ventyx, GIS and SAP which is based on the \$1.4  
 2 million in capital expenditures that PG&E recorded in 2012 to modify the software  
 3 applications for the mobile devices that PG&E's Leak Survey and Locate and Mark  
 4 crews received in 2012.<sup>215</sup> DRA assumes \$1.0 million to upgrade FAS and  
 5 configure Ventyx, GIS and SAP which is based on the \$1.4 million in capital  
 6 expenditures that PG&E recorded in 2012 to modify the software applications for the  
 7 mobile devices that PG&E's Leak Survey and Locate and Mark crews received in  
 8 2012.<sup>216</sup> DRA also is assuming that some of the modifications to the software  
 9 applications for the mobile devices distributed to PG&E's Leak Survey and Locate  
 10 and Mark crews are applicable to the mobile devices for the short-cycle work. As  
 11 discussed in the above section, DRA is also providing capital expenditures to  
 12 upgrade FAS and configure Ventyx, GIS and SAP in the Mobile for Long-Cycle Crew  
 13 Project which is applicable to this project.

14 DRA is using a unit cost of \$9,100 which consists of the device cost of  
 15 \$5,000, the installation cost of \$3,400, and the Ventyx user license cost of \$700. At  
 16 \$9,100 per device for 149 trucks and the \$1.0 million software upgrade costs, the  
 17 total capital forecast is approximately \$2.4 million or \$600,000 normalized over four  
 18 years starting in 2013. The following table provides DRA's and PG&E's forecasts for  
 19 the Mobile for Short-Cycle Work for 2013 and 2014.

20 **Table 10-55**  
 21 **Gas Distribution Capital Expenditures for 2012-2014**  
 22 **Mobile for Short-Cycle Work**  
 23 **(In Thousands of Dollars)**

Description	DRA Recommended			PG&E Proposed <sup>217</sup>		
	2012	2013	2014	2012	2013	2014
Mobile for Short-Cycle Work	Recorded	\$600	\$600	\$400	\$1,600	\$3,000

<sup>215</sup> PG&E's response to DRA-PG&E-188, Question 6(e)

<sup>216</sup> PG&E's response to DRA-PG&E-188, Question 6(e)

<sup>217</sup> Ex. PG&E-3, p. 11-35

1 **11. Mobile Extension and Enhancements to Additional**  
 2 **Crews**

3 PG&E is forecasting capital expenditures of \$1.8 million in 2014 to extend the  
 4 mobilization efforts described above to remaining crew personnel who do not have  
 5 mobile devices. PG&E claims that mobile solutions previously rolled out to one  
 6 device per crew will be expanded to additional crew members as appropriate.  
 7 PG&E says that this roll-out is required to ensure a larger group of crew members  
 8 are available to receive electronic notification of emergencies or other work,  
 9 especially as crews sub-divide or regroup in different formations.<sup>218</sup>

10 DRA is recommending capital expenditures of \$0 in 2014 for the Mobile  
 11 Extension and Enhancements to Additional Crews Project. As discussed in the  
 12 Mobile for Long-Cycle Work and Mobile for Short-Cycle Work Projects, each field  
 13 crew will be provided a mobile device for each truck. PG&E has not shown the  
 14 benefits of providing a mobile device for each crew member that are in the same  
 15 truck. In case of emergencies, all field crew members have cell phones and radios  
 16 which are likely to be more effective to reach the crew members than a mobile  
 17 device mounted in a truck. PG&E's crews currently have laptops which can be used  
 18 in addition to the new mobile device proposed in the Mobile for Long-Cycle and  
 19 Short-Cycle Work Projects. The following table provides DRA's and PG&E's  
 20 forecasts for the Mobile Extension and Enhancements to Additional Crews for 2014.

21 **Table 10-56**  
 22 **Gas Distribution Capital Expenditures for 2014**  
 23 **Mobile Extension and Enhancements to Additional Crews**  
 24 **(In Thousands of Dollars)**

Description	DRA Recommended			PG&E Proposed <sup>219</sup>		
	2012	2013	2014	2012	2013	2014
Mobile Extension & Enhancements to Additional Crews	\$0	\$0	\$0	\$0	\$0	\$1,800

<sup>218</sup> Ex. PG&E-3, p. 11-35

<sup>219</sup> Ex. PG&E-3, p. 11-35

1                   **12. Mobile Device Replacement/Upgrade**

2                   PG&E is requesting capital expenditures of \$1.875 million in 2014 to roll out  
3 the mobile technology to 780 gas crew personnel. PG&E claims that there are a  
4 number of mismatches between field workers, the requirements for mobile devices  
5 and the actual mobile device that they are using. PG&E claims the objective for this  
6 project is to ensure that mobile devices for users in the field appropriately meet the  
7 users' job requirements.<sup>220</sup>

8                   DRA is recommending a capital expenditure forecast of \$0 in 2014 for the  
9 Mobile Device Replacement/Upgrade Project. PG&E has not shown a need to  
10 replace or upgrade the current mobile devices in 2014. In response to DRA's data  
11 request about what PG&E means with the statement, "The Mobile Device  
12 Replacement project will roll out the mobile technology to approximately 780 gas  
13 crew personnel. The intent of this initiative is to enable more of the workforce to use  
14 mobile equipment and obtain productivity gains." PG&E responded:

15                   Approximately 780 gas field employees (principally Gas Service  
16 Representatives) receive their work on the General Dynamics GD8000  
17 device. This is the previous version of the GD8200 and these devices  
18 were rolled out in March 2010. These devices will be at the end of  
19 their expected life in 2016 and will need to be replaced."<sup>221</sup>

20                   PG&E's 780 gas field employees already have mobile devices with an  
21 expected life until 2016. Therefore, DRA is recommending a capital forecast of \$0 in  
22 2014. The following table provides DRA's and PG&E's forecasts for the Mobile  
23 Device Replacement/Upgrade Project for 2014.

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<sup>220</sup> Ex. PG&E-3, p. 11-36

<sup>221</sup> PG&E's response to DRA-PG&E-188, Question 13(a)

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**Table 10-57**  
**Gas Distribution Capital Expenditures for 2014**  
**Mobile Device Replacement/Upgrade Project**  
**(In Thousands of Dollars)**

Description	DRA Recommended			PG&E Proposed <sup>222</sup>		
	2012	2013	2014	2012	2013	2014
Mobile Device Replacement/Upgrade	\$0	\$0	\$0	\$0	\$0	\$1,875

5

6

**13. Testing and Conforming Applications to Vendor Upgrades**

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8

PG&E is requesting capital expenditures of \$2.5 million in 2014 for the Testing and Conforming Applications to Vendor Upgrades Project such as upgrades to vendor software and upgrade to the GIS interface with SAP that is scheduled for 2014.<sup>223</sup>

11

12

DRA does not take issue with this project, but is recommending a capital expenditure forecast of \$2.150 million in 2014 for the Testing and Conforming Applications to Vendor Upgrades Project. DRA’s recommendation is based on its global recommendation to reduce PG&E’s forecasts of IT projects by 14 percent which are calculated using the “Concept Estimate Tool” as discussed in Exhibit DRA-18. DRA reduced PG&E’s 2014 forecast of \$2.5 million by 14 percent to arrive at \$2.150 million. The following table provides DRA’s and PG&E’s 2014 forecast of capital expenditures for the Testing and Conforming Applications to Vendor Upgrades Project.

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<sup>222</sup> Ex. PG&E-3, p. 11-36

<sup>223</sup> Ex. PG&E-3, pp. 11-39 and 11-40

**Table 10-58**  
**Gas Distribution Capital Expenditures for 2014**  
**Testing and Conforming Applications to Vendor Upgrades**  
**(In Thousands of Dollars)**

Description	DRA Recommended			PG&E Proposed <sup>224</sup>		
	2012	2013	2014	2012	2013	2014
Testing and Conforming App to Vendor Upgrades	\$0	\$0	\$2,150	\$0	\$0	\$2,500

**X. DISCUSSION / ANALYSIS OF GAS OPERATIONS BUILDING PROJECTS**

This section discusses PG&E’s capital expenditures forecasts for incremental building projects driven by PG&E’s Gas Operations.

The following table summarizes PG&E’s request and DRA’s recommendation for the MWCs within Gas Operations Building Projects.

**Table 10-59**  
**Gas Distribution Capital Expenditures for 2012-2014**  
**Gas Operations Building Projects**  
**(In Thousands of Dollars)**

Description	DRA Recommended			PG&E Proposed <sup>225</sup>		
	2012	2013	2014	2012	2013	2014
MWC 78	\$12,506	\$17,355	\$14,887	\$37,555	\$34,210	\$61,494

**A. MWC 78**

MWC 78 includes capital expenditures related to PG&E’s building projects driven by Gas Operations. PG&E states that building projects fall into two general categories: (1) on-going building costs such as maintenance, roof replacements, carpet replacement and small building modifications for existing facilities; and (2)

<sup>224</sup> Ex. PG&E-3, p. 11-40

<sup>225</sup> Ex. PG&E-3, p. 12-15



1 incremental projects that are large in scope or unusual in nature.<sup>226</sup> The following  
2 table provides the 2007 to 2012 recorded capital expenditures for MWC 78.

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4  
5

**Table 10-60**  
**2007-2012 Recorded Data for MWC 78**  
**(In Thousands of Dollars)**

Description	2007	2008	2009	2010	2011	2012
MWC 78	\$29	\$2,978	\$446	\$29	\$496	\$12,506

6 Source: 2007-2011 data from Ex. PG&E-3, Workpapers, p. WP 12-5. 2012 data from DRA-PG&E-  
7 108, Question 03, Attachment 01

8 PG&E is forecasting capital expenditures of \$26.919 million in 2012, \$34.210  
9 million in 2013, and \$61.494 million in 2014.<sup>227</sup>

10 DRA is recommending capital expenditures of \$12.506 million, \$17.264million  
11 in 2013, and \$16.166 million in 2014 for MWC 78. DRA is recommending using the  
12 2012 recorded capital expenditures to forecast 2012 capital expenditures for MWC  
13 78.

14 As a result of DRA's data requests regarding the allocation of the capital  
15 costs between gas distribution and gas transmission on its building projects, PG&E  
16 has submitted errata to allocate 80.65 percent to Gas Distribution and 19.35 percent  
17 to Gas Transmission for shared building projects.<sup>228</sup> The following table provides  
18 DRA's and PG&E's forecasts for the building projects proposed during 2012 to 2014.  
19 Almost all of the difference between DRA and PG&E for this work category consists  
20 of DRA's adjustment to capital spending related to the proposed new Gas Training  
21 Center Building.

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<sup>226</sup> Ex. PG&E-3, p. 12-4

<sup>227</sup> Ex. PG&E-3, p. 12-15

<sup>228</sup> DRA-PG&E-104, Question 1(n); DRA-PG&E-136, Questions 2 and 7; Ex. PG&E-14, pp. 14-259 to 14-260

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**Table 10-61  
DRA's and PG&E's 2012 to 2014 Capital Expenditures Forecasts  
MWC 78  
(In Thousands of Dollars)**

Description	DRA Recommended			PG&E Proposed <sup>229</sup>		
	2012	2013	2014	2012	2013	2014
Gas Op Headquarters Bldg & Lease	\$8,886	\$2,463	\$2,490	\$16,405	\$3,054	\$3,087
Gas Control/Dispatch Center Bldg	\$2,324	\$9,388	-	\$16,300	\$9,388	-
Gas Control Hot Back Up	-	-	\$3,337	-	-	\$3,337
Gas Training Center Building	\$362	\$0	\$0	\$250	\$9,320	\$40,870
LNG/CNG Operations Centers	\$0	-	-	\$1,500	-	-
Antioch Service Center Permanent Building	-	-	\$6,210	-	-	\$7,700
Vaca Dixon Sub GC Yard Permanent Building	-	\$200	-	\$100	\$4,250	-
Oroville SC Replacement of Main Bldg	-	\$2,800	-	-	\$2,800	-
San Jose-Dado St Construction Engineer Building Space	-	\$1,913	-	-	\$1,913	-
San Carlos SC Building Addition	-	-	\$3,629	-	-	\$4,500
Fresno Service Center Upgrade	\$910					
<b>Subtotal</b>	<b>\$12,482<sup>230</sup></b>	<b>\$16,764</b>	<b>\$15,666</b>	<b>\$34,555</b>	<b>\$30,725</b>	<b>\$59,494</b>
Minor Projects Under \$1 million	\$24	\$500	\$500	\$3,000	\$3,485	\$2,000
<b>Total</b>	<b>\$12,506*</b>	<b>\$17,264</b>	<b>\$16,166</b>	<b>\$37,555</b>	<b>\$34,210</b>	<b>\$61,494</b>

5 Figures denoted with an asterisk (\*) are recorded expenditures from DRA-PG&E-108, Question 3,  
6 Attachment 01

**1. Gas Operations Headquarters Building and Lease**

PG&E is proposing a new consolidated headquarters office in San Ramon for Gas Operations to be completed in 2013. PG&E is forecasting capital expenditures of \$16.405 million in 2012, \$3.054 million in 2013, and \$3.087 million in 2014.<sup>231</sup>

<sup>229</sup> Ex. PG&E-3, pp. 12-9 and 12-14

<sup>230</sup> Recorded 2012 MWC 78 data provided by PG&E in DRA-PG&E-97, Question 3 is different than recorded 2012 MWC 78 data provided in DRA-PG&E-108, Question 3. PG&E states in DRA-PG&E-97 that the minor difference is because DRA-PG&E-108 contains data that reflects the organization view (e.g., order structure/details) captured at end of 2012. Subsequently in 2013, the order structure changed to reflect reorganizations and realignment of work causing the differences.

<sup>231</sup> Ex. PG&E-3, pp. 12-5, 12-6, and 12-9

1 DRA is recommending using the 2012 recorded capital expenditures as the  
 2 2012 forecast of capital expenditures for MWC 78. PG&E has submitted errata in  
 3 Exhibit PG&E-14 to allocate 19.35 percent or \$597,000 of the 2014 capital  
 4 expenditures forecast to gas transmission and allocate 80.65 percent or \$2.490  
 5 million of the 2014 capital expenditures forecast to gas distribution.<sup>232</sup> DRA  
 6 forecasts capital expenditures of \$2.463 million in 2013 which is the allocation of  
 7 80.65 percent of PG&E's 2013 forecast to gas distribution for the Gas Operations  
 8 Headquarters Building and Lease. DRA forecasts capital expenditures of \$2.490  
 9 which is the allocation of 80.65 percent of PG&E's 2014 forecast to gas distribution  
 10 for the proposed Gas Operations Headquarters Building and Lease. The following  
 11 table summarizes DRA's and PG&E's forecasts for the Gas Operations  
 12 Headquarters Building and Lease for 2012 to 2014.

13 **Table 10-62**  
 14 **Gas Distribution Capital Expenditures for 2012-2014**  
 15 **Gas Operations Headquarters Building and Lease**  
 16 **(In Thousands of Dollars)**

Description	DRA Recommended			PG&E Proposed <sup>233</sup>		
	2012	2013	2014	2012	2013	2014
Gas Ops Headqtr Bldg & Lease	\$8,886	\$2,463	\$2,490	\$16,405	\$3,054	\$3,087

17

18 **2. Gas Control/Dispatch Center Building**

19 PG&E is proposing the consolidation of the Gas Control Center and the  
 20 Dispatch Center into the Gas Distribution Control Center (Control Center) to facilitate  
 21 fast, efficient communications during emergencies and to improve operational gas  
 22 system performance. PG&E estimates that this project will be completed in 2013.

<sup>232</sup> Ex. PG&E-14, p. 14-267

<sup>233</sup> Ex. PG&E-3, p. 12-9; Exhibit PG&E-14, p. 14-267

1 PG&E forecasts capital expenditures of \$16.3 million in 2012 and \$9.388 million in  
2 2013.<sup>234</sup>

3 DRA is recommending using the 2012 recorded capital expenditures as the  
4 2012 forecast of capital expenditures for MWC 78. DRA does not oppose PG&E's  
5 2013 capital expenditures forecast of \$9.388 million for the proposed Gas  
6 Control/Dispatch Center Building. The following table summarizes DRA's and  
7 PG&E's forecasts for the Gas Control/Dispatch Center Building for 2012 to 2014.

8 **Table 10-63**  
9 **Gas Distribution Capital Expenditures for 2012-2014**  
10 **Gas Control/Dispatch Center Building**  
11 **(In Thousands of Dollars)**

Description	DRA Recommended			PG&E Proposed <sup>235</sup>		
	2012	2013	2014	2012	2013	2014
Gas Control/Dispatch Building	\$2,324	\$9,388	\$0	\$16,300	\$9,388	\$0

12

### 13 **3. Gas Control Hot Back Up**

14 PG&E is proposing creating a Control Center mirror-image, "Hot" Backup, to  
15 be activated when an emergency or major event disrupts or prevents use of the  
16 primary Control Center. PG&E claims that the alternate facility will allow for an  
17 interrupted, quick and efficient shift to gas control and dispatch functions to the  
18 backup location. PG&E forecasts this project to begin construction in 2014. PG&E  
19 forecasts capital expenditures of \$3.337 million in 2014.<sup>236</sup>

20 DRA agrees to the capital expenditures forecast of \$3.337 million in 2014 for  
21 the Gas Control Hot Back Up Project.

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<sup>234</sup> Ex. PG&E-3, pp. 12-6 and 12-9

<sup>235</sup> Ex. PG&E-3, p. 12-9

<sup>236</sup> Ex. PG&E-3, pp. 12-6 and 12-9

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**Table 10-64**  
**Gas Distribution Capital Expenditures for 2012-2014**  
**Gas Control Hot Back Up**  
**(In Thousands of Dollars)**

Description	DRA Recommended			PG&E Proposed <sup>237</sup>		
	2012	2013	2014	2012	2013	2014
Gas Control Hot Back Up	\$0	\$0	\$3,337	\$0	\$0	\$3,337

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**4. Gas Training Center Building**

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PG&E is proposing a new gas training center building to provide technical skills training to maintenance, construction, operations, and engineering employees. PG&E says the facility will expand PG&E’s ability to train employees with hands-on simulation in areas such as carbon monoxide and leak investigation, “pigging” lines, conducting hydrostatic tests, repair techniques, and a variety of miscellaneous system and asset maintenance. PG&E forecast to begin design and engineering work in 2012 and completion in 2015. PG&E forecasts capital expenditures of \$250,000 in 2012, \$9.320 million in 2013, and \$40.870 million 2014.<sup>238</sup>

15

PG&E claims that as the technologies associated with PG&E’s gas business continue to evolve, and the volume of employees requiring hands on-training increases, larger, more advanced training facilities are required to ensure employees maintain technical competency. PG&E claims its existing training facilities in San Ramon and Livermore do not have adequate expansion space available to address the competency-based curriculum and both Transmission training and Emergency Response training would have to be addressed in another location. PG&E says that as the technologies associated with PG&E’s gas business continue to evolve, and the volume of employees requiring hands on-training increases, larger, more

<sup>237</sup> Ex. PG&E-3, p. 12-9

<sup>238</sup> Ex. PG&E-3, pp. 12-6 and 12-9

1 advanced training facilities are required to ensure employees maintain technical  
2 competency.<sup>239</sup>

3 DRA is recommending capital expenditures of \$0 for the Gas Training Center  
4 Building in 2013 and 2014. PG&E says that its training model is a blended model of  
5 Instructor Led Training (ILT), Web Based Training (WBT), and On the Job Training  
6 (OJT).<sup>240</sup> PG&E has effectively trained its gas distribution employees at its training  
7 facilities in San Ramon and Livermore. PG&E has been training gas employees in  
8 San Ramon for over 25 years in various technical fields such as welding, gas  
9 measurement, gas control, compliance, and leadership. PG&E has been training its  
10 employees in Livermore for over 20 years in various technical fields such as safe  
11 equipment operation, driving, leak survey, locate and mark.<sup>241</sup> PG&E constructed a  
12 new Simulation City for outdoor leak survey, locate and mark and corrosion training  
13 during 2008 to 2009.<sup>242</sup>

14 PG&E employees receive training on subjects not offered in San Ramon or  
15 Livermore via Web Based Training on PG&E's internal Intranet site and at field  
16 headquarter locations.<sup>243</sup> PG&E sends instructors to on-site locations to provide  
17 training which reduces training costs as the large groups of employees do not have  
18 to travel to Livermore or San Ramon.<sup>244</sup> PG&E also uses third party training  
19 programs to train gas employees such as Asbestos Training, Operations for Gas  
20 Planning Engineers, Advanced Gas Transmission, Gas System Fundamentals, Gas

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<sup>239</sup> PG&E's response to DRA-PG&E-104, Question 1 (d, f, and g)

<sup>240</sup> PG&E's response to DRA-PG&E-104, Question 1(m)

<sup>241</sup> PG&E's response to DRA-PG&E-104, Question 1 (f and g)

<sup>242</sup> PG&E's response to DRA-PG&E-104, Question 1(h)

<sup>243</sup> PG&E's response to DRA-PG&E-104, Question 1 (l)

<sup>244</sup> PG&E's response to DRA-PG&E-135, Questions 9 and 10

1 Systems Planning, Remaining Strength Calculation, and Crane Operation and  
2 Rigging.<sup>245</sup>

3 PG&E states that the following is a description of employee training needs  
4 that are currently unmet through the San Ramon and Livermore facilities or through  
5 third party vendors:

- 6 a. Transmission Training: No existing PG&E facilities allow employees to  
7 experience transmission-pressure tasks for maintenance or operation until  
8 they are in the field exposed to live gas.
- 9 b. Measurement and Control: Current PG&E facilities are limited in space,  
10 do not simulate actual conditions nor represent current operating  
11 equipment used in the field. For example, a classroom or lab cannot  
12 simulate in-ground vault work, nor provide the ability to work in two  
13 regulation pits simultaneously. In addition, technology constraints in the  
14 classrooms cannot support the training of the automated valves or other  
15 advanced technology now being put into the system.
- 16 c. Field services: Existing PG&E facilities do not represent the breadth of  
17 experiences a Gas Service Representative (GSR) will have in terms of  
18 equipment encountered. More importantly, there are not facilities for the  
19 GSR to perform their key safety practices (e.g. climbing ladders, entering  
20 crawl spaces, etc.). In addition, there is no facility for GSRs to train on  
21 work activities executed in a customer's home or property (inside sweep  
22 for leaks, carbon monoxide detection, and mitigating gas leaks on  
23 customer appliances).
- 24 d. Construction Techniques and Technology: Existing PG&E facilities allow  
25 for limited equipment training and do not allow for practicing construction  
26 tasks such as leak repair, coatings, boring, directional drilling, pig  
27 launching and receiving. Also, the facility has limited room for excavation  
28 safety and confined space work.
- 29 e. Emergency Response: Current PG&E facilities do not provide the  
30 environment needed for PG&E to host a multi-agency emergency  
31 response exercise with first responders throughout its service territory.  
32 Activities such as rescues from pits, containment of fires from equipment,  
33 and responding to pipeline fires are not currently accommodated by the  
34 existing facilities. Additionally, PG&E facilities are currently located in  
35 jurisdictions that are unlikely to support the release of live gas.<sup>246</sup>

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<sup>245</sup> PG&E's response to DRA-PG&E-104, Question 1(i)

<sup>246</sup> PG&E's response to DRA-PG&E-104, Question 1(k)

1 Although PG&E provides the above list of improvements for its gas training  
2 program, DRA finds that the proposed improvements can be accomplished without  
3 building a new gas training center with a total forecast capital expenditures cost of  
4 \$59.5 million. Therefore, DRA is recommending the Commission reject this Gas  
5 Training Center Building Project.

6 PG&E has been able to train its gas distribution employees during the last 25  
7 years at its San Ramon facility and the last 20 years at its Livermore training facility  
8 as techniques and technology have changed. As discussed above, PG&E has many  
9 options available to train its gas distribution employees.

10 The emergency response exercises would be more practical to be planned  
11 and organized with first responders in locations throughout PG&E's service territory  
12 that may be unique to that location rather than at a new gas training center location  
13 many miles away.

14 Any new Transmission Training facilities can be requested in other  
15 proceedings outside of this GRC. As discussed above, PG&E has submitted errata  
16 regarding the capital cost allocation of the Gas Training Center Building in Exhibit  
17 PG&E-14. PG&E states in its data response:

18 The capital cost allocation between gas distribution and gas  
19 transmission for this capital project will be assigned to Unbundled Cost  
20 Category (UCC) 802 (via errata change) which will allocate 80.65  
21 percent to Gas Distribution and 19.35 percent to Gas Transmission.  
22 See response 1.o. below.

23 The allocation will follow the common plant allocation process  
24 described in Exhibit (PG&E-2), Chapter 9 on page 9-11 lines 10  
25 through 19. This allocation process uses recorded labor ratios and is  
26 consistent with how allocations are performed for both common capital  
27 and common A&G.<sup>247</sup>

28 The \$59.490 million allocates \$48.0 million to gas distribution and  
29 \$11.5 million to gas transmission.<sup>248</sup>

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<sup>247</sup> PG&E's response to DRA-PG&E-104, Question 1 (n)

<sup>248</sup> PG&E's response to DRA-PG&E-104, Question 1 (o)



1 The following table summarizes DRA's and PG&E's forecasts for the Gas  
 2 Training Center Building for 2012 to 2014.

3 **Table 10-65**  
 4 **Gas Distribution Capital Expenditures for 2012-2014**  
 5 **Gas Training Center Building**  
 6 **(In Thousands of Dollars)**

Description	DRA Recommended			PG&E Proposed <sup>249</sup>		
	2012	2013	2014	2012	2013	2014
Gas Training Center Building	\$362	\$0	\$0	\$250	\$9,320	\$32,962

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 8 **5. LNG/CNG Operations Centers**

9 PG&E is proposing to build three new Liquefied Natural Gas/Compressed  
 10 Natural Gas (LNG/CNG) operations centers to facilitate PG&E's growing fleet of  
 11 LNG/CNG trailers and associated equipment. The facility will house the trailers,  
 12 associated equipment, and staff that manage and operate the equipment. PG&E  
 13 forecast these facilities to be built in 2012. PG&E forecasts capital expenditures of  
 14 \$1.5 million in 2012.<sup>250</sup>

15 DRA is recommending capital expenditures of \$0 in 2012 for the LNG/CNG  
 16 Operations Centers. PG&E did not record any capital expenditures in 2012 for this  
 17 project. PG&E claims that it is still in lease negotiations for the LNG/CNG  
 18 Operations Centers and implementation costs are expected to incur in 2013 when  
 19 final negotiations are complete.<sup>251</sup> DRA is recommending no capital expenditures  
 20 for this project because PG&E does not have a lease for this project. The following  
 21 table summarizes DRA's and PG&E's forecasts for the LNG/CNG Operations  
 22 Centers for 2012 to 2014.

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<sup>249</sup> Ex. PG&E-3, p. 12-9

<sup>250</sup> Ex. PG&E-3, pp. 12-7 and 12-9

<sup>251</sup> PG&E's response to DRA-PG&E-105, Question 3

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**Table 10-66**  
**Gas Distribution Capital Expenditures for 2012-2014**  
**LNG/CNG Operations Centers**  
**(In Thousands of Dollars)**

Description	DRA Recommended			PG&E Proposed <sup>252</sup>		
	2012	2013	2014	2012	2013	2014
LNG/CNG Operations Center	\$0	\$0	\$0	\$1,500	\$0	\$0

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**6. Antioch Service Center Permanent Building**

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PG&E is proposing to replace temporary office space in Antioch with a permanent facility. PG&E states that the temporary office space trailers used by gas maintenance and construction field employees were installed around 1979. PG&E forecasts capital expenditures of \$7.7 million in 2014.<sup>253</sup>

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DRA is recommending capital expenditures of \$6.21 million in 2014 for the Antioch Service Center. DRA agrees with PG&E's proposal of the Antioch Service Center Project. PG&E allocates 80.65 percent of the capital expenditures to gas distribution and 19.35 percent to gas transmission for this shared project as discussed in PG&E's errata exhibit.<sup>254</sup>

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**Table 10-67**  
**Gas Distribution Capital Expenditures for 2012-2014**  
**Antioch Service Center Permanent Building**  
**(In Thousands of Dollars)**

Description	DRA Recommended			PG&E Proposed <sup>255</sup>		
	2012	2013	2014	2012	2013	2014
Antioch Service Center	\$0	\$0	\$6,210	\$0	\$0	\$7,700

<sup>252</sup> Ex. PG&E-3, p. 12-9

<sup>253</sup> Ex. PG&E-3, pp. 12-7 and 12-9

<sup>254</sup> Ex. PG&E-14, p. 12-264

<sup>255</sup> Ex. PG&E-3, p. 12-9

1                   **7. Vaca Dixon Sub GC Yard Permanent Building**

2                   PG&E is proposing to replace temporary office space at the Vaca Dixon  
3 Substation used by gas general construction employees. The temporary office  
4 spaces were installed in the 1970s. PG&E forecasts capital expenditures of  
5 \$100,000 in 2012 and \$4.250 million in 2013.<sup>256</sup>

6                   DRA is recommending using the 2012 recorded capital expenditures for MWC  
7 78 and \$200,000 for 2013 for the Vaca Dixon Sub GC Yard Permanent Building  
8 based on PG&E’s response to a data request. In the response, PG&E says:

9                   This project was accelerated due to health and environmental  
10 concerns resulting from moisture intrusion and mold with the old  
11 General Construction (GC) trailer. As the old trailers required  
12 immediate replacement, a new triple-wide office trailer was installed.  
13 The more permanent replacement building that was planned would  
14 have required a longer construction period, thus increasing the mold  
15 exposure to PG&E personnel. The new trailer includes indoor rest  
16 room facilities.

17                   As part of a proposed second phase of the project, GC has requested  
18 the installation of an additional trailer to accommodate crew tailboards  
19 and meetings. This phase is currently being scoped and is forecast to  
20 be ready for occupancy by late 2013...<sup>257</sup>

21                   The capital installation cost for the triple wide trailer was \$107,000.  
22 The proposed meeting trailer is estimated to be approximately  
23 \$140,000 to \$240,000, depending on whether it is leased or PG&E  
24 owned. That determination will follow the scoping process.<sup>258</sup>

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<sup>256</sup> Ex. PG&E-3, pp. 12-7 and 12-9

<sup>257</sup> PG&E’s response to DRA-PG&E-136, Questions 3(a)

<sup>258</sup> PG&E’s response to DRA-PG&E-136, Questions 3(h)

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**Table 10-68**  
**Gas Distribution Capital Expenditures for 2012-2014**  
**Vaca Dixon Sub GC Yard Permanent Building**  
**(In Thousands of Dollars)**

Description	DRA Recommended			PG&E Proposed <sup>259</sup>		
	2012	2013	2014	2012	2013	2014
Vaca Dixon Sub GC Yard	recorded	\$200	\$0	\$100	\$4,250	\$0

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**8. Oroville Service Center; San Jose-Dado St. Construction Engineer Building Space; and San Carlos Service Center Building Addition**

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PG&E is proposing to replace the main building at the Oroville Service Center which was originally built in the late 1960s. PG&E forecasts capital expenditures of \$2.8 million in 2013.<sup>260</sup>

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DRA is recommending capital expenditures of \$2.8 million in 2013 for the Oroville Service Center. DRA agrees to PG&E's proposed Oroville Service Center Project.

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**Table 10-69**  
**Gas Distribution Capital Expenditures for 2012-2014**  
**Oroville Service Center**  
**(In Thousands of Dollars)**

Description	DRA Recommended			PG&E Proposed <sup>261</sup>		
	2012	2013	2014	2012	2013	2014
Oroville Service Center	\$0	\$2,800	\$0	\$0	\$2,800	\$0

<sup>259</sup> Ex. PG&E-3, p. 12-9

<sup>260</sup> Ex. PG&E-3, pp. 12-8 and 12-9

<sup>261</sup> Ex. PG&E-3, p. 12-9



1 workpapers, which will allocate certain capital orders (including this  
 2 project) as 80.65 percent gas distribution and 19.35 percent gas  
 3 transmission. This allocation is based on labor allocation factors  
 4 between gas distribution and gas transmission. This corrected  
 5 percentage more closely represents the percent of time employees  
 6 works on transmission versus distribution systems.<sup>265</sup>

7 The following table summarizes DRA's and PG&E's forecast of capital  
 8 expenditures for the San Carlos Center Building Addition.

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**Table 10-71**  
**Gas Distribution Capital Expenditures for 2012-2014**  
**San Carlos Service Center**  
**(In Thousands of Dollars)**

Description	DRA Recommended			PG&E Proposed <sup>266</sup>		
	2012	2013	2014	2012	2013	2014
San Carlos Service Center	\$0	\$0	\$3,629	\$0	\$0	\$4,500

14

**11. Minor Projects in MWC 78**

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16 PG&E is forecasting capital expenditures of \$3 million in 2012, \$3.485 million  
 17 in 2013, and \$2 million in 2014 for capital projects under \$1 million.<sup>267</sup>

18 DRA recommends using the 2012 recorded capital expenditures for MWC 78  
 19 which includes capital expenditures for minor projects for the 2012 forecast for MWC  
 20 78. DRA is recommending capital expenditures of \$250,000 for minor projects in  
 21 MWC 78 for each year 2013 and 2014. PG&E's 2011 recorded capital expenditures  
 22 of \$496,000 for MWC 78 are categorized as major projects and no capital  
 23 expenditures are categorized as minor projects.<sup>268</sup> DRA used 50 percent of the

<sup>265</sup> PG&E's response to DRA-PG&E-136, Question 7

<sup>266</sup> Ex. PG&E-3, p. 12-9; Exhibit PG&E-14, p. 14-267

<sup>267</sup> Ex. PG&E-3, p. 12-14

<sup>268</sup> Ex. PG&E-3, p. 12-14

1 total 2011 recorded capital expenditures of \$496,000 as the basis to forecast capital  
 2 expenditures for minor projects in MWC 78 since PG&E does not have recorded  
 3 2007 to 2012 data for MWC 78 projects broken down for major and minor projects.  
 4 The following table summarizes DRA's and PG&E's forecast of capital expenditures  
 5 for the minor projects in MWC 78.

6 **Table 10-72**  
 7 **Gas Distribution Capital Expenditures for 2012-2014**  
 8 **Minor Projects**  
 9 **(In Thousands of Dollars)**

Description	DRA Recommended			PG&E Proposed <sup>269</sup>		
	2012	2013	2014	2012	2013	2014
Minor Projects	recorded	\$500	\$500	\$3,000	\$3,485	\$2,000

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<sup>269</sup> Ex. PG&E-3, p. 12-14

1 **XI. GLOSSARY OF ACRONYMS**

- 2 • Automated Mapping and Facilities Management Project (AM/FM Project)
- 3 • California Public Utilities Commission (CPUC)
- 4 • Computer-Aided Design Drafting (CADD)
- 5 • Customer Collection and Billing (CC&B)
- 6 • Department of Transportation (DOT)
- 7 • Distribution Integrity Management Program (DIMP)
- 8 • Division of Ratepayer Advocates (DRA)
- 9 • Electronic Pressure Recorder (ER)
- 10 • Brand name for Pressure Recorders used for mobile applications (ERX)
- 11 • Emergency Shutdown Zones (ESZ)
- 12 • Field Automation System (FAS)
- 13 • Gas and Electric Mapping System (GEMS)
- 14 • Gas Pipeline Replacement Program (GPRP)
- 15 • Gas Service Representative (GSR)
- 16 • General Construction (GC)
- 17 • General Rate Case (GRC)
- 18 • Geographic Information System (GIS)
- 19 • High Pressure Regulators (HPR)
- 20 • Hydraulically Independent Systems (HIS)
- 21 • Information Technology (IT)
- 22 • Internal Relief Valves (IRV)
- 23 • Liquefied Natural Gas/Compressed Natural Gas (LNG/CNG)
- 24 • Maintenance and Construction (M&C)
- 25 • Major Work Category (MWC)
- 26 • Maximum Allowable Operating Pressure (MAOP)
- 27 • New Business (NB)
- 28 • Pacific Gas and Electric Company (PG&E)
- 29 • Pipeline and Hazardous Material Safety Administration (PHMSA)



- 1       • Remote Terminal Units (RTU)
- 2       • Specified Minimum Yield Strength (SMYS)
- 3       • Supervisory Control and Data Acquisition (SCADA)
- 4       • Test Year (TY)
- 5       • Work at the Request of Others (WRO)