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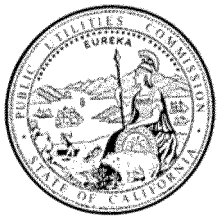

DIVISION OF RATEPAYER ADVOCATES
CALIFORNIA PUBLIC UTILITIES COMMISSION

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

Gas Distribution
Operations and Maintenance Expenses

PUBLIC VERSION

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GAS DISTRIBUTION EXPENSES

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 operations and maintenance (O&M) expenses for Test Year (TY) 2014.

Gas distribution O&M expenses are for work activities related to operation labor and expenses, storage, operation supervision and engineering, main and service expenses, measurement and regulator storage expenses, other gas distribution expenses, maintenance supervision and engineering, maintenance of mains and services, measurement and regulator station expenses, maintenance of meters and house regulators, and maintenance of other equipment. Some specific work activities include leakage surveys, leak repairs, application of corrosion control measures, valve maintenance, monitoring meter accuracy, odorant, and locating and marking buried pipes to avoid damage caused from digging by others.

PG&E's O&M activities and costs are grouped with similar types of work into a Major Work Category (MWC). PG&E's forecasts for MWC expenses are expressed in SAP nominal dollars. SAP dollars include certain labor-driven adders such as employee benefits and payroll taxes that are charged to separate Federal Energy Regulatory Commission (FERC) accounts. DRA's recommendations are made by MWC and SAP nominal dollars which are then translated into the appropriate FERC accounts through the Results of Operations (RO) model.

II. SUMMARY OF RECOMMENDATIONS

The following summarizes DRA's recommendations:

- DRA recommends PG&E retain the current 5-year leak survey cycle.
- DRA recommends a lower leak find rate associated with the Picarro Surveyor.

- DRA recommends a lower level of leak repairs associated with leaks detected by the Picarro Surveyor.
- DRA agrees with PG&E's proposal to respond to all gas odor calls as Immediate Response.
- DRA agrees with PG&E's proposal to respond to all gas odor calls within 30 minutes 75 percent of the time and within 60 minutes 99 percent of the time.

Table 9-1 compares DRA's and PG&E's 2014 forecasts of Gas Distribution expenses addressed in this exhibit:

Table 9-1
Gas Distribution Expenses for TY2014
(In Thousands of Dollars)

	DRA Recommended	PG&E Proposed[1]	Amount	Percentage
Description	(b)	(c)	PG&E>DRA	PG&E>DRA
(a)			(d=c-b)	(e=d/b)
MWC FG (Chapter 2)	$6,528	$13,884	$7,356	113%
MWC GG (Chapter 2)	$6,133	$6,133	$0	0%
MWC GF (Chapter 3)	$3,650	$16,199	$12,549	344%
MWC JS (Chapter 4)	$11,564	$47,305	$35,741	309%
MWC DG (Chapter 5)	$12,867	$12,867	$0	0%
MWC DF (Chapter 5)	$33,390	$39,049	$5,659	17%
MWC EX (Chapter 5)	$917	$917	$0	0%
MWC FH (Chapter 5)	$19,223	$28,599	$9,376	49%
MWC GM (Chapter 5)	$2,983	$2,983	$0	0%
MWC DE (Chapter 6)	$22,463	$33,800	$11,337	50%
MWC FI (Chapter 6)	$35,590	$102,100	$66,510	187%
MWC DD (Chapter 7)	$96,432	$105,956	$9,524	10%
MWC HY (Chapter 7)	$5,663	$7,756	$2,093	37%
MWC LK (Chapter 9)	$6,000	$6,000	$0	0%
MWC AB (Chapter 10)	$3,880	$12,690	$8,810	227%
MWC GZ (Chapter 11)	$1,518	$2,500	$982	65%
MWC JV (Chapter 11)	$10,664	$19,244	$8,580	80%
MWC AB (Chapter 12)	$2,525	$7,359	$4,834	191%
Total	**$274,656**	**$465,341**	**$190,685**	**69%**

[1] Ex. PG&E-3, p. 1-38.

III. GENERAL OVERVIEW

DRA's analyses and recommendations are based on PG&E's testimony, workpapers, responses to DRA data requests, conference calls, and meetings with PG&E witnesses. Although DRA recommends a lower test year forecast of $274.7 million compared to PG&E's request of $465 million, DRA's proposal is an increase over PG&E's 2011 recorded expenses for gas distribution O&M. In 2011, PG&E spent $232.5 million on gas distribution O&M. DRA's 2014 proposal would provide an increase of $42.2 million, or 18 percent, above the base year level for the test year. DRA's recommendation is reasonable and should be adopted.

A. PG&E's Request

According to PG&E, the primary drivers for the increase from 2011 to 2014 are:

1. Corrective maintenance, principally leak repair costs ($65 million increase);
2. Field services and dispatch increases due to increased emergency response goals ($37 million increase);
3. Distribution integrity management ($23 million increase);
4. Technology expenses ($19 million increase).[2]

B. Authorized vs. Recorded Expenses

In PG&E's 2011 GRC, the Commission ordered the utility to provide periodic compliance filings showing authorized and recorded expenses and capital expenditures, by Major Work Category (MWC), for electric distribution, electric generation, and gas distribution.[3] In Table 9-2, DRA provides the historical comparison of authorized versus recorded expenses for the MWCs addressed in this exhibit for the years 2007-2011.

[2] Ex. PG&E-3, p. 1-39.

[3] Decision (D.) 11-05-018, *mimeo*., Ordering Paragraph 42, at pp. 98-99.

Table 9-2
2007-2011 Authorized vs. Recorded Gas Distribution Expenses
for Major Work Categories DD, DE, DF, DG, EX, FG, FH, FI, GF, GG, GM, GZ, HY, JS, LK, AB
(In Thousands of Nominal Dollars)

MWC	Year					
		2007	2008	2009	2010	2011*
DD	Authorized	$50,524	$52,043	$53,562	$55,082	$92,792
	Recorded	$51,400	$52,888	$58,893	$62,493	$76,875
DE	Authorized	$6,114	$6,298	$6,482	$6,666	$15,482
	Recorded	$8,417	$20,259	$49,988	$29,163	$19,756
DF	Authorized	$30,423	$31,338	$32,252	$33,167	$29,902
	Recorded	$30,309	$31,836	$28,616	$27,309	$26,708
DG	Authorized	$7,604	$7,833	$8,061	$8,290	$10,757
	Recorded	$9,631	$9,866	$10,798	$9,790	$13,775
EX	Authorized	$3,440	$3,543	$3,647	$3,750	$1,200
	Recorded	$607	$967	$336	$97	$486
FG	Authorized	$3,176	$3,271	$3,367	$3,462	$3,945
	Recorded	$3,620	$3,622	$3,760	$4,050	$4,057
FH	Authorized	$9,145	$9,419	$9,694	$9,969	$16,924
	Recorded	$9,708	$15,343	$41,334	$18,881	$16,539
FI	Authorized	$14,990	$15,441	$15,892	$16,342	$35,656
	Recorded	$16,073	$35,134	$81,579	$45,942	$37,292
GF	Authorized	$2,522	$2,598	$2,674	$2,750	$1,600
	Recorded	$1,174	$1,445	$1,058	$770	$970
GG	Authorized	$2,712	$2,794	$2,876	$2,957	$3,060
	Recorded	$2,239	$3,126	$2,461	$2,938	$3,005
GM	Authorized	$2,901	$2,988	$3,075	$3,162	$11,468
	Recorded	$2,573	$2,870	$2,453	$2,968	$2,375
GZ	Authorized	$1,365	$1,406	$1,447	$1,488	$1,500
	Recorded	$1,024	$456	$304	$101	$6
HY**	Authorized	$0	$0	$0	$0	$11,099
	Recorded	$0	$0	$0	$0	$127
JS**	Authorized	$0	$0	$0	$0	$19,500
	Recorded	$0	$0	$0	$0	$24,600
LK	Authorized	$4,810	$4,955	$5,099	$5,244	$9,795
	Recorded	$7,291	$5,770	$8,249	$6,159	$6,149
AB	Authorized	$1,869	$1,925	$1,981	$2,038	$17,530
	Recorded	$1,018	$359	($269)	$378	($254)
TOTAL	Authorized	$141,595	$145,852	$150,109	$154,367	$282,210
	Recorded	$145,084	$183,941	$289,560	$211,039	$232,466

Source: The Authorized data for 2007-2010 is from PG&E's response to DRA's MDR, Ch. 24, Gas Distribution Expense, the 2011 Authorized data is from PG&E's August 3, 2011 Budget Report in Compliance with California Public Utilities Commission Decision 11-05-018. The 2007-2011 Recorded data is from PG&E's response to DRA-Def010A-Q01, Attachment 1.

Notes: * The Authorized values for 2011 were derived by PG&E and were based on the amounts assumed in the Settlement Agreement for PG&E's 2011 GRC, A.09-12-020. ** Newly created MWCs for Gas Distribution Operations. MWK HY tracks separately the costs associated with atmospheric corrosion remediation at meters that used to be tracked under MWC DD. MWC JS is based on DIMP costs from MWCs DE and FH from the 2011 GRC.

The authorized and recorded expenses for gas distribution shown above indicate that, in general, PG&E spent more than the amount authorized each year from 2007-2010. For 2007, PG&E spent approximately 2% higher than the authorized amount. The main reason for the significant differences between authorized and recorded expenses between 2008 and 2010 was due to PG&E's effort to improve the effectiveness of its leak survey program. During this timeframe, PG&E corrected deficiencies identified in the leak survey process and in the regulation and valve maintenance programs. PG&E's mitigation effort was called Gas Effectiveness Evaluation and Mitigation (GEEM). The company spent $15.6 million in 2008, $97.2 million in 2009, and $13.2 million in 2010 on corrective actions as part of GEEM. If GEEM expenses were removed from the 2008, 2009, and 2010 recorded expenses, the difference between authorized and recorded expenses for each of those years would be much less. For 2011, PG&E spent significantly less than the level of funding authorized.

IV. DISCUSSION / ANALYSIS OF SYSTEM OPERATIONS GAS CONTROL

PG&E requests $20 million in expenses associated with a new gas control facility, the Gas Distribution Control Center, and for Other Gas Operations and Planning. The proposed 2014 expenses are tracked by two major work categories (MWC) FG—Operate Gas Distribution System, and GG—Gas Distribution Planning and Operations Engineering.

The following table summarizes PG&E's request and DRA's recommendation for the MWCs within System Operations Gas Control for 2014.

Table 9-3
Gas Distribution Expenses for TY2014
System Operations Gas Control
(In Thousands of Dollars)

Description (a)	DRA Recommended (b)	PG&E Proposed[4] (c)
MWC FG	$6,528	$13,884
MWC GG	$6,133	$6,133
Total	$12,896	$20,017

A. MWC FG

PG&E requests $13.9 million for 2014 for MWC FG, which is identified by PG&E as Operate Gas Distribution System.[5] In the 2014 GRC testimony, PG&E uses MWC FG to forecast 2014 expenses associated with the proposed Gas Distribution Control Center, as well as for day to day activities associated with operating the gas distribution system, also called "non-Gas Distribution control center" expenses. The Gas Distribution Control Center expense PG&E forecasts for 2014 is $10.6 million and the non-Distribution Control Center expense is $3.3 million.

DRA recommends $6.5 million for MWC FG. This is $7.4 million less than PG&E's request mainly resulting from a lower increase of FTEs for 2014 compared to PG&E's request. DRA's forecast is $1.5 million above the 2012 recorded expenses.

Table 9-4
2007-2012 Recorded Data for MWC FG
System Operations Gas Control
(In Thousands of Dollars)

Description	2007	2008	2009	2010	2011	2012
MWC FG	$3,620	$3,622	$3,760	$4,050	$4,057	$4,950

Source: 2007-2011 data from PG&E's response to DRA's data request DEF10A, Q. 1, Attachment 1. 2012 data from PG&E's response to DRA's data request 108, Q. 4, Attachment 1.

[4] Ex. PG&E-3, p. 2-47.

[5] Ex. PG&E-3, Workpapers, pp. WP 2-17 through 2-19.

A breakdown of PG&E's requested expenses for Gas Distribution Control Center and Non-gas distribution control center for 2014 is presented in the table below.

Table 9-5
PG&E's and DRA's 2014 Forecast for MWC FG
(In Thousands of Dollars)

		DRA's	PG&E's
	Gas Distribution Control Center Expenses		
1.	Gas Control Personnel	$1,491	$6,739
2.	Gas Control Technology Support Personnel	$543	$1,629
3.	Contractor Support	$341	$467
4.	Gas Control-Increased Maint. Due to RTU	-	$312
5.	Gas Control-Increased Maint. Due to Flow Meters	-	$312
6.	Gas Control-Increased Maint. Due to Pressure Recorders	$825	$1,097
	Non-Gas Distribution Control Center Expenses		
	Day-to-Day Operations	$3,328	$3, 328
	TOTAL MWC FG	**$6,528**	**$13, 884**

Source: PG&E-3, p. 2-30 and p. 2-32.

1. PG&E's Proposed Gas Distribution Control Center Expenses

PG&E requests $10.6 million in expenses for gas personnel to operate and provide support for the Gas Distribution Control Center, and for increased maintenance to support an increase in the number of gas control devices requested for 2014.[6] As can be seen in the table above, PG&E requests $6.7 million for Gas

[6] Ex. PG&E-3, p. 2-30, Table 2-7.

Control Personnel in 2014. The estimate is based on hiring 37 Full Time Equivalent employees (FTEs) at an average annual salary of $181,000 per employee.[7]

The Gas Control Center is scheduled to be fully operational in 2014, but PG&E began to accrue expenses in 2012. As of October of 2012, PG&E hired 4.4 FTEs for Gas Control Personnel. In PG&E's testimony and workpapers, the company budgeted for 9 FTEs.[8]

For 2014, PG&E proposes to hire 37 FTEs for four groups of work activities:

1. Control Room Personnel: 25 FTEs
    a. 1 Control Room Supervisor
    b. 16 Distribution System Operators, and
    c. 8 Distribution Coordinators
2. Clearance Personnel: 5 FTEs
    a. 1 Distribution Clearance Supervisor, and
    b. 4 Distribution Clearance Coordinators
3. Gas Control and System Operations Support: 4 FTEs
    a. 1 Engineering Principal Engineer/Supervisor,
    b. 1 Senior Engineer for control room compliance and quality control,
    c. 1 Gas Operations Engineer for system operations and damage prevention activities,
    d. 1 Senior Distribution Specialist for training development/delivery and emergency response activities.
4. Department and Project Management: 3 FTEs
    a. 1 Department Manager
    b. 1 Assistant to Department Manager
    c. 1 Principal Project Manager to establish the control room and updating deployment of field technology.

[7] Ex. PG&E-3, Workpapers, p. WP 2-27.

[8] Ex. PG&E-3, Workpapers, p. WP 2-27, line 18.

a. PG&E's Proposed Gas Control Personnel Expenses for 2014 ($6.7 million)

DRA recommends adjustments to the PG&E proposed 2014 estimates for MWC FG—Gas Control Center Expenses.

DRA reviewed PG&E's request and concludes that it is excessive and lacks adequate support. DRA asked PG&E to explain and provide support for the estimated 37 FTEs the company proposes for the test year. In its response, PG&E identified the number of FTEs and provided a description for the Gas Control Personnel.[9] However, PG&E did not show how the number of FTEs was derived. PG&E did not explain how PG&E determined the specific number of FTEs for Control room Personnel, Clearance Personnel, Gas Control and System Operations Support, or Department and Project Management. PG&E's forecast for 2014 does not add up as can be seen with PG&E's proposal for Control Room Personnel, which is discussed in detail below.

Besides the inadequate support and errors in PG&E's calculations, PG&E's 2014 forecast is excessive. PG&E states that it expects to hire all 37 FTEs beginning in 2013.[10] In 2012, PG&E proposes to hire 24 employees, but states that only 9.03 FTEs are expected to be employed based on its experience on the Gas Transmission Center.[11] PG&E only hired 4.4 FTEs in 2012.[12] The 2014 forecast is excessive because PG&E uses the same methodology in its proposal as it did for 2012. PG&E does not distinguish between how the company forecasts the 2012, 2013, or 2014 number of FTEs in its workpapers.[13] There is no reason provided that the 2014 experience will be different than 2012.

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[9] PG&E's response to DRA-22, Q.7.

[10] Ex. PG&E-3, Workpapers, p. WP 2-27.

[11] Ibid.

[12] PG&E's response to DRA's data request DRA-22, Q. 3, Supplemental 01.

[13] Ex. PG&E-3, Workpapers, p. WP 2-27.

DRA will discuss each of the four groups of personnel that make up the 37 FTEs and present its recommendations below:

i. Control Room Personnel (25 FTEs)

The 25 FTEs PG&E proposes for the Distribution Control Room personnel in 2014 are excessive when compared to the level of personnel on the Transmission side. PG&E states that it plans the Distribution Control Center is planned to function similarly to its existing transmission Gas Control Center.[14] According to PG&E, the Gas Transmission Center, which operates 24 hours, requires four to six people, depending on the workload.[15] PG&E states, "For the day shift in the Gas Transmission Center, there are two operators and one senior coordinator and for the night shift, there is one operator and one senior coordinator."[16] This means that PG&E needs 3 FTEs during the day and 2 FTEs at night, or 5 FTEs for each 24 hour shift (two 12-hour shifts), to operate the Gas Transmission Center.

The average 5 FTEs per 24 hour shift on the Transmission side operate three consoles which control the 6,750 miles of its transmission system.[17] On the Distribution side, there will be six consoles to operate 42,000 miles of the distribution system. Similar to the Transmission side, there will be one control room employee per console in two 12-hour shifts.[18] PG&E states, "For the day shift in the gas distribution center, there will be four operators and two coordinators…and for the night shift, there will be two operators and one senior coordinator."[19] This translates

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[14] Ex. PG&E-3, p. 2-7.

[15] PG&E's response to DRA-22, Q. 6.

[16] Ibid.

[17] Ibid.

[18] Ibid.

[19] Ibid.

to 6 FTEs during the day and 3 FTEs at night, for a total of 9 FTEs on average for each 24-hour shift.

For 2014, PG&E proposes to hire 25 FTEs to operate the Distribution Control Center. DRA requested a detailed explanation and support (analyses and/or calculations) for how the 25 FTEs were derived but PG&E simply stated the number of FTEs that it wanted for 2014 with a statement, "There will be three relief operators and two relief coordinators to allow for required training and ongoing coverage including daily breaks, special assignments, vacation, illness, and other related reasons."[20] PG&E did not explain the need for 25 FTEs when, according to the calculation PG&E provided (as described in the paragraph above), only 9 FTEs are needed on an average day for each 24-hour shift. Even if one were to add in the five relief operators and coordinators PG&E proposes, it would not add up to 25 FTEs.

PG&E's own explanation does not justify the 25 FTEs. PG&E's explanation is as follows:

> "Control Room Personnel: 25 employees—One control room supervisor, 16 distribution system operators, and eight distribution coordinators. There are four gas distribution Maintenance and Construction (M&C) regions within the PG&E service territory. To effectively run the required system operations 24 hours a day, seven days a week and provide the necessary ongoing training to control room personnel, a 12 hour shift rotation is required. During the day shift, there will be ***four*** distribution system operators, one operator at each of the four region consoles, and ***two*** distribution coordinators leading the operations of two region consoles each. During the night shift, there will be ***two*** distribution system operators, each operator overseeing two region consoles each, and ***one*** distribution coordinator. There will be ***three*** relief operators, and ***two*** relief coordinators to allow for required training and on-going coverage including daily breaks, special assignments, vacation, illness, and other related reasons."[21] [Emphasis added]

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[20] PG&E's response to DRA's data request DRA-22, Q. 7.

[21] Ibid.

PG&E's explanation above justifies a need for 14 FTEs and not the 25 FTEs that PG&E proposes. PG&E's proposed 25 FTEs for Control Room Personnel excessive and not adequately supported. DRA recommends 11 FTEs for 2014. This is based on 9 FTEs to operate the Distribution Control Center each 24-hour shift, 1 relief operator, and 1 relief coordinator to relieve the operators and coordinators as needed.

DRA also recommends a credit amount of $500,000 to be included in the 2014 forecast to reflect the savings created by the Distribution Control Center. According to PG&E, in the past the Transmission Gas Control personnel performed some work activities on behalf of the gas distribution system. With the creation of the Gas Distribution Control Center, distribution work by Transmission Gas Control will no longer be needed and PG&E calculates that a savings amount of $500,000 can be applied.[22]

DRA does not take issue with PG&E's estimate of $181,000 per FTE proposed for 2014.[23] Using this average annual salary and applying it to 11 FTEs and the $500,000 credit, DRA's 2014 proposed expense for Control Room personnel is $1.5 million.

ii. Clearance Personnel (5 FTEs)

PG&E requests 5 FTEs under the Clearance Personnel category. PG&E states that Clearance Operators review, approve, and coordinate all planned clearances prior to the clearance day, and coordinate notifications for other work affecting distribution facilities.[24] PG&E proposes one Clearance Supervisor and four Clearance Coordinators, one for each of its four regions.[25]

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[22] PG&E's response to DRA's data request DRA-22, Q. 4, and PG&E-3, p. WP-2-17, line 16.

[23] Ex. PG&E-3, Workpapers, p. WP 2-27, line 6.

[24] Ex. PG&E-3, page 2-15.

[25] PG&E's response to DRA-22, Q. 7.

PG&E's sole discussion of how the 5 FTEs were determined is the statement, "There will be one clearance coordinator for each gas distribution M&C region. This will provide the necessary coverage to manage the multiple gas distribution clearances related to planning, operation, and maintenance work."[26]

DRA requested a detailed explanation of the number of FTEs in PG&E's 2014 forecast and support for its proposal.[27] PG&E did not provide any supporting analysis or calculations to show how the staffing level was derived.[28]

PG&E has not adequately supported its proposal to add an additional 5 FTEs for clearance work. PG&E requests additional clearance staff in 2014 as if this will be a new work activity, but this is not the case. The work activities PG&E identified for its Clearance Operators—which is to review, approve, and coordinate all planned clearances and coordinate notifications for work affecting distribution facilities—are activities that PG&E should be doing with or without a Distribution Control Center.

PG&E has not provided any support or justification of its claim that one clearance coordinator is needed to cover each of its four M&C regions. There is no basis for this.

Based on a lack of adequate support for the increase in 5 additional FTEs, DRA recommends that PG&E receive no increase above and beyond the 2011 recorded level. PG&E's request of $905,000 for the additional 5 FTES should be denied.

iii. Gas Control and System Operations Support (4 FTEs)

PG&E requests 4 FTEs for Gas Control and System Operations Support. PG&E proposes 1 engineer/supervisor, 1 senior quality engineer for control room compliance and quality control, 1 gas operations engineer for system operations and

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[26] PG&E's response to DRA's data request DRA-22, Q. 7.

[27] Ibid.

[28] Ibid.

damage prevention activities, and 1 senior distribution specialist for training development and emergency response.[29] PG&E states, "The engineering supervisor and support staff provide quality engineering and compliance including data quality control, process improvement, root cause analysis, benchmark, metrics, control room management requirements, compliance assurance, and training."[30]

DRA requested that PG&E provide support for the proposed 4 FTEs and PG&E has not done so. PG&E's response is as follows:

> "Gas Control and System Operations Support: Four employees—one engineering principal engineer/supervisor, one senior quality engineer for control room compliance and quality control, one gas operations engineer for system operations and damage prevention activities, and one senior distribution specialist for training development/delivery and emergency response activities."[31]

PG&E's statement is merely a listing of employees that the company wants for 2014. There is no explanation of how the number of employees was developed or on what basis the forecast relies on. PG&E's one-sentence response does not adequately justify an increase of $724,000 in expenses. PG&E's request for 4 additional FTEs should be denied.

iv. Department and Project Management (3 FTEs)

PG&E requests 3 FTEs for Department and Project Management: 1 department manager, 1 assistant to the department manager, and 1 principal project manager to establish the control room and updating and deployment of field technology.

Although DRA requested support for PG&E's proposed staffing, PG&E did not provide adequate support for the additional 3 FTEs.[32] PG&E's response is as follows:

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[29] Ex. PG&E-3, Workpapers, p. WP 2-27, and PG&E's response to DRA-22, Q. 7.

[30] Ex. PG&E-3, p. 2-15.

[31] PG&E's response to DRA-22, Q. 7.

[32] PG&E's response to DRA-22, Q. 7.

"Department and Project Management—three employees—one department manager, one assistant to the department manager, and one principal project manager to establish the control room and the updating and deployment of field technology."

PG&E's statement is merely a listing of employees that the company wants for 2014. There is no explanation of how the number of employees was developed or on what basis the forecast relies on. PG&E's one-sentence response does not adequately justify an increase of $543,000 in expenses. PG&E's request for 3 additional FTEs should be denied.

b. Gas Control Technology Support Personnel ($1.6 million)

PG&E requests 9 FTEs for Gas Control Technology Support Personnel. This is a new expense for the test year and represents an increase of $1.6 million. PG&E states in its workpapers, the "work is required to build and maintain the control center infrastructure, including SCADA and applications, with redundancy and public safety capabilities while controlling the gas delivery to customers."[33]

Although PG&E is specific in its forecast of 9 FTEs for 2014, no workpapers were included to show how the number of FTEs was determined. PG&E's sole support is the statement, "the expectation of 6 is based on the Gas Transmission Center experience and the rate at which employees were onboarded."[34] PG&E's forecast simply identifies the number of FTEs for 2012-2014, the average salary per employee, and the total cost per year.[35]

DRA requested that PG&E discuss its Gas Transmission Center experience and explain how and why this specific experience was used in the forecast for Gas Distribution Control personnel.[36] PG&E repeated its explanation of the need to have

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[33] Ex. PG&E-3, Workpapers, p. WP 2-17, line 18.

[34] Ex. PG&E-3, Workpapers, p. WP 2-28.

[35] Ibid.

[36] DRA data request, DRA-22, Q. 6.

control room employees for the two 12-hour shifts similar to transmission.[37] However the justification for the 9 support FTEs is a one sentence statement, "A control center also requires support services and supervision."[38]

A one-sentence statement is not adequate to justify an increase of $1.6 million in expenses. DRA recommends an adjustment to the PG&E forecast in order to provide support for the new Gas Control Center. DRA's adjustment is based on PG&E's 2012 hiring experience.

For 2012, the company proposed in testimony and workpapers 6 FTEs and then adjusted it to 4 FTEs.[39] At the end of 2012, only 1.3 FTEs were hired for Gas Control Technology Support.[40] Using the recorded number of FTEs hired for 2012, which is 33% of the PG&E forecast, DRA recommends an adjustment of 66% to PG&E's 2014 proposal. This adjustment results in a total of 3 FTEs for 2014.

DRA does not take issue with PG&E's average annual salary proposed for these FTEs at $181,000 per FTE. DRA's recommendation is an increase of $543,000 for 3 FTEs. This is an adjustment of $1.1 million to PG&E's proposed $1.6 million.

c. Contractor Support (Training and Other) ($0.5 million)

PG&E requests $467,000 for employee training to be provided by contractors. PG&E states, "The contractor cost estimate is based on the start-up and implementation of the Distribution Control Center... Based on engineering judgment."[41]

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[37] PG&E's response to DRA-22, Q. 6.

[38] Ibid.

[39] Ex. PG&E-3, Workpapers, p. WP 2-28.

[40] PG&E's response to DRA-22, Q. 3, Supp01Rev01.

[41] Ex. PG&E-3, Workpapers, p. WP 2-29.

The $467,000 is an annual expense amount, PG&E estimates beginning in 2012 for contractor support training. DRA does not take an issue with contractor support, but recommend an adjustment to the forecast to reflect the actual expenses incurred in 2012 for MWC FG. The 2012 recorded expense amount is $5 million, which is 73% of the forecast amount.

For 2014 DRA recommends $341,000, which is 73% of the forecast amount. DRA's adjustment is $126,000 lower than PG&E's forecast.

d. Gas Control—Increased Maintenance Due to RTU, Flow Meters, and Pressure Recorders ($1.7 million)

PG&E requests $1.7 million in expenses to maintain the following devices: (1) $312,000 for increased maintenance due to the installation of Remote Terminal Unit (RTUs), (2) $312,000 for increased maintenance for flow meters, and (3) $1.1 million for increased maintenance of pressure recorders.[42]

The maintenance expenses being requested in this MWC is to maintain the RTUs and electronic pressure recorders (ERs) as part of PG&E's effort to institute a centralized, real-time distribution monitoring and control system that is closely aligned with transmission system monitoring and control. RTUs will be used to monitor pressure and flow at regulator stations, control regulator set points, and control fire valves and regulator stations. ERs will be used to monitor pressure at regulator stations, Maximum Allowable Operating Pressure (MAOP) valves, and critical facilities. Portable ERs will be used to monitor pressure of the hydraulic independent systems, or HIS, low points and critical non-core customers, and some non-HIS systems.[43]

The $1.7 million is based on PG&E's request to maintain 327 RTUs, 327 flow meters, and 1,723 pressure recorders, for a total of 2,050 units in 2014. The total

[42] Ex. PG&E-3, p. 2-30.

[43] Ex. PG&E-3, Workpapers, pp. WP 2-40 to 2-41.

units include some from 2012 and some from 2013, as well as an increase in 2014.[44]

PG&E's request should be adjusted for two reasons. The first is based on PG&E's statement in the workpapers supporting the 2014 estimate. In the workpapers, PG&E states, "Maintenance on devices will start the year after implementation."[45] It follows then, that PG&E's 2014 forecast should only include expenses for the devices that were scheduled for installation in 2012 and 2013 only, and not in 2014 since maintenance costs for 2014 will not start until 2015. PG&E's estimate of the number of units for 2012 and 2013 is significantly less than the estimate for 2014. The combined 2012 and 2013 estimate is approximately half of the estimated 2014 units.

Second, based on DRA's recommendation in Exhibit DRA-10 (Gas Distribution Capital Expenditures), to delay the purchase and installment of these devices for 1 year,
PG&E's maintenance cost should not begin until 2014. DRA's recommendation is for PG&E to only begin the purchase and installation of these units starting in 2013 and not in 2012 as PG&E proposed.

DRA's recommendation is $825,000 in expenses instead of the PG&E proposed amount of $1.7 million. This recommendation is based on the delay in the installation of these units, PG&E's statement that maintenance costs begin a year after installation and expense normalization over the test year cycle. DRA used PG&E's unit cost and units for years 2012, 2013, and 2014 and normalized them over the 3-year rate case cycle. This reflects the delay for units proposed for 2012, to be moved to 2013 and maintained in 2014. The PG&E proposed 2013 units will be installed in 2014 and maintained in 2015 and the 2014 proposed units to be installed in 2015 and maintained in 2016.

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[44] Ibid.

[45] Ex. PG&E-3, Workpapers, p. WP-2-42.

2. Non-Gas Distribution Control Center Expenses

PG&E requests $3.3 million in expenses for work activities tracked under MWC FG and not associated with the Distribution Control Center.[46] These expenses are for operating mains and services and regulator stations, and energy cost to operate gas distribution equipment.

For 2014, PG&E states that it plans to operate and maintain fewer units of work such as placing and collecting data from portable pressure charts, taking odorant readings, opening and closing valves, responding to overpressure events, and maintaining existing distribution SCADA sites. For 2014 PG&E forecasts 25,925 units compared to the 2011 recorded number of 26,662. PG&E also forecasts operating fewer regulator stations in 2014 compared to 2011, with a decrease from 1,949 regulator stations to 1,880 regulator stations.[47]

DRA does not take issue with PG&E's request as it seems in line with the 5-year average annual expenses incurred for work activities tracked under MWC FG. The 2007-2011 5-year average annual expense is $3.8 million.[48]

B. MWC GG

MWC GG tracks expenses for activities that relate to Gas Planning and Operations Engineering work. For 2014, PG&E requests a total of $6.1 million for MWC GG. Of this total, $5.5 million is being requested for expenses not related to the Gas Distribution Control Center and $601,000 for expenses related to the Gas Distribution Control Center.

Table 9-6 below provides a summary of the recorded expenses for MWC GG from 2007-2012.

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[46] Ex. PG&E-3, p. 2-32.

[47] Ex. PG&E-3, pp. 2-33 to 2-34.

[48] PG&E's response to DRA_DEF10A, Q. 1, Attachment 1.

Table 9-6
2007-2012 Recorded Data for MWC GG
Gas Distribution Planning and Operations Engineering
(In Thousands of Nominal Dollars)

Description	2007	2008	2009	2010	2011	2012
MWC GG	$2,239	$3,126	$2,461	$2,938	$3,005	$6,822

Source: 2007-2011 data from PG&E's response to DRA's data request DEF10A, Q. 1, Attachment 1. 2012 data from PG&E's response to DRA's data request 108, Q. 4, Attachment 1.

DRA recommends $5.7 million in expenses for MWC GG. DRA does not take issue with PG&E's request of $5.5 million for non-Gas Distribution Control Center expenses. However, DRA proposes an increase of $200,000 in expense for 1 dedicated planning engineer instead of 3 dedicated planning engineers as PG&E requests.

1. Gas Distribution Control Center Expenses

PG&E requests $601,000 for three new dedicated planning engineers to assist in the operation of the new Control Center and to be integrated into its daily, round the clock operation.[49]

According to PG&E, the 2014 request is based on new distribution gas planning workload resulting from increased activity in the areas of hydro-testing, in-line inspections, pipeline replacements, and clearance-related work. PG&E states, "Much of this distribution work will be performed in reaction to and coordination with work performed on PG&E's gas transmission system."[50]

PG&E identified the number of clearance related work from 2007-2012 to show that more work is expected for planning engineers. PG&E's response shows a significant increase in the number of clearances between 2010 and 2011 from 488

[49] Ex. PG&E-3, p. 2-38, and Workpapers, p. WP 2-56, line 12.

[50] PG&E's response to DRA-161, Q. 1(h).

to 2,486 clearances.[51] However, the level of increase between 2012 and 2011 is not as significant, going from 2486 to 2,859 clearances.[52]

Although it appears that there is a general increase in distribution system modeling as it relates to transmission work activities such as hydrotesting, PG&E has not adequately supported the request for 3 new dedicated planning engineers. PG&E explains that, "During transmission clearances or outages, distribution planning engineers must analyze the impacts to the downstream distribution systems that are fed from the affected transmission system. Typically, this analysis includes modeling to determine whether or not individual district regulator stations can be taken out of service and remain out of service for the duration of the clearance under the particular usage conditions, or to determine what operations are necessary to maintain service to the distribution customers…"[53]

There is embedded funding in rates for distribution planning engineers as the work activities performed by these employees are not new. PG&E is requesting an increase of 21% in the level of staffing for gas planning without adequate support.[54] PG&E has not shown how it determined the level of increased proposed for 2014.

Based on a lack of adequate support, DRA recommends 1 planning engineer for 2014 in recognition that there is an increase in the number of clearance related work. DRA's proposal is $200,000, which is $401,000 less than PG&E's request of $601,000.

2. Non-Gas Distribution Control Center Expenses

PG&E requests $5.5 million in expenses not related to the gas distribution control center for MWC GG. PG&E requests 8 new FTEs (engineers), three new

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[51] PG&E's response to DRA-168, Q. 6.

[52] PG&E's response to DRA-168, Q. 6.

[53] PG&E's response to DRA-168, Q. 6.

[54] Ex. PG&E-3, p. 2-37. PG&E assigns 14 FTEs to gas planning as a result of the reorganization in 2012, and requests an additional 3 FTEs, or 21% increase.

gas planning supervisors, one and one-half manager, and an administrative specialist to support a forecasted increase in workload and reorganization.[55]

According to PG&E, on June 1, 2012, the company instituted an organizational change to segregate the gas distribution system group.[56] Prior to the reorganization, PG&E had 27 engineers at local offices that performed both planning (referred to as "hydraulic modeling") and distribution (referred to as "non-hydraulic") engineering work activities. With the reorganization, PG&E split the original group into two with 14 engineers allocated to planning and 13 to distribution. PG&E requests 8 additional engineers and plans to allocate 4 each to planning and to distribution along with the additional supervisors and managers.

In June of 2012, PG&E implemented the reorganization of the two groups. DRA does not take issue with PG&E's request for $5.5 million for 2014.

V. DISCUSSION / ANALYSIS OF GAS DISTRIBUTION MAPPING AND RECORDS

This section discusses PG&E's request for Gas Distribution Mapping and Records. PG&E requests $16.2 million in expenses for work activities associated with the company's initiative to collect, transport, scan and archive over 15,000 linear feet of company-wide Gas Distribution as-builts into an enterprise records management system and for an increase in the number of mappers needed to maintain maps and records in 2014.[57] PG&E's request for 2014 is $15.2 million higher than the 2011 recorded expense amount of $970,000.[58]

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[55] Ex. PG&E-3, pp. 2-37 to 2-38 and PG&E's response to DRA data request DRA-161, Q. 2 in which PG&E stated that the plan called for 4 more gas distribution engineer positions to perform gas distribution functions other than hydraulic modeling.

[56] PG&E's response to DRA-160, Q. 1(d).

[57] Ex. PG&E-3, Workpapers, p. WP 3-5.

[58] Ex. PG&E-3, p. 3-1.

DRA recommends a total of $3.6 million for MWC GF. This recommendation consists of $3.2 million to collect and scan 10,000 as-built records for the Pathfinder project and $424,000 for additional mappers. This amount is higher than the 2012 recorded amount of $2.1 million.[59]

The following table summarizes PG&E's request and DRA's recommendation for the MWCs within Gas Distribution Mapping and Records.

Table 9-7
Gas Distribution Expenses for TY2014
Gas Distribution Mapping and Records
(In Thousands of Nominal Dollars)

Description (a)	DRA Recommended (b)	PG&E Proposed[60] (c)
MWC GF	$3,649	$16,199
Total	$3,649	$16,199

A. MWC GF

PG&E requests $16.2 million for mapping and records expenses tracked by MWC GF. PG&E's 2014 expense request is driven by its initiative to collect, transport, standardize and archive over 15,000 linear feet of Company-wide gas distribution paper as-built and gas service records into the enterprise-wide gas records center, and an increase of the headcount and associated expenses required to perform base work.[61]

Table 9-8 below shows a summary of the recorded expenses for MWC GF from 2007-2012.

[59] PG&E's response to DRA-108, Q. 4, Supp01Atch01.

[60] Ex. PG&E-3, p. 3-19.

[61] Ex. PG&E-3, pp. 3-5 and 3-6.

Table 9-8
2007-2012 Recorded Data for MWC GF
Gas Distribution Mapping and Records
(In Thousands of Dollars)

Description	2007	2008	2009	2010	2011	2012
MWC GF	$1,174	$1,445	$1,058	$770	$970	$2,138

Source: 2007-2011 data from PG&E's response to DRA's data request DEF10A, Q. 1, Attachment 1. 2012 data from PG&E's response to DRA's data request 108, Q. 4, Attachment 1.

DRA recommends $3.6 million for MWC GF, which is $12.5 million lower than PG&E's forecast of $16.2 million. DRA's recommendation of $3.2 million for mapping records collection and $423,606 for 26 additional mappers is based on a lower expense level for the records collections and scanning effort based on fewer records and existing embedded funding for mapping and records. The DRA forecast of $3.6 million is $1.5 million, or 70%, higher than the 2012 recorded amount.

1. Mapping Records Collection

PG&E requests $14.1 million in expenses to collect, standardize and index all gas distribution as-builts in 2014, as part of a 4-year initiative beginning in 2013 and ending in 2016 to centralize records.[62] As-builts are defined as "…a completed job folder which includes, but is not limited to, construction redline drawings, job estimate, material requisitions, and other related records associated with the as-installed information for the respective assets. Once construction and the associated documentation have been completed, the as-built job folder is used by mapping to update the asset management mapping systems."[63] PG&E does not consider electronic or manual maps as "as-builts".[64]

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[62] Ex. PG&E-3, p. 3-6.

[63] PG&E's response to a DRA data request, DRA-39, Q. 1 (a).

[64] PG&E's response to DRAOral24, Qs.2 and 3.

PG&E's 2014 forecast is based on scanning an estimate of 15,000 linear feet of company-wide as-built records currently stored throughout PG&E's 30+ division offices.[65] Of the total $14.1 million planned for 2014, $7.6 million is allocated for the scanning of documents, $260,000 for a full-time project manager, $4.9 million for daily operations, and $1.3 million for contingency.[66]

According to PG&E, the 15,000 linear feet of records used to estimate the mapping and records collection project is based on a survey conducted by a third party that spans electric and gas as-built records.[67] The PG&E workpapers show 15,000 feet as the gas portion, which is 50% of the 30,000 feet estimated by the survey.[68] The unit cost per foot amount of $204 is based on PG&E's Gas Transmission Records Collection effort.[69] Table 9-9 below provides a summary of the various cost elements that make up the $14.1 million for 2014.

Table 9-9
MWC GF-Gas Distribution Mapping
PG&E's Records Collection Project Cost Summary

	Total As-builts	Unit Cost	Total Cost for 2013-2016
Retrieval	15,000	$204/foot	$3,059,844
Scanning—to be completed on-site	55,650,000 images	$0.36/image (small) $2.50/image (large)	$25,988,550
Records Center Operations	1,277 days (3.5 years)	$13,500/day	$17,239,500
Project Management	1 FTE	$125/hour	$910,0000
Contingency			$4,719,789
TOTAL			**$51,917,684**

[65] Ex. PG&E-3, Workpapers, p. WP 3-7.

[66] Ibid.

[67] Ibid.

[68] Ibid.

[69] Ex. PG&E-3, Workpapers, pp. WP 3-7 and WP 3-8.

For its forecast, PG&E bases the cost for Records Center Operations and the cost elements that make up the unit cost from its experience with the Gas Transmission Records Collection effort. The schedule for the GTAM project was 3.5 years, which is the same time frame that PG&E proposes for the distribution records collection project in this rate case.

DRA does not take issue with PG&E's efforts to collect, scan, and centralize its maps and as-built records. However, DRA disputes the proposed time-frame to complete this project, the scope of work, and the project cost.

First, DRA recommends that this project be carried out over a period of 5 years, beginning in 2013, instead of 3.5 years as PG&E proposed. PG&E has not provided convincing evidence that the collection and scanning of distribution pipeline documents need to happen in the compressed timeframe similar to its experience on the transmission side. Due to the urgent need to validate the Maximum Allowable Operating Pressure (MAOP) of its transmission pipeline, the proposed timeframe to complete the GTAM project was necessary as an immediate remedy. However, there is no urgency presented on the distribution side. Therefore, DRA recommends that this project be spread out and extended through 2018.

DRA takes issue with PG&E's proposed scope of work and project cost. PG&E's project scope is estimated at 15,000 linear feet of documents that need to be retrieved, scanned, and stored. PG&E states in its workpapers that this number is 50 percent of the total 30,000 electric and gas as-built documents in existence. PG&E claims that the 30,000 documents came from a survey conducted by a third party that spans electric and gas as built records, and that the 50 percent is based on historical data.[70]

DRA requested that PG&E provide the survey conducted by the third party and to explain how electric and gas records were separately accounted. PG&E states in testimony that prior to 2011, the distribution mapping organization managed

[70] Ex. PG&E-3, Workpapers, pp. WP 3-7, lines 2, 3, and 4.

both electric and gas.[71] In late 2011, gas operations and electric operations were split. PG&E responded, "Although stated as being a third-party survey, this was an internal survey conducted by mapping in July 2010."[72] PG&E did not provide a copy of the survey. Instead, the company provided a one-page document that lists PG&E's offices with numbers next to each which PG&E identified as combined linear feet of files. The total number of files at the bottom of the document shows 24,344.

In this same response, PG&E explained that 3 offices were not accounted for and PG&E used engineering judgment to determine the total scope of records as 30,000 feet.[73]

PG&E did not explain how gas and electric records were separately accounted. PG&E simply stated, "At the time the survey was conducted, the Gas and Electric departments were combined; therefore, the linear footage count of documents was a combined number."[74] The 50 percent separation of the records and allocation to gas appears to be a guess, without any justification or support.

Based on a lack of information, the PG&E proposed scope of work cannot be verified. DRA questions the existence of the mapping survey on which PG&E developed the entire scope of work since none was provided.[75]

According to PG&E, the primary function of gas distribution mapping is to track the size, material type, location configuration, and other essential information needed to identify over 42,000 miles of underground gas main and nearly 3.3 million gas services…Recording updates, creating new maps, and maintaining the gas distribution system records is critical to the safe, reliable delivery of natural gas to

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[71] Ex. PG&E-3, p. 3-2.

[72] PG&E's response to DRA-39, Q.1.

[73] Ibid.

[74] PG&E's response to DRA-39, Q. 1(d).

[75] PG&E's response to DRA-39, Q. 1(c).

PG&E's customers, communities, and employees.[76] And yet, PG&E has no idea how many as-built records exists.[77] The company does not have a current count of distribution records that have been mapped electronically.[78] The premise of PG&E's testimony and workpapers is that no as-built records have been scanned and that all are in paper format and now need to be scanned as part of this project.

This assumption is flawed since PG&E currently uses several software programs to maintain system maps and records. PG&E lists the following programs: (1) Mapping and estimating tool formerly Gas and Electric Mapping System (GEMS), (2) integrated Gas Information System (IGIS), SAP, Customer Care and Billing (CC&B), and Tangible Property Listing (TPL).[79] Moreover, PG&E states that in 2003, PG&E initiated the Mapping Improvement Project Phase 2 to convert older electronic and manual maps to an electronic mapping platform called Gas and Electric Mapping System (GEMS). Conversion included scanning the hardcopy printout of the map and registering the electronic map image into GEMS. By 2005, scanning of all the maps in PG&E's system into GEMS was complete.

Since the completion of scanning and converting all of its maps into GEMS by 2005, there is funding that continues and is embedded in rates. It is unclear if PG&E has made any effort to convert as-built records into electronic versions, although there was funding available. PG&E has received in rates funding for many projects that were identified as mapping and records conversions. DRA notes, that PG&E requested funding for the AM/FM project in the 2011 GRC for the same activities PG&E now request for MWC GF. In the 2011 GRC, PG&E requested $22 million in the test year "…to gather and represent key data regarding PG&E gas and electric

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[76] Ex. PG&E-3, pp. 3-3 to 3-4.

[77] PG&E's response to DRA-39, Q. 6.

[78] PG&E's response to DRA-39, Q. 6 (a).

[79] PG&E's response to DRA-39, Q. 5.

facilities in a single, electronic format."[80] PG&E also stated in that case, "In 2006, MIP2became part of PG&E's Business Transformation (BT) GIS Project initiative….This electronic data source would have provided asset information (performance and maintenance history, location, requirements etc.) necessary to optimize investment decisions, facilitate system operations and optimize work grouping and crew scheduling."[81] According to PG&E in the 2011 GRC, the BT GIS Project was stopped in 2007 and the AM/FM project was stalled in 2010. However, PG&E has not removed the costs associated with abandoned projects in this GRC.

Based on the BT GIS project and the AM/FM project, DRA expects that PG&E should have some, if not all, of its as-builts records converted to an electronic format. However, PG&E does not identify any as-builts that have been converted into an electronic format in estimating the number of records (in linear feet) that need to be retrieved, scanned, and stored for the Pathfinder Project in 2014.

PG&E has not adequately supported the 15,000 linear feet used to base its project scope. DRA questions the validity of the estimated total of 30,000 records and the allocated 50 percent to gas distribution. However, DRA does not oppose this project entirely. Therefore, instead of this number DRA recommends 10,000 feet as the scope of work. This number takes into consideration PG&E's failure to provide the survey the company claimed was conducted and on which it based its project scope. There is no way to validate or verify this number. The 10,000 feet is 41 percent of the 24,344 records PG&E identified as the combined linear feet of files. The 10,000 feet takes into consideration that PG&E has proposed data conversion projects for gas distribution assets many times in previous cases. There should be some as-built records already converted, thus leading to fewer linear feet of records to be retrieved, scanned, and managed.

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[80] PG&E's 2011GRC, Application, Exhibit PG&E-3 (I need to track down actual Exhibit No. from hearings), p. 16-7.

[81] *Id.* p. 16-8.

PG&E also requests $1.3 million in contingency expense for 2014.[82] DRA recommends that the Commission reject this request because this is unnecessary and would only add to the ratepayers' cost burden. PG&E has tried to do this type of project many times in the past, as is evident in the abandoned efforts in 2007 and 2010. In the forecast, PG&E appears to be very conservative in estimating the number or records to be retrieved and scanned. PG&E's assumption is to include all as-builts in this project as though the company has never converted as-builts in the past.

PG&E has been converting paper records to electronic formats in the past with the BT GIS project and the AM/FM project, so there should be no surprises. PG&E has not identified any risks associated with this project requiring a contingency expense. Most importantly, there is embedded funding in rates that PG&E can use to supplement the expenses authorized in this GRC if necessary.

Based on DRA's analysis, DRA recommends $3.3 million in expense for MWC GF. This amount is $10.9 million lower than PG&E's request of $14.1 million. A summary of the cost elements that make up the DRA proposed $3.3 million is presented in the table below.

Table 9-10
DRA's Proposed Records Collection Project

	Total As-builts	Unit Cost	Total Cost for 2013-2018
Retrieval	10,000	$204/foot	$204,000
Scanning	20,000,000 images	$0.36/image (small) $2.50/image (large)	$9,340,000
Records Center Operations	5 years	$3,447,900 per year	$17,239,500
Project Management	1 FTE	$260,000/ year	$1,300,000
Contingency			$0
DRA TOTAL for 5 years			**$16,127,900**
DRA Forecast for 2014			**$3,225,580**

[82] Ex. PG&E-3, Workpapers, p. WP 3-7.

2. Headcount and Associated Expenses

PG&E requests $2.1 million in expenses for 2014 to perform base work for gas distribution mapping and to eliminate an existing backlog. PG&E currently has 59 mappers and proposes to add an additional 26 for the test year.[83] PG&E states that following the backlog, the company expects the headcount to remain the same due to the implementation of the Pathfinder Project.[84]

PG&E's 2014 forecast is based on a recorded base year amount of $970,000, an increase of $423,606 for the addition of 26 mappers, and a 14.81% increase to the base level or $621,377. DRA does not take issue with the addition of 26 mappers. However, DRA forecasts and recommends a lower expense level for 2014 based on a different base year amount and no increase to the base level.

First, the base year amount that PG&E uses to derive the 2014 forecast is incorrect. PG&E's base year amount should be zero and not $970,000. According to PG&E's testimony, in 2011 the company split up the distribution mapping organization and established two separate organizations: Gas Operations and Electric Operations.[85] Prior to 2011, gas and electric operations were managed jointly by the distribution mapping organization.[86] PG&E's workpapers show joint expenses for electric distribution and gas distribution for the years 2007-2011. For 2012-2014, MWC GF only shows gas distribution expenses.[87] Although the recorded amount for MWC GF in 2011 was indeed $970,000, the entire amount was allocated to electric distribution and zero was allocated to gas distribution. Because PG&E allocated zero to gas distribution for 2011, the company's 2014 forecast should begin with zero.

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[83] Ex. PG&E-3, Workpapers, p. WP 3-6.

[84] Ex. PG&E-3, p. 3-8.

[85] Ex. PG&E-3, p. 3-2.

[86] Ibid.

[87] Ex. PG&E-3, Workpapers, p. WP 3-4.

Starting the forecast with zero does not mean that PG&E had no funding for gas distribution in 2011. PG&E's mapping expenses are embedded in other accounts. PG&E's workpapers explain that, "In certain cases, mappers may charge to a different MWC associated with a specific project. For example, a mapper may be the final step in a capital project that is funded through MWC 50 thus all of the work done to complete the job will be charged to MWC 50 and not MWC GF."[88]

PG&E's forecast for incremental increase in base work is unsupported. The additional 26 mappers, which is an increase of 44% above existing staff level, should be sufficient for activities associated with the Pathfinder Project and any increase in base work. Once the backlog is completed, PG&E will have an additional 26 mappers, bringing the total number of mapper to 85 FTEs.

DRA's recommendation for 2014 is $423,606 for 26 additional mappers, which is $1.7 million lower than PG&E's estimate of $2.1 million.

VI. DISCUSSION / ANALYSIS OF GAS DISTRIBUTION INTEGRITY MANAGEMENT PROGRAM

This section discusses PG&E's request and DRA's analysis of the Gas Distribution Integrity Management Program (DIMP). PG&E estimates $47.3 million in expenses for 2014 to comply with federal pipeline safety requirements, enhance public safety, and improve system reliability. PG&E's 2014 forecast is $22.6 million higher than the 2011 recorded amount of $24.7 million.[89] The activities associated with this program are tracked in MWC JS. DRA does not take issue with several of PG&E's DIMP requests, such as the Aldyl-A and Plastic Program, QA/AC Program, and Damage Prevention Team. DRA's 2014 forecast is lower than PG&E's proposal for several reasons. Mainly, PG&E has not offered adequate support for several programs proposed for 2014, especially the Cross-Bored Sewer Project, the Tee

[88] Ex. PG&E-3, Workpapers, p. WP 3-6.

[89] Ex. PG&E-3, page 4-1.

Cap Replacement Program, and Emergent Work. PG&E has not met its burden of proof and has not provided reasonable estimates of the costs to meet the requirements of DIMP. Therefore, DRA recommends a lower forecast.

Although DRA recommends a lower forecast compared to PG&E, DRA recognizes that DIMP is an important part of PG&E's effort to ensure system safety and reliability. DRA proposes that the Commission adopt a two-way balancing account for DIMP as tracked by MWC JS, capped at the 2011-2012 average expenditure of $25.6 million, in the event that it is necessary for PG&E to perform more DIMP work activities than anticipated and incurs a higher expense level than the DRA forecast.

The following table summarizes PG&E's request and DRA's recommendation for the MWC JS for 2014.

Table 9-11
Gas Distribution Expenses for TY2014
Gas Distribution Integrity Management Program
(In Thousands of Dollars)

Description (a)	DRA Recommended (b)	PG&E Proposed[90] (c)
MWC JS	$11,564	$47,305
Total	$11,564	$47,305

A. MWC JS

PG&E uses MWC JS to capture expenses associated with its Distribution Integrity Management Program (DIMP). The table below provides a summary of the various cost components that make up PG&E's DIMP proposal for 2014. DRA's 2014 estimates of each cost component are also provided in this table for comparison purposes.

[90] Ex. PG&E-3, p. 4-37.

Table 9-12
PG&E's vs. DRA's 2014 Forecast for MWC JS
Distribution Integrity Management Program

	PG&E	DRA
Leak Survey Enhancements	$2,023,000	$ -
Damage Prevention Team	$1,418,000	$1,418,000
QA/QC Program	$4,267,000	$4,267,000
Aldyl-A and Plastic Program	$1,220,000	$1,220,000
Cross bored Sewer Project	$14,458,000	$1,980,000
Program Management	$13,560,000	$2,818,000
SAP WM Enhancement	$359,000	$359,000
Emergent Work	$10,000,000	$ -
TOTAL	**$47,305,000**	**$12,062,000**

Other projects that relate to the Distribution Integrity Management Program include: (1) the Pathfinder Project, (2) the Gas Distribution Control Center, and (3) Mobile Platform.[91]

There are also other activities driven by DIMP, such as Service Valve Repairs/Replacements (MWC FH), the transition from a five-year to a three-year leak survey cycle (MWC DE/FI), Grade 3 leak re-checks (MWC DE), Copper Service Survey and Replacement (MWC DE/14), Underground Service Alert Training and Technology Enhancements (MWC DF), Main and Service Leak Repairs (MWC FI), Pipeline Replacement Program (MWC 14), and Develop and Implement Human Performance Program.

In PG&E's testimony, the company proposed $30.3 million for 2012, but it only spent $26.6 million.[92]

[91] Ex. PG&E-3, pp. 4-34 to 4-36.

[92] Ex. PG&E-3, p. 4-14 and PG&E's response to DRA-108, Q. 4, Attachment 1.

Table 9-13
2007-2012 Recorded Data for MWC JS
(In Thousands of Nominal Dollars)

Description	2007	2008	2009	2010	2011	2012
MWC JS	$0	$0	$0	$0	$24,670	$26,599

Source: No costs were incurred from 2007-2010. DIMP was implemented in 2011 and 2011 data is from PG&E's response to DRA-DEF-10A-Q.1, Attachment 1. 2012 data from PG&E's response to DRA-108, Q. 4, Attachment 1.

1. Leak Survey Enhancements

PG&E requests $2 million in expenses for leak survey enhancements as part of the company's DIMP. PG&E states, "Over the last several years, PG&E has employed leak survey above and beyond code requirements as a form of risk mitigation."[93] For 2014, PG&E has identified 1,000 clusters[94] of seven leaks or greater to be surveyed above and beyond the traditional leak survey schedule.[95] PG&E states that the cluster data was created from 20 years of leak history in the Company's leak management program, the IGIS, and specific criteria were applied to the geospatial data to establish the leak clusters.[96] PG&E plans to survey these clusters more frequently until a mitigation plan is created to reduce the risk on the pipe segment, a replacement plan in in place, or it is determine that the issue causing the leak has been resolved.[97]

PG&E's 2014 forecast of $2 million is based on surveying 57,142 services at a unit cost of $16.12 per service, performing 100 leak repairs at a unit cost of $6,016, and $500,000 for leak management based on previous contracts with

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[93] Ex. PG&E-3, p. 4-22.

[94] PG&E's response to DRA-49, Q. 13, attachment 1PG&E defines leak clusters as "Spatial representation of repaired and open leaks that form a cluster. Each leak has a 100' radius buffer and where the buffers touch a cluster is formed."

[95] Ex. PG&E-3, p. 4-23.

[96] Ex. PG&E-3, p. 4-22.

[97] Ex. PG&E-3, p. 4-22

vendor for similar work.[98] XX XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX XXXXXX.[99] PG&E proposes 3 different unit costs for leak repairs.[100] For above ground leak repairs of services, the unit cost PG&E proposes for 2014 is $587 per repair. For below ground leak repairs of services, the unit cost PG&E proposes for 2014 is $3,015 per repair. For repairs of leaks on mains, PG&E proposes a unit cost of $6,016 per repair. PG&E's proposal for leak enhancement expense in this subaccount uses higher survey and repair costs that are not supported by PG&E's own testimony on leak surveys as presented in MWC DE or leak repairs as part of MWC FI. There is no indication that the Picarro Surveyor will only find leaks on mains as suggested by the proposed repair cost for this subaccount.

PG&E proposes to use the Picarro Surveyor to perform leak surveys on 57,142 services as part of the 1,000 leak clusters the company is proposing for 2014. This effort is being requested here as part of PG&E's DIMP management.[101] XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX XXXXXXXXXXX.[102] XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX XXXXXXXXXXXXXXXX.[103]

DRA recommends no ratepayer funding for this subaccount because it is being requested as part of MWCs DE and FI. DRA addresses PG&E's proposal to

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[98] Ex. PG&E-3, Workpapers, p. WP 4-34.

[99] PG&E's response to DRA-24, Q. 1, Attachment 1, Conf.

[100] Ex. PG&E-3, p. 6-37.

[101] Ex. PG&E-3, Workpapers, p. WP 4-34.

[102] PG&E's response to DRA-24, Q. 1, Attachment 1 CONF., mat code DEA.

[103] PG&E's response to DRA-24, Q. 1, Attachment 1 CONF. mat code FIH.

survey leak clusters and the associated leak repairs in the discussion of MWC DE beginning on page 77 and MWC FI on page 106, in Section VIII below.

2. Damage Prevention Team

PG&E requests $1.4 million for the Damage Prevention Program. PG&E's request states that the DIMP rule includes excavation damage as one of the threat categories for gas distribution systems. To address this threat, PG&E states that it established a Damage Prevention team in 2011. PG&E wants to have one manager for Damage Prevention, two process owners for Locate and Mark, and two analysts. These employees will manage the prevention program and the risks associated with excavation around PG&E's facilities.[104]

PG&E spent $1.2 million as of November 2012.[105] DRA agrees to PG&E's request for this subaccount.

3. QA/QC Program

PG&E requests $4.3 million for its QA/QC Program.[106] PG&E's request is for funding associated with establishing methods for evaluating the effectiveness of cathodic protection in preventing corrosion on its steel pipe. The 2011 recorded expense for this work activity was $4.8 million.[107]

For the 2014 expenses, PG&E proposes $0.7 million to pilot an effort to adapt its transmission external corrosion direct assessment procedures to distribution pipe, $2.5 million to audit data captured on the A-forms on a bi-monthly basis, and $1 million for an increase of 5 employees to ensure data in SAP is accurate.[108] PG&E

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[104] Ex. PG&E-3, p. 4-25

[105] PG&E's response to DRA-46, Q. 1 Attachment 1.

[106] Ex. PG&E-3, p. 4-14.

[107] Ex. PG&E-3, p. 4-14.

[108] Ex. PG&E-3, pp. 4-23 to 4-25.

states the all positions are currently filled and will remain in place through the 2014 GRC.

PG&E spent $5.6 million on QA/QC activities as of November 2012.[109] DRA agrees with the request for this subaccount.

4. Aldyl-A and Plastic Program

PG&E requests $1.2 million in expenses for engineering costs to determine where Aldyl-A pipe needs to be replaced.[110] In 2011, PG&E spent $1.1 million on this program.[111] For 2014, PG&E allocates $1 million to the hiring of 2 contract engineers for the 6-steps to DIMP success for Aldyl-A, and $221,000 to the Plastics Materials Committee.[112] The 2011 recorded expense was $815,000 for the 6-steps to DIMP success and $213,000 for the Plastics Materials Committee. PG&E spent $5.4 million on Aldyl-Q and Plastic Program as of November 2012.[113]

DRA does not take issue with PG&E's request for $1.2 million for the Aldyl-A and Plastic Program.

5. Cross-Bored Sewer Project

PG&E requests $14.5 million in expenses to perform work activities associated with its Cross-Bored Sewer Project.[114] In 2011, PG&E spent $2.3 million on cross-bore prevention and remediation.[115] Cross-bores happen when gas

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[109] PG&E's response to DRA-46, Q. 1, Attachment 1.

[110] Ex. PG&E-3, p. 4-21.

[111] Ex. PG&E-3, p. 4-14.

[112] PG&E-3, Workpapers, p. WP-4-37.

[113] PG&E's response to DRA-46, Q. 1, Attachment 1.

[114] Ex. PG&E-3, p. 4-19.

[115] Ex. PG&E-3, p. 4-18.

mains or services penetrate or cut open the sewer line when installed via boring construction methods.[116]

For 2014, as part of a new procedure PG&E will inspect for potential damage to underground facilities that are not part of the one-call list program. Examples of these programs are sewers, storm drains, and private party underground facilities. PG&E states it will use video equipment to inspect any dry bored hole before installing new mains or services into that bored hole.[117]

Another part of the Cross-bore program is the identification of potential historical cross bored sites. PG&E proposes to review and/or inspect 500,000 services over the next 9 to 10 years at a rate of 20,000 to 50,000 sewer laterals per year. Once PG&E determines that a service line could potentially be a cross-bore, PG&E would contract with a sewer inspection company to inspect both the sewer main and sewer lateral to verify that the sewer system does or does not have a gas line in it. PG&E would take appropriate action if a gas line is identified.[118]

PG&E spent $2.3 million on this program in 2011. It is not clear what PG&E did in 2011 because in testimony PG&E states that the company identified, prevented, and remediated 130 cross bores as part of the Copper Service Replacement Program (CSRP) and 60 cross-bores in San Francisco. In a response to a DRA data request, PG&E stated that it only *inspected* services as part of the CSRP.[119] In other words, no repair or remediation was performed as part of the CSRP as PG&E claims in testimony.

Of the total $14.5 million in PG&E's forecast for the Cross-Bored Sewer Management Program, $3.2 million is allocated to Program Management, $7.5

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[116] Ex. PG&E-3, p. 4-18.

[117] Ex. PG&E-3 pp.4-18 to 4-19.

[118] Ex. PG&E 3, p. 4-19.

[119] PG&E's response to DRA-49, Q.1(a).

million is allocated to the cost of inspections, and $3.8 million is allocated to repairs.[120]

PG&E claims it has been addressing cross-bores under the CSRP. PG&E states that it spent $2.3 million on preventing and remediating cross-bores as part of the CSRP in 2011.[121] DRA asked PG&E to identify the expenses to prevent and remediate cross-bores as part of the CSRP for 2007-2012, but PG&E stated that it only began to inspect dry bore holes associated with copper service replacements to prevent cross-bores in 2010.[122] PG&E did not provide the costs associated with this activity and states, "Costs associated with inspecting the dry bore holes prior to installation of pipe are not tracked separately from the Copper Service Replacement Program (CSRP), which are captured under MWC 14."[123] PG&E also stated, "This activity is embedded in the process of replacing the service and costs cannot be separated from the service replacement itself."[124] The historical costs cannot be confirmed because PG&E is unable to identify historical costs associated with cross-bore remediation and prevention the company claimed it previously performed.

Although PG&E claims in testimony that it prevented and remediated 130 cross-bores in the CSRP, and that 60 cross-bores were remediated in San Francisco alone, it could not confirm this.[125] In a response to discovery, PG&E stated, "the only activities performed under the CSRP to address cross-bores include those related to inspecting dry bore holes prior to installation of new pipe to ensure that a cross-bore has not been created in the process of installing the new

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[120] Ex. PG&E-3, Workpapers, p. WP 4-38.

[121] Ex. PG&E-3, p. 4-18.

[122] PG&E's response to DRA-49, Q. 1(a).

[123] PG&E's response to DRA-49, Q.1(b).

[124] PG&E's response to DRA-49, Q. 1(e).

[125] Ex. PG&E-3, p. 4-18 and PG&E's response to DRA-49, Q. 1 (c).

service."[126] It appears from this statement that only inspections of the dry bore holes were performed and no remediation/repair of any kind was performed as part of the CSRP. PG&E defines "remediation" as repairing an existing cross-bore location by separating the gas pipe from the sewer main or lateral and repairing the sewer.[127] It does not appear that any "prevention" activities were performed either. PG&E defines cross-bore "prevention" as identifying a cross-bore prior to pipe being installed using a camera inspection, and repairing the sewer and a new bore hole is drilled prior to installing the gas pipe.

PG&E states that cross-bored sewers represent a safety concern due to the potential accumulation and ignition of natural gas that migrates through the sewers and into homes or buildings.[128] In the 2011 GRC, PG&E requested funding to evaluate the risk of natural gas migrating inside the sewer system should a leak occur.[129] As a result of an evaluation the company conducted, PG&E developed the Cross-Bore Program in 2011.[130] DRA requested a copy of the evaluation, but PG&E failed to provide the material. PG&E states, "Initiation of the Cross-Bore Program was the result of PG&E's recognition of the problem with cross-bores and its significance to pipeline safety. No specific evaluation documentation was generated."[131]

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[126] PG&E's response to DRA-49, Q. 1(c).

[127] PG&E's response to DRA-49, Q. 1 (d) iii.

[128] PG&E-3, p. 4-18.

[129] Ibid.

[130] Ex. PG&E-3, p. 4-18.

[131] PG&E's response to DRA-49, Q. 2(a).

For 2014, PG&E proposes to inspect 30,000 locations.[132] PG&E's plan is part of a 10 year plan to inspect approximate 500,000 services in total.[133] PG&E states that the scope comes from all Gas Pipeline Replacement Program (GPRP) projects where Horizontal Directional Drilling (HDD) was the installation method, and all services replaced under the CSRP.[134]

DRA asked PG&E to explain how the company determined the 10-year time frame in which to inspect for cross-bores and to provide support for the time-frame determination. PG&E responded, "The program time frame is established based on what we believe is achievable production rates for sewer line inspections…There is no additional analysis or supporting documentation for this assumption."[135]

DRA asked PG&E to explain how the company determined the 500,000 services as the scope of work and to provide a copy of all supporting documents/analyses/studies used to determine the scope since it was not included in its workpapers.[136] PG&E responded, "The 500,000 services is an estimated value. It takes into account the number of services replaced by the GPRP program, the CSRP program, and an assumed value for all other programs that replace services (Gas Reliability). For example, the 2011 GPRP Annual Report, Table XI, identifies that approximately 180,000 services have been replaced since program inception. CSRP scope of work encompasses approximately 35,000 services. The additional services making up the 500,000 will come from an engineering review of services that fit the criteria (material, year installed, install method) for PG&E's service territory. If the engineering review identifies fewer services, we will still

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[132] Ex. PG&E-3, Workpapers, p. WP 4-38.

[133] Ex. PG&E-3 p. 4-18.

[134] Ibid.

[135] PG&E's response to DRA-49, Q.5(a).

[136] DRA-49, Q. 5(b).

complete 20,000-50,000 inspections per year through 2016, but the program will be completed more quickly than currently forecast."[137]

DRA takes issue with PG&E's proposed 500,000 services as the scope of work as a whole and specifically with the proposed 30,000 services for 2014. The scope of work is much less compared to PG&E's estimate and its 2014 forecast is excessive.

According to PG&E, the 500,000 services come from the GPRP, which was started in the mid-1980s, and the CSRP. For the services that come from the GPRP, PG&E identifies projects that are confirmed to have Horizontal Directional Drilling as the method used to install new gas mains. It includes projects that were not installed using the HDD method, but were installed using a pneumatic piercing tool. Pneumatic piercing tools are primarily used to install services. The GPRP is a program initiated to replace mains. Besides the HDD method, PG&E confirmed in a response to a discovery request that none of the other methods of installation requires the use of a pneumatic piercing tool.[138] For the services from the CSRP, PG&E includes all services installed prior to 2011 because the predominant installation method was the pneumatic piercing tool.[139]

PG&E provided 3 Excel files in response to DRA's question regarding the scope of work. The first file is called "GPRP Projects" and contains 94,870 projects with all installation methods. The second file is called "Completed Services Detail" and contains 41,467 projects. The third file is called, "Log Raw Data" and contains 15,318 projects which PG&E identifies as "cross bore prevention log" and shows the years 2010-2012 inspections.[140]

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[137] PG&E's response to 5(b).

[138] PG&E's response to DRA-243, Q.3.

[139] PG&E states on page PG&E-3, 4-19 PG&E started using video equipment to inspect any dry bored hole before installing new mains or services.

[140] PG&E's response to DRA-49, Q. 6, (d) and (b).

PG&E states that the GPRP and CSRP projects make up part of the scope of work and additional services will have to come from an engineering review.[141] If PG&E has not identified specific projects in its forecast, the request for funding of ambiguous unidentified projects should be denied. Even if all the GPRP and CSRP projects, regardless of installation methods, were combined, the total would only be 136,337 projects. This number is nowhere near the 500,000 projects that PG&E claims it needs to inspect and remediate.

For the project scope, PG&E suggests that it will review services that fit the criteria for material, year installed, and installation method.[142] PG&E's contractor responsible for the Cross-Bore Inspection Program states that the program strategy is to research available records for construction method(s) and the focus is on trenchless construction and the CSRP.[143] This means the focus is only on pipes installed using the HDD method.

DRA reviewed the GPRP data provided by PG&E and identified 33,718 projects that were installed using the HDD method. This represents 36% of the total number of pipelines identified under the GPRP and installed using all methods: (1) HDD (bore), (2) Joint Trench, (3) Splitting (steel), (4) Svc's transferred, (5) Trench, and (6) Update w/ SVC's transferred.

As for the 41,467 services PG&E identified under the CSRP, DRA accepts this number with adjustment for the year installed.

DRA takes issue with PG&E's inclusion of mains and services installed after 2007. PG&E states that it became aware that cross-bores were a threat to its system in 2007 and that the company began its assessment of potential issues then. Since PG&E knew of the potential cross-bore threats in 2007, the company should

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[141] PG&E's response to 5(b).

[142] PG&E's response to DRA-49, Q. 5(b).

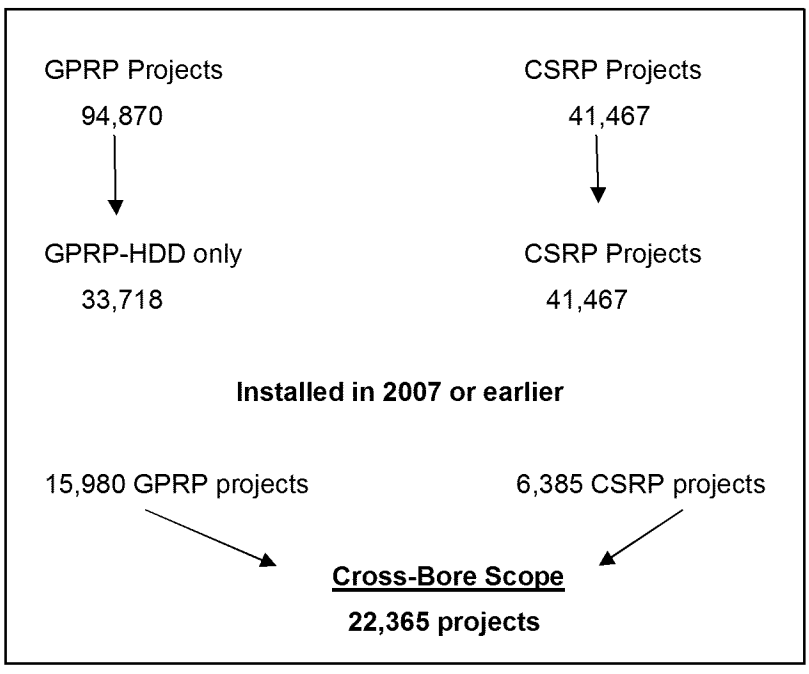
[143] Overview of PG&E Cross Bore Inspection Program by Frontline Energy Services, p. FES, Program Strategy. http://bacwa.org/Portals/0/Committees/CollectionSystems/Library/Overview%20of%20PGE%20Cross%20Bore%20Inspection%20Program%20rev4.pdf

have previously inspected for damage to underground facilities before installing new mains or services in 2008 and subsequent years. If PG&E did not inspect dry bored holes before installing new mains or services in 2008 to the present, and damages to sewer lines are now discovered, then PG&E should be responsible for the inspection and repair cost of these pipelines.

DRA recommends that all pipelines installed in 2008 or later, under both the GPRP and the CSRP, be excluded from the project scope. The scope of the GPRP Projects is further reduced to 15,980 projects that were installed in 2007 or earlier, from the total of 33,718 projects installed using the HDD method. For the CSRP projects 6,385 projects were installed in 2007 or earlier. The DRA recommended total project scope of HDD-bored GPRP and CSRP pipelines installed in 2007 or earlier is 22,365 projects.

A summary of DRA's proposed project scope for the Cross-Bore Program is presented below.

Figure 9-1
DRA's Proposal for the Cross-Bore Project Scope



PG&E's project scope of 500,000 services is excessive and unsupported. The totality of projects that should be discussed in this case should only be 22,365 projects as shown in the figure above.

Regarding the actual inspections that PG&E performed in recent years, the Log Raw Data file shows 15,318 records that were identified as "Inspection Complete", "Inspection not Complete", or "Unknown". There were a total of 7,793 "Inspection Complete" records. Of this total, there were 5,935 completed inspections in 2012, 1,496 completed inspections in 2011, and 362 completed inspections in 2010.

For 2012, 83 records were marked as having been damaged as a result of 5,935 complete inspections. The damages recorded were from a variety of facility types including sewer, sewer lateral, sewer mains, drain, irrigation, storm drain, water services, etc. Some damages may not have been caused by PG&E if the cross bore is not gas. The number of non-gas related damages cannot be determined from the information provided in the three Excel files. For 2011, 24 damages were recorded as a result of 1,496 completed inspections. There were 15 damages recorded for 2010 from a total of 362 completed inspections.

The total damages and total completed inspections for 2010-2012 are 122 and 7,793, respectively. The 2010-2012 aggregate ratio of damages to inspections is 1.6 per hundred. This number compares closely with PG&E's requested repair rate of 2% for 2014.[144] See table 9-14 below for a summary of the inspections and damages found for 2010-2012.

[144] Ex. PG&E-3, Workpapers, p. WP 4-38.

Table 9-14
2010-2012 PG&E Cross-Bore Inspections and Damages

Year	Inspections Completed	Damages Found
2010	362	15
2011	1,496	24
2012	5,935	83
Total	7,793	122

Based on PG&E's recent history of completing 5,935 inspections in 2012, DRA forecasts 6,000 inspections in 2014. At this proposed rate, PG&E will have completed the inspection of all 22,365 GPRP and CSRP projects identified in the DRA proposed project in the next 4 years.

DRA's recommendation is based on the most recent completed inspections PG&E performed in 2012. PG&E's forecast of 30,000 inspections to be performed annually is unsupported, and fails to consider the time and effort involved in gathering required permits for inspections and/or repair, or the level of employees and/or contractors required to perform a five-fold increase in inspections.

a. Cross-Bore Inspection Unit cost

DRA recommends using the $250 per inspection unit cost PG&E proposed in its workpapers for 2014. Although PG&E stated in a response that it completed 5,284 inspections in 2011 at a total cost of $2.2 million, DRA could not verify the units and unit cost.[145] In the inspection log that PG&E provided, there were only 1,496 completed inspections as discussed above. PG&E states that it only prevented and remediated 130 cross bores as part of the CSRP and identified 60

[145] PG&E's response to DRA-49, Q. 5(d).

cross bores in San Francisco.[146] In the workpapers, PG&E does not identify any work for the Cross-Bored Sewer Management program in 2011.[147]

For 2012, the inspection units within the inspection log PG&E provided could not be verified. Although PG&E stated in a response that the company inspected 11,208 sewer laterals and incurred $6.5 million, the Log Raw Data shows PG&E completed 5,935 inspections, or 53%, in 2012, as discussed above.[148]

b. Cross-Bore Repair Unit Cost

DRA recommends using the unit cost of $5,000 per repair, which is a blended cost of the PG&E proposed unit cost of $3,015 for below ground service repair and $6,016 for mains repair, as identified under MWC FI, for 2014.[149] The blended unit cost takes into consideration the combination of mains and services that will be remediated, and PG&E's need to excavate over the location where a cross bore has occurred.

PG&E's unit cost forecast of $6,016 is inaccurate because PG&E uses the cost to repair mains as the proxy. In PG&E's workpapers and response to a DRA data request, PG&E states that the unit cost of $6,016 comes from MWC FI and is used as a proxy for cross-bore repairs, or "bell hole excavation" because "PG&E has not historically tracked unit costs related to bell hole excavations as they are part of cross bore repairs. Both leak repair and cross bore repair need to access the gas main. For that reason, the same crews and methods used to do a leak repair are used in doing a bell hole excavation for cross bores. As such, it is reasonable to use leak repair unit costs as a proxy for bell hole excavations."[150]

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[146] Ex. PG&E-3, p. 4-18.

[147] Ex. PG&E-3, p. 4-38.

[148] PG&E's response to DRA-49, Q. 5(d).

[149] Ex. PG&E-3, p.6-37.

[150] Ex. PG&E-3, Workpapers, p. WP 4-38 and PG&E's response to DRA-49, Q. 15, (d).

PG&E's use of the cost to repair mains, which is the most expensive pipeline repair cost, as the proxy, is unjustified and should be denied. The problem of cross-bores affects both mains and services, as exemplified by the Cross-Bore project scope which includes pipes from the GPRP and the CSRP. DRA's blended unit cost is reasonable and should be adopted.

c. DRA's 2014 Cross-Bore Program Recommendation

Based on its analysis, DRA recommends a lower cost than PG&E for the Cross-Bore Sewer Project. DRA's recommendation is based on 6,000 inspections at a unit cost of $250, totaling $1.5 million for inspection costs.

DRA's recommends a repair rate of 1.6%, which is based on the PG&E 2010-2012 aggregate ratio of damages to inspections, for a total of 96 repairs at a unit cost of $5,000 per repair for a total of $480,000.

DRA's overall recommendation for this project is $2 million, which is $12.5 million lower than PG&E's request of $14.5 million. DRA's recommendation is comparable to PG&E's 2012 recorded expense for this program.

In an effort to be more efficient and to reduce costs, DRA recommends that PG&E combine its cross-bore inspection and remediation efforts with its pipeline replacement and repair activities. This will save time and costs for permits and excavation, among other things, and improve the overall efficiency of work.

6. Program Management

PG&E requests $13.6 million in expenses under the work category Program Management. Of this total, $4.4 million is specifically identified for DIMP management, $1.4 million for contractor support to develop its risk algorithm, and $7.3 million to implement the Plastic Tee Cap program. The DIMP management request of $4.4 million is $2.6 million higher than the recorded amount of $1.8 million in 2011.[151] PG&E did not have the Plastic Tee Cap Program in 2011 and plans to

[151] Ex. PG&E-3, Workpapers, p. WP 4-39, line i.

pilot the program in 2013 and implement it in 2014. As of November 2012, PG&E recorded $2.3 million on DIMP Program management staff.[152]

DRA opposes PG&E's request of $1.4 million for contractor support, an increase in 11 FTEs equaling $4.4 million for DIMP program management, and $7.3 million for the Plastic Tee Cap Program in 2014.

DRA recommends no ratepayer funding for Contractor Support, $2.3 million for DIMP program management, and $0 for the Plastic Tee Cap Program for 2014. A comparison of PG&E's and DRA's proposal for 2014 is presented below.

Table 9-15

PROGRAM MANAGEMENT	DRA	PG&E
Contractor Support	$0	$1,425
DIMP Program Mgmt.	$2,305	$4,449
Plastic Tee Cap Program	$0	$7,279
Miscellaneous DIMP Maint.	$513	$513
TOTAL	$2,818	$13,560

a. Contractor Support

In 2011, PG&E spent $615,000 on contractor support for DIMP Engineering and Reporting Support. For 2014, PG&E plans to contract with engineering firms to support development of its risk algorithm develop documentation and reporting of risk management processes and procedures, validate the risk algorithm output, and make improvements to PG&E's Integrity Management Program to incorporate industry best practices.[153]

DRA asked PG&E to identify the contractors and/or vendors PG&E used in 2011 and 2012.[154] PG&E listed 11 contractors that provided engineering support in

[152] PG&E's response to DRA-52, Q.3.

[153] Ex. PG&E-3, p. 4-16.

[154] DRA data request, DRA-52, Q. 4(b).

2011 and 2012 but did not differentiate who provided support for each year.[155] As of November 2012, PG&E spent $419,000 on these contractors.[156]

DRA asked if PG&E will be using the same vendors in 2014.[157] PG&E responded, "At this time PG&E anticipates using the same or similar resources for 2014 work."

For the 2012 forecast, PG&E proposed to spend $3.4 million for contractor support. The company only spent 12% of the budgeted amount at the end of November 2012. PG&E's forecast of $1.4 million is excessive based on PG&E's actual spending on contractor support in 2012, and the identification of the same vendors and contractors for 2014 as contracted in 2011 and 2012.

DRA recommends no increase for contractor support. PG&E has $615,000 in embedded funding that can be used to continue receiving engineering support from these same contractors.

b. DIMP Program Management

PG&E proposes $4.4 million for 2012, an increase of $2.6 million above the recorded 2011 amount of $1.8 million. In 2011, PG&E had 9 FTEs assigned to the DIMP management.[158] PG&E proposes an increase of 11 additional FTEs for a total of 20 employees to support the program.[159] In 2012, PG&E's employee count increase to 13 FTEs for DIMP management.[160] The (Year to Date) 2012 expense amount through November was $2.3 million.[161]

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[155] PG&E's response to DRA-52, Q. 4(b).

[156] PG&E's response to DRA-52, Q. 4(a).

[157] DRA-52, 4(d).

[158] Ex. PG&E-3, p. 4-15.

[159] Ibid.

[160] PG&E's response to DRA-52, Q. 1(a).

[161] PG&E's response to DRA-52, Q.3.

PG&E's forecast of $4.4 million is excessive because the proposed DIMP activities are not new and incremental activities in 2014, with the exception of the proposed Tee Cap Replacement Program and Emergent Work. In fact, there are fewer DIMP activities proposed for 2014 than for 2011 or 2012.[162] In 2011, PG&E managed a DIMP program identified as "AC Meter Inspections" and performed OQ Investigation and Development. For 2012, PG&E proposed to perform Copper Leak Survey and various DIMP IT support activities.[163] PG&E did not propose these identified activities for 2014.

DRA recommends adopting the 2012 recorded amount of $2.3 million for DIMP program management in 2014 because most of the DIMP activities are already in place. DRA recommends a reduced scope of work in 2014 for DIMP, such as performing fewer cross-bore inspection and remediation, and fewer tee cap replacements, than PG&E proposed; therefore a reduction in DIMP program management expense is appropriate.

c. Plastic Tee Cap Repair/Replacement Program

PG&E requests $7.3 million in expense to implement the Plastic Tee Cap Repair/Replacement Program.[164] This is new program that PG&E plans to pilot in 2013 and to initiate in 2014. In testimony, PG&E refers to this program as the Plastic Tee Cap Repair Program and discusses the request to repair tee caps.[165] In its workpapers, the company refers to this activity as the Plastic Tee Cap Replacement Program.[166] PG&E uses the term repair and replace interchangeably.

According to PG&E, the company identified tee caps as a threat to its system requiring a separate mitigation effort as part of DIMP during the leak cluster analysis

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[162] Ex. PG&E-3, p. 4-14, Table 4-1

[163] Ibid.

[164] Ex. PG&E-3, Workpapers, p. WP 4-39.

[165] Ex. PG&E-3, p. 4-17.

[166] Ex. PG&E-3, Workpapers, p. WP 4-39.

in 2011.[167] However, the company has been aware of the threats/risks with tapping tees and has been purchasing repair kits for these tees since the mid-1980s.[168] PG&E states that in 2007, the Pipeline and Hazardous Materials Safety Administration (PHMSA) issued an advisory bulletin "Updated Notification of Susceptibility to Premature Brittle-Like Cracking of Older Plastic Pipe". In this Bulletin, PHMSA also identified an issue with Delrin insert tap tees.[169]

Between 2007 and 2012, Tee Caps have been repaired and tracked under MWC FI.[170] However, PG&E does not have the annual expenditures separated out for Tee Cap repairs.[171] PG&E did track the number of tee caps repaired during this time frame and the number of tee caps repaired per year is shown in Table 9-16 below.[172]

Table 9-16
PG&E's Tee Cap Repairs as Tracked under MWC FI
Recorded Tee Cap Repairs from 2007 to November of 2012

2007	2008	2009	2010	2011	2012 -Nov.	6-Yr. Avg
556	1,091	3,075	1,904	1,508	2,000	1,689

PG&E plans to develop a pilot program to replace tee caps as part of DIMP in 2013. PG&E forecasts the total cost for this pilot to be $237,920.[173]

DRA requested a copy of the scope of work for the pilot program and for PG&E to discuss how the 2014 forecast is tied to the pilot. No program scope was

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[167] PG&E's response to DRA-52, Q. 5(b).

[168] PG&E's response to DRA-52, Q. 5(d).

[169] PG&E's response to DRA-52, Q. 5(e).

[170] PG&E's response to DRA-52, Q.5 (d) ii.

[171] PG&E's response to DRA-52, Q.5 (d) i.

[172] PG&E's response to DRA-52, Q. 5(d) i.

[173] Ex. PG&E-3, Workpapers, p. WP 4-39.

provided. PG&E stated, "PG&E will start the pilot for the plastic tee cap repair program in 2013. The full program scope is not yet complete, as it will depend on leak cluster data at the time the projects are to be identified."[174]

PG&E did not rely on the planned pilot program to develop the 2014 forecast. PG&E stated in the response to DRA, "The scope of work for the pilot in 2013 is significantly different than the scope of work for implementation in 2014…During the pilot phase of the project, tools will be selected, procedures will be tested, field validation and refinement of tools and procedures will be made resulting in the training curriculum development. Units and unit cost forecasting is not applicable to this type of work. During the implementation phase of the work, the tools, procedures and training will be deployed to the field for actual use in tee cap repairs. Units and unit costing is applicable to this type of work."[175]

PG&E speculates that 1,000 tee caps should be repaired in 2014. No explanation or any supporting documents were provided to show how PG&E determined the scope of work for the test year.[176] PG&E's justification was, "The 1,000 tee caps are an estimate of what can be accomplished in 2014."[177]

As for unit cost, PG&E used an unsupported unit cost of $6,016 per leak repair.[178] PG&E's 2014 unit cost forecast for below ground service leak repairs, as tracked by MWC FI, is $3,015 and not $6,016 as PG&E claims in its workpapers.

PG&E's 2014 forecast for this program is excessive given the factual evidence. The results of the scope and results of the pilot program should first be considered in planning the work activities for tee cap repairs. The scope of the pilot should be designed to give PG&E an idea of what's the best way to do it, how long it

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[174] PG&E's response to DRA-52, Q. 5(a).

[175] PG&E's response to DRA-52, Q. 6(a).

[176] PG&E's response to DRA-52, Q. 5(g).

[177] Ibid.

[178] Ex. PG&E-3, Workpapers, p. WP 4-39.

would take, what's involved, and how much activities would cost. The results of the pilot study then can be used to plan how to best repair tee caps. By disregarding the pilot study and speculating the scope of work, PG&E has not adequately justified the level of funding the company proposes for 2014.

The tee cap program is not a new issue and PG&E has been addressing it as part of its leak repair program. There is embedded funding for tee cap repairs. The average number of repairs for 2007-2012 was 1,689 repairs a year. PG&E should perform the pilot study to see if this issue needs to be addressed beyond its current practice of repairing tee caps as part of leak repair activities tracked by MWC FI. PG&E did not use the DIMP risk algorithm to determine that plastic tee caps are threats that need to be addressed as part of DIMP.[179] PG&E used the threshold of 7 leaks to identify services evaluated for the Tee Cap Program. PG&E stated that it identified tee caps as a threat during the leak cluster analysis performed in 2011.[180] PG&E did not risk rank plastic tee caps as part of DIMP.[181]

The validity of PG&E's approach in forecasting PG&E's 2014 DIMP work activities and expenses is questionable. In its testimony, PG&E discusses at length its compliance with DIMP regulation by evaluating and ranking risk using a risk algorithm, identifying and implementing measures to address risks, as well as performing threats and risk reviews. Inexplicably, the risks of plastic caps are not captured or evaluated as part of DIMP. In fact, PG&E states that it did not use the risk algorithm to identify any of the 2014 DIMP projects.[182] PG&E used subject matter experts and the knowledge and experience of its contractors to identify the tee cap repair program a DIMP action item.[183]

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[179] PG&E's response to DRA-52, Q.7.

[180] PG&E's response to DRA-52, Q. 8.

[181] PG&E's response to DRA-52, Q.9.

[182] PG&E's response to DRA-52, Q. 10.

[183] Ibid.

DRA recommends no ratepayer funding for a separate tee cap repair program in 2014. This is not a newly identified risk and PG&E is receiving in rates funding to repair tee cap leaks. For the past 6 years, PG&E has been managing tee cap leaks and repairing tee cap leaks at an annual average rate even higher than proposed for 2014.

PG&E is currently receiving funding for MWC FI and is currently repairing tee caps as part of its leak repair activities tracked therein. As shown in Table 9-16 above, PG&E is repairing an average of 1,689 a year for the past 6 years. As such, there is adequate funding in existence to meet PG&E's proposal to repair 1,000 tee caps in 2014. If PG&E wants to manage tee cap repairs as a separate program, there is already embedded funding to separate this work activity from MWC FI.

Although PG&E identifies tee cap leaks as a new major source of plastic leak, it has been tracking and addressing tee cap leaks for more than a decade.[184] As PG&E states, tee cap leaks are not an indication of the overall health of the pipeline, but rather indicate an issue with the material used in the tee and associated cap and the stress applied during the installation process.[185] PG&E should revisit this issue in the next GRC after the results of the pilot program are tabulated and after the DIMP risks are identified and ranked. If the tee cap issue is identified as a DIMP risk, using the risk algorithm or other method PG&E uses to identify DIMP projects for the next rate case, the Commission can consider it then.

PG&E states that due to the complexity of the risk algorithm the company is developing, which uses a probabilistic based approach, DIMP is currently managed using a relative risk based approach which relies on leak history as the data source for threat identification and risk ranking until the probabilistic approach could be effectively implemented.[186] PG&E plans to risk rank projects for DIMP using the

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[184] PG&E's response to DRA-52, Q.5(b).

[185] Ex. PG&E-3, p. 4-17.

[186] PG&E's response to DRA-61, Q.1.

probabilistic risk algorithm in 2015.[187] PG&E's request for $7.3 million for this program should be denied and reevaluated in the next GRC.

d. Miscellaneous DIMP Maintenance Expenses

PG&E requests $513,000 for miscellaneous expenses such as Risk Management Committee, consultant support, low pressure dewatering, and High Pressure Regulator (HPR) miscellaneous work activities. DRA agrees with this request.

7. SAP WM Enhancement

DRA agrees with PG&E's request of $359,000 for SAP WM enhancement.

8. Emergent Work

PG&E requests $10 million in expenses for work activities identified as Emergent Work. PG&E identified miscellaneous work activities that it identified in 2011 but claims did not include in time for the 2011 GRC filing. The work activities identified are Low Pressure Vault Dewatering ($0.2 million), Low Pressure Vent Raising ($2.9 million), Plastic Leak cluster survey ($0.5 million) and integrity management corrosion mitigation ($0.7 million). The total expense identified for all these projects is $4.3 million above and beyond the 2011 to 2013 level.[188] PG&E uses these examples to show that it incurred unanticipated costs in between rate cases.

These projects are identified as examples of miscellaneous activities that PG&E has had to address in 2012 and in 2013 and to support its 2014 request for on-going miscellaneous projects. DRA requested the 2012 recorded expenses for Emergent Work and the amount was zero as of September 2012.[189]

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[187] Ibid.

[188] Ex. PG&E-3, pp. 4-25 to 4-26.

[189] PG&E's response to DRA-46, Q. 1, attachment 1.

Most of the work activities PG&E identifies above are being requested in its testimony through other MWCs. For Low Pressure Vault Dewatering, PG&E requests the $0.2 million under the miscellaneous DIMP maintenance expense item under the subaccount Program Management. DRA discusses the expenses for Program Management in the section above and agrees with PG&E's request for Low Pressure Vault Dewatering. For Low Pressure Vent Raising, PG&E requests expenses associated with this under Special Projects tracked by MWC FH. PG&E requests expenses for corrosion mitigation and leak cluster survey in MWC FH and MWC DE respectively.

PG&E's $10 million request is essentially a contingency request. Elsewhere in its testimony, the company has identified specific areas that it wants to address as part of DIMP, such as cross-bores, tee cap repairs, or going from a 5-year leak survey cycle to a 3-year cycle. The Emergent Work category is for additional funding for projects that PG&E has not yet identified.

PG&E states, "…as PG&E's Distribution Integrity Management Program continues to mature, PG&E expects to identify additional programs that must be undertaken to further mitigate risk on the distribution system…this forecast does not cover specific work already identified; it represents an estimate of additional work that will result from continuous evaluation of the threats to PG&E's distribution system…"[190]

DRA recommends that the Commission reject PG&E's request for contingency funding for its DIMP program. PG&E has not identified specific projects for 2014 and not adequately supported the request for $10 million in contingency funding.

In the past, PG&E has identified programs and requested funding for DIMP that it subsequently abandoned. An example of this was PG&E's request for $1 million to install electro-magnetic sensors to locate buried plastic pipes for a project

[190] Ex. PG&E-3, p. 4-26.

called Marker Ball Installation on Unlocateable Infrastructure.[191] At the time, PG&E believed that unlocateable facilities were the largest risk in the Damage Prevention area of the business.[192]

DRA recommends no funding for this request. DRA's proposal is $10 million less than PG&E's request.

9. Two-Way Balancing Account

In the 2011 GRC, DRA proposed, and the Commission adopted, one-way balancing account treatment for DIMP expenses to protect ratepayers from under-spending by PG&E. In this GRC, DRA proposes that the Commission adopt a two-way balancing account for DIMP as tracked under MWC JS, capped at PG&E's 2011-2012 average expenses of $25.6 million, in the event that it is necessary for PG&E to perform more DIMP work activities than anticipated and incurs a higher expense level than the DRA forecast. This recognizes that DIMP is an important part of PG&E's effort to ensure system safety and reliability and provides funding for additional work above the recommended level. The cap encourages PG&E to be efficient in its spending and protects ratepayers from excessive rates. This will also address the fact that PG&E's risk algorithm is still in development. PG&E did not rely on any risk analysis or ranking using DIMP protocol/risk algorithm to develop its 2014 DIMP forecast. Instead, PG&E uses the company's leak history to plan projects for 2014 because the risk algorithm cannot be used at this time. Once PG&E uses the risk algorithm to identify DIMP projects, new projects could be identified and the ones identified for the 2014 GRC could be abandoned.

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[191] A.09-12-020, Ex. PG&E-3, p. 7-11 and Ex. PG&E-3, pp. 4-19 to 4-20.

[192] Ibid.

VII. DISCUSSION / ANALYSIS OF PIPE, METER AND OTHER PREVENTATIVE MAINTENANCE

This section discusses PG&E's request for $84.4 million in expenses for the regular monitoring, proactive maintenance, and repair work performed by the company for the entire gas distribution system to increase the useful life of assets and reduce the likelihood of that asset becoming inoperative, breaking or failing.[193] Specific work categories addressed in this section are: (1) Locate and Mark-MWC DF, (2) Cathodic Protection-MWC DG, (3) Preventive Maintenance—MWC FH, (4) Meter Protection-MWC EX, and (5) NGV Maintenance-MWC GM.

PG&E's 2014 request is $24.5 million higher than the 2011 recorded amount of $59.9 million.[194] According to PG&E, one of the major drivers of the forecast increase is the projected increase in customer-requested Locate and Mark services prior to excavation.[195] Another reason for the increase is the addition of a dedicated PG&E painting crew focused on proactively addressing the impact of atmospheric corrosion on above-ground gas distribution assets.[196]

DRA recommends $69.4 million for Pipe, Meter and Other Preventative Maintenance, which is $15 million lower than PG&E's request. DRA's recommendation is based on a lower forecast for Locate and Mark activities associated with USA tags and adjustments to PG&E's proposals for MWC FH such as a dedicated painting crew, Atmospheric Corrosion Monitor and Correction, and Special Projects.

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

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[193] Ex. PG&E-3, p. 5-1.

[194] Ex. PG&E-3, p. 5-2.

[195] Ibid.

[196] Ibid.

Table 9-17
Gas Distribution Expenses for TY2014
Pipe, Meter and Other Preventative Maintenance
(In Thousands of Dollars)

Description (a)	DRA Recommended (b)	PG&E Proposed[197] (c)
MWC DF	$33,390	$39,049
MWC DG	$12,867	$12,867
MWC FH	$19,223	$28,599
MWC EX	$917	$917
MWC GM	$2,983	$2,983
Total	**$69,380**	**$84,415**

A. MWC DF

PG&E requests $39 million in expenses for Locate and Mark work activities tracked under MWC DF.[198] Locate and Mark expenses consist of the time it takes to perform Locate and Mark activities from the receipt of the Underground Service Alert (USA) ticket request to the completion of the required Locate an Mark activities.

PG&E's 2014 forecast is based on forecasting a 5% increase in the number of USA tickets worked in 2012 or 329,235 USA tickets worked, and an increased forecast of 12 % in 2013, or 368,743 USA tickets worked, and an additional 12% increase in 2014 to arrive at the estimated 412,992 USA tickets.

PG&E uses the same third-party economic analysis used to forecast the New Business expenses for New Business and Work at the Request of Others, and adjusted to account for historical locate and mark activities compared to historical new business activities.[199]

[197] Ex. PG&E-3, p. 5-31.

[198] Ibid.

[199] Ex. PG&E-3, pp. 5-10 to 5-11.

Table 9-18
2007-2012 Recorded Data for MWC DF
Locate and Mark
(In Thousands of Dollars)

Description	2007	2008	2009	2010	2011	2012
MWC DF	$30,309	$31,836	$28,616	$27,309	$26,708	$35,260

Source: No costs were incurred from 2007-2010. DIMP was implemented in 2011 and 2011 data comes from PG&E's response to DRA-DEF-10A-Q.1, Attachment 1. 2012 data from PG&E's response to DRA-108, Q. 4, Attachment 1.

PG&E requests $39 million for 2014 for Locate and Mark activities. There are three cost elements that combine to total $39 million. The first is identified as MAT - _NA and described as No Mat Code, the second is identified as DFA and described as Locate and Mark, and the third is identified as DFB and described as Locate & Mark Standby.[200] PG&E requests $1.1 million for MAT_NA, $36.8 million for DFA Locate and Mark, and $1.1 million for Locate and Mark Standby.

DRA recommends a total of $33.4 million for 2014 for Locate and Mark activities. DRA's recommendation is based on zero funding for MAT_NA, $32.6 million for Locate and Mark- DFA, and $515, 647 for Locate and Mark Standby-DFB. A summary of DRA's adjustments and PG&E's request for MWC DF is presented in the table below.

Table 9-19
DRA vs. PG&E's 2014 Forecast for MWC DF
(in Thousands of Dollars)

MWC DF Activities	DRA	PG&E
MAT_NA	$320	$1,141
Locate and Mark (DFA)	$32,554	$36,796
Locate and Mark Standby (DFB)	$516	$1,111
Total	**$33,390**	**$39,049**

[200] Ex. PG&E-3, Workpapers, p. WP 5-7.

1. MAT _ NA

PG&E does not discuss this sub-category in testimony or workpapers. The proposal for 2014 includes one line item with the $1.1 million estimate.[201] The 2011 recorded amount tracked under this sub-category was $320,000. Since there is no discussion of or support for the requested increase of $821,000 in 2014, DRA recommends zero increase above the recorded amount. The 2014 allocation remains the same as the 2011 expense amount of $320,000.

2. Locate and Mark (DFA)

PG&E's $36.8 million forecast is based on 3 factors: (1) an increase in the number of USA tickets received above the 2011 level, (2) a 61% ticket-work rate, (3) an increase in the unit cost per ticket work for the 2.75% annual escalation for PG&E labor and an estimated 1.36% annual increase for the USA one call system membership.

DRA takes issue with the number of USA tickets PG&E estimates it will receive in 2014. PG&E's 2014 forecast is based on a 5% increase in 2012, a 12% increase in 2013, and a 12% increase in 2014, bringing the total number of tickets to 681,865. PG&E states in testimony the forecast increase in Locate and Mark activities is based in part on an overall system residential growth rate of 53% and a system non-residential growth rate of 8.9%.[202]

When asked how the system growth rates were applied and resulted in the 12% increase in Locate and Mark tickets, PG&E responded, "…the subject matter expert used judgment to lower this anticipated increase to 12 percent per year for

[201] Ex. PG&E-3, Workpapers, p. WP 5-7.

[202] Ex. PG&E-3, p. 5-11 and Workpapers, p. WP 9-24.

2013 and 2014."[203] PG&E further stated, "No additional calculations were performed."[204]

From the USA tickets data PG&E identified for years 1992 through 2011, it appears that there is a correlation between system growth and increase in the number of USA tickets. However, the 12 percent per year that PG&E proposes is excessive and unsupported. The Table below identifies the annual change for the years 2010-2012.

Table 9-20
USA Tickets Received from 2010-2012

Year	Number of tickets	% change
2010	470,254	
2011	509,949	8.44%
2012	542,564	6.40%

DRA recommends adopting the 2012 recorded number of USA tickets received and applying an annual 6% increase to derive the 2014 forecast. The 6% annual increase reflects changes in the most recent year and is reasonable. DRA's estimate for the number of 2014 USA tickets is 609,625. This number is based on an increase of 32,554 USA tickets in 2013, and an increase of 34,507 USA tickets in 2014 for a total of 609,625.

DRA takes issue with PG&E's proposed 61% ticket work rate for 2014. DRA proposes that the Commission adopts a 60% work rate for 2014 as this reflects the most recent 2012 ticket work rate. Although PG&E provided conflicting ticket work rate for 2012, DRA recommends using the more conservative number. In one response to DRA, PG&E identified 369,999 tickets worked as of November 30, 2012, which equals a 68.19% ticket work rate. In another response to DRA, PG&E identified 323,919 tickets worked as of November 30, 2012, which equals a 60%

[203] PG&E's response to DRA-69, Q. 14, (a).

[204] PG&E's response to DRA-69, Q. 11 (e).

work rate. The DRA proposed work rate is comparable to the 2010 work rate of 60%.[205]

DRA agrees with PG&E's proposed unit cost of $89 per ticket. PG&E's 2011 average unit cost was $83 per ticket. Most recently, PG&E's 2012 unit cost was $90 per ticket.[206]

Based on the preceding analysis, DRA's recommendation for the DFA cost component of MWC DF, Locate and Mark, is $32.6 million. This amount is derived by applying a 60% work rate to the DRA proposed number of USA tickets of 609,625, for a total of 365,775 tickets that will be worked on, and at a unit cost of $89 per ticket. DRA's recommendation of $32.6 million for MWC DF, Locate and Mark, is $4.2 million lower than PG&E's forecast of $36.8 million.

3. Locate and Mark Standby (DFB)

PG&E estimates $1.1 million for Standby work activities associated with Locate and Mark.[207] PG&E explains "standby" work activities as, "…the process by which an employee is present at an excavation site for the amount of time needed to ensure the safety of the crews and the general public while the excavation near a critical PG&E asset is occurring.[208]

In 2011, PG&E incurred $475,000 in expenses for standby activities. In 2014, PG&E proposes an increase in expense for this sub-category to $515,647 based on an annual escalation rate of 2.75%. PG&E also requests an increase of $595,798 for additional work identified as "spot checks."

DRA asked PG&E to explain the differences between "standby" and "spot check" activities and to provide support for the additional increase. PG&E responded

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[205] Ex. PG&E-3, Workpapers, p. WP 5-60.

[206] PG&E's response to DRA-69, Q. 7.

[207] Ex. PG&E-3, Workpapers, p. WP. 542.

[208] PG&E's response to DRA-69, Q. 20.

that "A 'standby' and 'spot check' are essentially the same work being performed…These two were noted differently within page WP 5-42 to distinguish the new work that is anticipated through the operation of the Gas Distribution Control Center."[209] PG&E proposes performing 1 spot check per week for each of the 18 divisions, at 4 hours per check.[210] However, no supporting analysis or documentations for the proposed spot checks were provided.[211]

PG&E has not adequately supported the request for additional funding to perform the same activities identified as "standby". PG&E's request for additional funding to perform "spot checks" should be denied. DRA recommends the adoption of the PG&E proposed standby expense of $515,647, which is the escalated 2011 recorded amount, for this cost element of MWC DF. DRA's recommendation is $595,000 lower than PG&E's' forecast of 1.1 million.

B. MWC DG

PG&E requests $12.9 million in expenses for Cathodic Protection (CP) activities tracked under MWC DG.[212] According to PG&E, CP is a method to prevent corrosion of the metal surface in soil by applying a direct current from an anode to the steel gas lines being protected.[213] PG&E explains that the CP system requires monitoring on regular intervals to ensure that adequate levels of current are maintained. If the system is found to be below protection levels, maintenance personnel or corrosion mechanics troubleshoot to identify and find the location of the

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[209] PG&E's response to DRA-69, Q. 20.

[210] PG&E-3, Workpapers, p. WP 5-42.

[211] PG&E's response to DRA-69, Q. 15.

[212] Ex. PG&E-3, p. 5-31.

[213] Ex. PG&E-3, p. 5-12.

problem. Appropriate corrective action is subsequently performed, which restores the CP system to satisfactory protection levels.[214]

The annual average expense for 2007-2011 is $10.8 million. In 2012, PG&E spent $18.3 million to address isolated steel services as part of the Isolated Services Project. The company did not record any expense for this activity in previous years. If this project was removed from the 2012 recorded expense, the total cost for all similar work activities performed in the previous 5 years was $14.8 million in 2012.

PG&E's request is reasonable compared to recorded levels from previous years. DRA agrees with PG&E's 2014 forecast of $12.9 million for MWC DG.

Table 9-21
2007-2012 Recorded Data for MWC DG
Cathodic Protection
(In Thousands of Dollars)

Description	2007	2008	2009	2010	2011	2012
MWC DG	$9,631	$9,866	$10,798	$9,790	$13,774	$33,235

Source: No costs were incurred from 2007-2010. DIMP was implemented in 2011 and 2011 data comes from PG&E's response to DRA-DEF-10A-Q.1, Attachment 1. 2012 data from PG&E's response to DRA-108, Q. 4, Attachment 1.

C. MWC FH

PG&E requests $28.6 million in expenses for Preventative Maintenance activities tracked under MWC FH.[215] According to PG&E, MWC FH captures proactive maintenance activities intended to increase the useful life of an asset and to reduce the likelihood of the asset becoming inoperative, breaking or failing.[216]

PG&E's 2007-2012 recorded expenses for MWC FH are summarized in Table 9-22.

[214] Ex. PG&E-3, p. 5-13.

[215] Ex. PG&E-3, p. 5-31.

[216] Ex. PG&E-3, p. 5-18.

Table 9-22
2007-2012 Recorded Data for MWC FH
Preventative Maintenance
(In Thousands of Dollars)

Description	2007	2008	2009	2010	2011	2012
MWC FH	$9,708	$15,343	$41,334	$18,881	$16,539	$22,791

Source: No costs were incurred from 2007-2010. DIMP was implemented in 2011 and 2011 data comes from PG&E's response to DRA-DEF-10A-Q.1, Attachment 1. 2012 data from PG&E's response to DRA-108, Q. 4, Attachment 1.

PG&E states in testimony that the main drivers impacting the increase in forecast are the $3.1 million for the dedicated above ground paint crew and the $4 million for low vent elevation reconstruction to mitigate the risk of an over-pressurization of the gas distribution caused by flooding.[217]

DRA recommends $14.5 million in expenses for MWC FH. While DRA agrees with some of PG&E's proposals, DRA takes issue with the company's request for a dedicated painting crew, Atmospheric Corrosion Monitor and Correction, and Special Projects. A summary of DRA's recommendations and PG&E's requests for MWC FH for 2014 is presented in the table below.

Table 9-23
DRA vs. PG&E's Proposals for MWC FH—2014
(in Thousands of Dollars)

MWC FH Activities	DRA	PG&E
MAT_NA	$1,285	$4,701
Regulator Station Maint.	$6,492	$6,492
Misc. Maint. of Mains and Services	$4,656	$4,656
Distribution Valve Maintenance	$1,555	$1,555
Service Valve Replacement	$2,103	$2,103
Atmospheric Corrosion Monitoring	$1,469	$4,737
Gas Special Projects	$1,663	$4,356
TOTAL	$19,223	$28,599

[217] Ex. PG&E-3, p. 5-18.

1. MAT_NA—No MAT CODE

PG&E requests $4.7 million in expenses tracked under the subaccount MAT_NA for 2014.[218] This is an increase of $3.5 million above the 2011 recorded expenses,$1.2 million. Of the total 2014 forecast, $3.1 million in expense for a dedicated above ground painting program that will be responsible for painting all above ground gas distribution asset.[219] The forecast is for five 3-man painting crews to paint the above ground gas distribution assets of the entire service territory. PG&E states, "Historically, above ground gas distribution assets were painted by the gas distribution preventative maintenance crews…Given the large number of preventive maintenance activities required, painting was being performed when all other preventive maintenance activities were completed resulting in a de-prioritization compared to other preventative maintenance activities.[220] PG&E further states, "This additional dedicated painting crew will supplement the existing preventative maintenance activities and allow the company to proactively prioritize and paint above ground gas distribution assets to extend the useful life and safe operations of the assets."[221]

Between 2007 and 2012, PG&E charged the expenses to perform above ground painting of distribution assets to MWC FH. The annual expenses and annual labor hours are presented in Table 9-24 below.

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[218] Ex. PG&E-3, p. 5-25.

[219] Ex. PG&E-3, pp. 5-24 and 5-25.

[220] Ex. PG&E-3, p. 5-24.

[221] Ex. PG&E-3, p. 5-25.

Table 9-24
Painting Distribution Assets, MWC FH
2007-2012 Number of Hours and Expenses

2007	2008	2009	2010	2011	2012
$ 139,480	$ 114,791	$ 306,766	$ 25,469	$ 96,094	$ 173,238
ANNUAL LABOR HOURS					
1,339 HRS	930 HRS	2,329 HRS	224 HRS	743 HRS	1,199 HRS

Source: PG&E's response to DRA-77, Q. 7, attachment 01.

PG&E's 2014 request of $3.1 million for a dedicated paint crew is an increase of more than $3 million above the 2011 recorded amount of $96,094, as can be seen from the table above. PG&E's 2014 forecast is based on 15 workers performing 24,000 hours of painting a year, an increase of 23,257 hours compared to the 2011 recorded number of 743 hours.[222] PG&E is proposing a significant increase in the number of hours dedicated to painting above ground assets, and yet, no formal analysis was performed to show why this was necessary.[223]

PG&E claims that the company needs to have a dedicated crew to paint above ground distribution assets, but failed to provide adequate support for its request. PG&E has not adequately demonstrated that a problem exists with the current process of painting assets using both PG&E employees and contractors. DRA asked PG&E to provide a copy of all supporting documents and calculations used to determine the forecast. PG&E responded that it did not propose using more crews because of a lack of resources to productively manage more than five painting crews throughout the year. PG&E provided the simple calculation: 5 crews x 3 men per crew x 40 working weeks per year x 40 hours per week x 130 per hour = $3.1 million per year.[224] Nothing else was provided as support for the $3.1 million request.

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[222] PG&E's response to DRA-77, Q. 7(a).

[223] PG&E's response to DRA-77, Q. 7(c).

[224] PG&E's response to DRA-77, Q. 7(a)

PG&E has not adequately justified $3.1 million to hire an additional 15 painters as proposed. Even if PG&E were to double the painting activities in 2011, PG&E would not come close to the cost of $3.1 million a year. Most recently, PG&E spent $173,238 on painting in 2012.

There is embedded funding for painting above ground assets as is evidence from PG&E's accounting of painting expenses. DRA recommends no incremental funding for a dedicated painting crew because PG&E provided inadequate justification and support for an increase in painting expense or that a dedicated painting crew is necessary.

DRA recommends no additional funding for "spoils disposal" because PG&E has not adequately supported its request for an additional $333,370. There is no discussion of this item in PG&E's testimony. Also, there is no support for this request in its workpapers either other than a statement, "PG&E Engineering Judgment".

DRA does not take issue with the proposed escalation from 2011 to 2014. DRA's overall recommendation for this subaccount is $1.3 million. This recommendation is $3.4 million lower than PG&E's request of $4.7 million for 2014.

2. Regulator Station Maintenance

PG&E requests $6.5 million for work activities associated with regulator station maintenance for 2014.[225] The 2011 recorded expense for this subaccount was $6.1 million. DRA agrees with PG&E's request.

3. Miscellaneous Maintenance on Mains and Services

PG&E proposes no increase for the work activities associated with the miscellaneous maintenance on mains. PG&E's 2014 forecast of $1.4 million is the same as the amount the company spent in 2011.[226]

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[225] Ex. PG&E-3, p. 5-25.

For work activities associated with the miscellaneous maintenance of services, PG&E forecasts $3.2 million, an increase of $200,000 above the recorded 2011 amount of $3 million.[227] DRA agrees with PG&E's request for miscellaneous maintenance of mains and services.

4. Distribution Valve Maintenance

PG&E requests $1.6 million for expenses related to the maintenance of valves on mains.[228] In 2011, PG&E spent $1.2 million on related activities.[229] DRA agrees with PG&E's forecast.

5. Service Valve Replacement

PG&E requests $2.1 million for work activities associated with the correction of service valves.[230] In 2011, PG&E incurred $1.8 million in expense for this subaccount.[231] DRA agrees with PG&E's request.

6. Atmospheric Corrosion

PG&E forecasts $4.7 million in 2014 for activities associated with Atmospheric Corrosion Monitor and Correction.[232] In 2011, the company incurred $1.5 million for these activities.[233]

(continued from previous page)

[226] Ibid.

[227] PG&E-3, p. 5-25.

[228] Ibid.

[229] Ibid.

[230] Ibid.

[231] Ibid.

[232] Ibid.

The 2014 forecast is made up of 3 components: (1) the first is an increase above the 2011 recorded amount for the usual activities using a 2.75% labor escalation rate, (2) the second is a $2.5 million request for AC meter inspections to meet 3-year frequency, and (3) the third element is an increase of $678,000 because of the impact of the planned Picarro Surveyor implementation.[234]

DRA does not take issue with the increase in expense as a result of applying the 2.75% labor escalation rate. DRA takes issue with the second and third cost components.

PG&E explains that MWC FH tracks only the cost of AC inspections and remediation for all exposed gas distribution facilities such as service meters and mains, except for customer meter sets which are included under Leak Survey and Repair.[235] Leak Survey is tracked under MWC DE and Leak Repair is tracked under MWC FI. PG&E's request here is for supplemental expenses to meet a 3-year survey cycle. PG&E's request of $2.5 million to supplement the five-year leak survey cycle so that it can meet the 3-year frequency is unsupported.[236]

PG&E claims that the increase in expense for 2014 is required by code to perform AC inspections of its meters at least once every three years.[237] This is not a new requirement for 2014 as PG&E implies. According to the Federal Register, the requirement to inspect for corrosion on a 3-year cycle became effective on October 15, 2003.[238] PG&E is required by General Order 112-E and Federal Code 49 CFR § 192.48 to inspect its pipelines for corrosion. While General Order 112-E requires

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(continued from previous page)

[233] Ex. PG&E-3, p. 5-25.

[234] Ex. PG&E-3, p. WP 5-54.

[235] Ex. PG&E-3, pp. 5-22 to 5-23.

[236] Ex. PG&E-3, p. 5-23.

[237] PG&E's response to DRA-77, Q. 5(c).

[238] 68 FR 53895, issued on September 15, 2003.

utilities to inspect its gas pipelines, it does not require that utilities perform atmospheric corrosion inspection on any particular cycle.

The Federal Code requires utilities to inspect for corrosion on a 3-year cycle. The Federal Code states the following:

49 CFR § 192.481 Atmospheric corrosion control: Monitoring.

(a) Each operator must inspect each pipeline or portion of pipeline that is exposed to the atmosphere for evidence of atmospheric corrosion, as follows:

If the pipeline is located:	Then the frequency of inspection is:
Onshore	At least once every 3 calendar years, but with intervals not exceeding 39 months
Offshore	At least once each calendar year, but with intervals not exceeding 15 months

(b) During inspections the operator must give particular attention to pipe at soil-to-air interfaces, under thermal insulation, under disbonded coatings, at pipe supports, in splash zones, at deck penetrations, and in spans over water.

(c) If atmospheric corrosion is found during an inspection, the operator must provide protection against the corrosion as required by § 192.479.

[Amdt. 192-93, 68 FR 53901, Sept. 15, 2003]

PG&E has been, and is currently on, a 5-year leak survey cycle, except during the 2008-2010 time-frame when PG&E performed accelerated leak surveys of its entire distribution system as a result of discovering deficiencies with its leak survey practices. PG&E has had to inspect its pipelines for corrosion on the 5-year leak survey cycle. The recorded amount spent on atmospheric corrosion in 2011 was $1.5 million.[239]

DRA recommends no increase for this work activity because PG&E has not demonstrated why the increase is necessary. PG&E is on a 5-year leak survey cycle and leak surveyors perform AC inspections when they perform leak surveys.

[239] Ex. PG&E-3, Workpapers, p. WP 5-7.

PG&E is already inspecting for corrosion on service meters and mains on the regular annual, 3-year or 5-year survey schedules and is also inspecting additional service meters to meet the 3-year requirement for AC inspections. These activities and the expenses incurred to perform AC inspections and remediation on a 3-year cycle have been in effect since (at least) 2004. As evident by the recorded spending of $1.5 million in 2011 on these activities, this amount of money is embedded in rates. PG&E has not justified an increase in expense for AC inspections to meet the 3-year requirement as this is already being performed with current funding.

PG&E also alludes to the installation of Smart Meters as a reason it needs to send out additional inspectors for corrosion inspections. PG&E states, "Prior to PG&E's installation of Smart Meters, these inspections were performed by meter readers or leak surveyors at an insignificant addition to the cost of reading the meter for billing or testing the meter for leaks. Now that PG&E has installed SmartMeter, these inspections will need to be performed either in conjunction with leak surveys or (a) if PG&E does not move to a three-year leak survey cycle or (b) conducts leak surveys with the Picarro technology, by a special inspection."[240]

In D.06-07-027, issued on July 20, 2006, PG&E was granted authorization to deploy Advanced Metering Infrastructure (AMI). Since then, SmartMeters have been installed and PG&E has had to inspect for corrosion with and without the use of meter readers. There has been two rate case cycles since the initial deployment of SmartMeters and PG&E has been performing atmospheric corrosion inspections. It is inappropriate for PG&E to request an increase for corrosion inspection expenses for 2014.

PG&E requests an increase of $678,000 to perform atmospheric corrosion inspections as a result of implementation of the Picarro Surveyor.[241] According to PG&E, the company will need to send out additional inspectors because the

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[240] PG&E's response to DRA-77, Q. 5.

[241] Ex. PG&E-3, Workpapers, p. WP 5-54.

implementation of Picarro surveyor will replace actual leak surveyors who also perform AC inspections. PG&E states, "Because of this technology, the efficiency gained combining leak survey and atmospheric corrosion inspections will be lost. Single purpose trips to inspect the meter for atmospheric corrosion will be needed as the Picarro Surveyor and other technologies are implemented."[242]

xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx.[243] PG&E does not consider these graders in its 2014 request. These crewmen can combine the leak grading activities with meter inspections while they are in the area to grade leaks.

DRA takes issue with the proposed increase because at this time, PG&E is still studying the Picarro Surveyor, which is still in the pilot stage.[244] It is not definitive that the Picarro Surveyor will be deployed at the rate planned. PG&E should continue to collect data based on the Picarro pilot for use in the next GRC, once the project is fully developed, and there is more information on emergent technologies being considered by PG&E.

Based on its analysis above, DRA recommends the Commission adopt the 2011 level of funding and provide no additional increase for this subaccount. DRA's recommendation of $1.5 million is $3.3 million less than PG&E's request of $4.7million.

7. Special Projects

PG&E requests $4 million in expense to raise the height of low elevation vents and thereby reduce the potential for over-pressurization events.[245] PG&E

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[242] PG&E's response to DRA-77, Q. 5, (a).

[243] PG&E's response to DRA-24, Q. 1, Attachment 1, Confidential.

[244] Ex. PG&E-3, p. 6-12.

[245] Ex. PG&E-3, p. 5-24 and Workpapers, p. WP 5-53.

states, "This proactive approach to monitoring and reducing potential over-pressurization events as a result of vault flooding is an enhancement to the previous approach of pumping water from flooded vaults."[246]

According to PG&E, in 2011 DIMP identified PG&E's low pressure system was at risk due to water intrusion in vaults containing regulation equipment.[247] PG&E states that flooding would cause excess pressure to be applied to the diaphragm of the regulator thereby causing the regulator to equalize the pressure by allowing more gas to flow through the regulator and cause an over-pressurization.[248] Because there is no pressure protection at the customer meter set, the elevated pressure would enter the customer's house.[249]

According to PG&E, prior to 2012, the company addressed the risk of over-pressurization by dewatering the vaults in the course of preventative maintenance or as they became flooded.[250] Each low pressure regulator station is visited once a year for preventive maintenance. PG&E states that while this process addressed the risk of over-pressurization and was reasonably successful, an engineering solution was sought to reduce the risk with an inherently safe design. If the vents are raised above grade, the vault can fill with water and still function normally.[251]

PG&E created a pilot program by using a contractor to routinely pump the water out from all low pressure vaults in San Francisco and in the East Bay Division in 2012.[252] The pilot found a number of vaults that continually fill with water and

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[246] Ex. PG&E-3, p. 5-24.

[247] PG&E's response to DRA-77, Q.6 Attachment 1.

[248] Ibid.

[249] Ibid.

[250] PG&E's response to DRA-77, Q. 6(c).

[251] PG&E's response to DRA-77, Q. 6(c).

[252] Ibid.

need ongoing corrective action to prevent over pressure events due to water in regulator vents.

According to PG&E, its Gas Engineering and Operations team is proposing a strategy to develop a 5-year program to raise equipment vent lines above grade.[253] The team's cost estimate to modify all existing Low Pressure district regulators and reliefs is $7.5 million.[254] (There are currently 236 Low Pressure regulator stations and 80 Low Pressure System Relief Stations for above grade vent termination locations.)

DRA supports PG&E's effort to address the issue of over pressure threats in Low Pressure distribution systems by raising the height of low elevation vents system-wide over the next 5 years. However, DRA recommends an annual amount of $1.7 million and not $4 million as PG&E requests. DRA's recommendation is based on PG&E's 2014 unit cost per low pressure vent location amount of $26,393[255] multiplied by 63 locations per year.[256]

For additional activities that PG&E must do to manage low pressure regulator stations until the entire system is corrected, there is embedded funding as part of the Gas Non-Recurring Projects sub-account. According to PG&E, the company does not track separately the expenses incurred to pump water from flooded vaults as these charges are a part of corrective maintenance activities.[257]

DRA's recommendation of $1.7 million is $2.3 million lower than PG&E's request of $4 million.

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[253] PG&E's response to DRA-77, Q.6 (a) attachment 2.

[254] PG&E's response to DRA-77, Q.6 (a) attachment 2.

[255] PG&E's response to DRA-77, Q. 6(h).

[256] PG&E's analysis shows a total of 316 regulation stations and relief stations. DRA-77, Q. 6, attachment 2.

[257] PG&E's response to DRA-77, Q. 6(e).

D. MWC EX

PG&E requests $917,000 for Gas Distribution Meter Protection work activities tracked under MWC EX.[258] The table below provides a summary of MWC EX recorded expenses from 2007-2012.

Table 9-25
2007-2012 Recorded Data for MWC EX
Gas Distribution Meter Protection
(in Thousands of Dollars)

Description	2007	2008	2009	2010	2011	2012
MWC EX	$607	$967	$336	$97	$486	$7,935

Source: No costs were incurred from 2007-2010. DIMP was implemented in 2011 and 2011 data comes from PG&E's response to DRA-DEF-10A-Q.1, Attachment 1. 2012 data from PG&E's response to DRA-108, Q. 4, Attachment 1.

DRA agrees with PG&E's request of $917,000 for MWC EX for 2014.

E. MWC GM

PG&E requests $3 million in expenses for work activities associated with Management of Energy Efficiency—Non-Balancing Account.[259] The 2011 recorded expenses for MWC GM were $2.4 million. The expense tracked by MWC GM is to maintain and operate existing natural gas fueling facilities in 2014. The table below provides a summary of MWC GM recorded expenses from 2007-2012.

Table 9-26
2007-2012 Recorded Data for MWC GM
Natural Gas Vehicle Maintenance
(in Thousands of Dollars)

Description	2007	2008	2009	2010	2011	2012
MWC GM	$2,573	$2,870	$2,453	$2,968	$2,375	$3,520

Source: No costs were incurred from 2007-2010. DIMP was implemented in 2011 and 2011 data comes from PG&E's response to DRA-DEF-10A-Q.1, Attachment 1. 2012 data from PG&E's response to DRA-108, Q. 4, Attachment 1.

DRA agrees with PG&E's expense proposal for MWC GM for 2014.

[258] Ex. PG&E-3, p. 5-31.

[259] Ibid.

VIII. DISCUSSION / ANALYSIS OF LEAK SURVEY AND REPAIR

This section discusses PG&E's request for Leak Survey and Repair for 2014. Leak Survey activities include physically tracing the gas distribution system using sensing equipment specifically designed to locate and grade gas leaks. Repairs are conducted when leaks are found through leak survey activities, preventive maintenance or customer calls. PG&E requests $33.8 million for leak surveys and $102 million for leak repairs in 2014.

PG&E proposes a 2-way balancing account for leak survey (MWC DE) and repair (MWC FI) costs. PG&E also is proposing meter set leak repair costs (MWC HY) and the cost of atmospheric corrosion (MWC FH) also be recovered through the 2-way balancing account. PG&E's proposal of the two-way balancing account treatment of leak survey and repairs is based on the expectation that Picarro will find significantly more leaks than PG&E would find using incumbent equipment.[260] PG&E's proposal of the two-way balancing account treatment of MWC FH, atmospheric corrosion inspections, is also based on Picarro but for different reasons. PG&E states, "…while on a traditional 3-year leak survey cycle, atmospheric corrosion inspections are performed by leak surveyors…when the survey is performed by the Picarro Surveyor, the surveyor will not be able to perform the atmospheric corrosion inspection (because he/she will be in the vehicle, not physically at the meter)."[261]

DRA opposes the adoption of a two way balancing account for these MWCs because it is unnecessary. The work activities and associated costs of leak surveys and leak repairs are not new. The system leak rate has been decreasing and there is historical leak survey and repair data. PG&E's forecast uses an unsupported leak find rate for Picarro Surveyor. DRA accounts for a higher leak find rate for the Picarro Surveyor based on the 2011 historical leak find rate multiplied by an increase of 33%, which is reasonable. The Picarro Surveyor is only one of the many

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[260] Ex. PG&E-3, p. 6-38.

[261] Ibid.

equipment and technology proposed by PG&E to detect leaks. Most importantly, the two-way balancing account provides no incentive for PG&E to control costs. PG&E's proposal accounts for $172.3 million, or 37%, of its total 2014 forecast. PG&E's proposal is unreasonable and should be rejected.

PG&E states the driver for the proposed 71% increase in the test year for Leak Survey is the increased distance PG&E forecasts surveying per year to transition from a five to a three-year survey cycle. The driver for the 174% increase in leak repair and corrective maintenance is due to using new technology, i.e., the Picarro Surveyor, changing from a 5-year to a 3-year cycle, using Picarro to perform annual surveys of leak clusters, and repairing above-ground Grade 3 leaks within 15 months.

Table 9-27 summarizes PG&E's request and DRA's recommendation for the MWCs within Leak Survey and Repair.

Table 9-27
Gas Distribution Expenses for TY2014
Leak Survey and Repair
(In Thousands of Dollars)

Description (a)	DRA Recommended (b)	PG&E Proposed[262] (c)
MWC DE	$23.4	$33.8
MWC FI	$32.1	$102.1
Total	$55.5	$135.9

A. MWC DE

PG&E requests $33.8 million in 2014 for work activities associated with Routine Leak Survey, Special Leak Survey, Downgrade No Repair, Re-checks, Customer Calls, and Other.[263] The 2014 forecast is $14 million higher than the

[262] Ex. PG&E-3, p.6-21 and p. 6-37.

[263] Ex. PG&E-3, p. 6-21.

2011 recorded amount of $19.8 million. In 2012, PG&E spent $26.3 million on Routine Leak Surveys.

Table 9-28 below provides a summary of MWC DE recorded expenses from 2007-2012.

Table 9-28
2007-2012 Recorded Data for MWC DE
Leak Survey
(in Thousands of Dollars)

Description	2007	2008	2009	2010	2011	2012
MWC DE	$8,417	$20,259	$49,988	$29,163	$19,756	$26,275

Source: No costs were incurred from 2007-2010. DIMP was implemented in 2011 and 2011 data comes from PG&E's response to DRA-DEF-10A-Q.1, Attachment 1. 2012 data from PG&E's response to DRA-108, Q. 4, Attachment 1.

DRA recommends $22.5 million for MWC DE. Compared to PG&E's forecast, DRA's estimate is $11.3 million lower than PG&E's forecast of $33.8 million for 2014. The table below provides a summary of DRA's forecast. A discussion of each subcategory under MWC DE follows the table.

Table 9-29
DRA vs. PG&E's 2014 Forecast for MWC DE
(In Thousands of Dollars)

MWC DE	DRA	PG&E
Routine Leak Survey	$12,484	$20,044
Special Leak Survey	$1,119	$1,119
Downgrade No Repair	$404	$1,752
Re-Checks	$5,090	$6,375
Customer Calls	$1,966	$1,966
Other	$1,400	$2,584
TOTAL	**$22,463**	**$33,840**

1. Routine Leak Survey

PG&E requests $20 million in 2014 for Routine Leak Survey.[264] This is an increase of $7.1 million above the 2011 recorded value of $12.9 million. Routine Leak Survey cost is a function of the unit cost and the number of services surveyed.

PG&E's forecast is to perform 1,314,101 surveys at a unit cost of $15.25 per survey for a total of $20 million.[265] The 2014 proposed level of work is 457,550, or 53% more surveys than the 2011 recorded number of 856,551.

The number of services PG&E surveyed each year from 2007-2011 and the 2014 proposed leak surveys are presented in the table below. PG&E surveyed a total of 852,225 services in 2012.[266]

Table 9-30
2007-2011 PG&E recorded and
2014 Proposed number of Services to be Leak Surveyed

PG&E Recorded					PG&E Proposed
2007	2008	2009	2010	2011	2014
750,225	715,929	756,576	715,729	856,551	1,314,101

Source: PG&E-3, Workpapers, p. 6-15

The increase in the number of services to be surveyed is directly attributable to PG&E's proposal to go from a 5-year survey cycle to a 3-year survey cycle in 2014.[267] This means surveying more services or pipelines each year and finishing the entire service territory in 3 years instead of 5. PG&E currently surveys its

[264] Ex. PG&E-3, p. 6-21.

[265] Ibid.

[266] PG&E's response to DRA-109, Q. 1, Supplemental 1.

[267] Ex. PG&E-3- pp. 6-13 to 6-16.

system on 4 different leak survey cycles simultaneously.[268] The cycles are summarized below:

PG&E Current Leak Survey Cycle

6 months	Substations
Annual	business districts, High Public Assemblies, Atmospheric Exposed Mains and Bare Steel Mains
3-year	Copper services, cast iron mains, unprotected steel mains
5-year	All other (94% of the system)

PG&E is required by Federal code, 49 CFR Section 192.723 to conduct surveys on its distribution system to find gas leaks. PG&E is required to survey business districts annually, unprotected distribution lines once every three years, and non-business (or residential areas) once every 5 years.[269] Approximately 94% of PG&E's gas distribution system is surveyed on a 5-year cycle.[270]

PG&E has not adequately justified the need to move from a 5-year cycle to a 3-year cycle for most of its system. PG&E states that there would be approximately 25 percent more hazardous (or grade 1) leaks not found in 2014 and thus not fixed and not checked than there would be under a three-year cycle.[271] PG&E did not provide the calculations or analysis used to determine the 25% increase in leaks. During the 2008-2010 timeframe when PG&E surveyed its system on an accelerated cycle, the company found more leaks than previously detected. However, the reason for this was that PG&E identified deficiencies in the survey process. PG&E

[268] Ex. PG&E-3, pp. 6-8 to 6-9.

[269] Ex. PG&E-3, Workpapers, p. WP 6-25.

[270] Ex. PG&E-3, p. 6-9.

[271] PG&E's response to DRA-168, Q. 5.

has not demonstrated that by surveying its system on an accelerated basis, it would find more hazardous leaks.

PG&E provided a cost benefit analysis of going from a 5-year survey cycle to a 3-year cycle. The analysis shows PG&E does not expect any cost savings associated with the accelerated leak survey cycle. PG&E anticipates a cost avoidance of $2.5 million in 2014 and beyond, for AC inspections. AC inspections are required to be surveyed within a 3-year cycle. Since PG&E has to inspect for corrosion on a 3-year cycle, PG&E states that by aligning the proposed 3-year cycle leak survey with the frequency of the AC inspections, the cost of sending a crew out to perform AC inspections outside of the normal leak survey could be avoided.

PG&E failed to discuss that on the current 5-year leak survey cycle, PG&E has been performing AC inspections with the normal leak surveys and perform additional AC inspections to meet the 3-year cycle requirement. As discussed above under the work activities tracked by MWC FH, PG&E incurred $1.5 million in 2011 to perform AC inspections concurrent with leak surveys on the present 5-year cycle.

The cost for doing additional AC inspections, while remaining with a 5-year leak survey cycle, is $1.5 million and not $2.5 million as PG&E proposes. So the cost avoidance would only be $1.5 million. This additional expense to meet the AC inspection 3-year cycle is embedded in rates in MWC FH, as discussed under the Atmospheric Corrosion section above.

PG&E asserts that moving to a 3-year leak survey cycle will align with industry best practices.[272] PG&E states, "More than half of respondents to an industry survey indicated that they leak survey their entire system at least once every three years."[273] PG&E's source for the two statements made is the American Gas Association. DRA requested a copy of the document PG&E relied on to make these statements. PG&E provided a letter, dated, June 15, 2012, from the American

[272] Ex. PG&E-3, Workpapers, p. WP 6-29.

[273] Ex. PG&E-3, p. 6-15.

Gas Association to PG&E, regarding "Best Practices Benchmarking."[274] In this letter, the AGA is responding to PG&E's request to share the results of various AGA-developed, informal and unaudited industry surveys concerning the following natural gas distribution operations practices: Locate and Mark, leak survey; emergency response; distribution control center; and emergency shutdown zone valves. The AGA states in this letter under the subject of Leak survey:

> *"Of the 46 companies that responded to a 2011 Leak Management survey concerning leak survey practices, over 50% responded that they leak survey their entire natural gas distribution systems as follows:*
>
> - *Unprotected pipe at least once every three years*
> - *Plastic and protected pipe at least once every five years"*

According to the AGA letter, only unprotected pipes are surveyed on a 3-year survey cycle. Not every type of pipe in the respondents' systems is surveyed on a 3-year cycle.

PG&E files an annual report of its gas distribution system with PHMSA which describes its system and identifies the number of miles of mains and services at the end of the year by type of pipelines and decade of installation. In the Annual Report for Calendar Year 2011 Gas Distribution system, the number of miles of mains identified as "Unprotected, Bare, Steel" is zero and the number of services identified as "Unprotected, Bare, Services" is also zero. Of the total of 42,309 miles of mains and 3,351,281 services, PG&E had no unprotected pipe.[275] The Annual Report for 2012 continues to show zero miles of mains and zero services under the category of "Unprotected, Bare, Steel" and "Unprotected, Bare, Services", respectively.[276]

The current survey cycle shows that PG&E has been surveying "Unprotected Steel Mains" on a 3-year cycle. PG&E is already following industry best practices.

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[274] PG&E's response to DRA_DEF 10C-Q.1, Attachment 1.

[275] Ex. PG&E-3, Workpapers, p. WP 5-72.

[276] PG&E's response to DRA-251, Q.1, Attachment 1.

The 2012 ANSI Guide for Transmission and Distribution Piping Systems (the Guide) also recommends surveying unprotected pipes once every 3 years. The Guide recommends survey non-business districts (or residential areas, which makes up 94% of PG&E's system) on a 5-year cycle. The Guide states:

> *A leakage survey with leak detector equipment must be conducted outside business districts as frequently as necessary, but at least once every 5 calendar years at intervals not exceeding 63 months. However for cathodically unprotected distribution lines subject to Section 192.465(e) on which electrical surveys for corrosion are impractical, a leakage survey must be conducted at least once every 3 calendar years at intervals not exceeding 39 months.*[277] (Emphasis added)

The Guide recommends that the leak survey frequency be established and reviewed, stating "leak survey frequencies should be based on operating experience, sound judgment, and a knowledge of the system. Once established, frequencies should be reviewed periodically to affirm that they are still appropriate."[278] PG&E has not performed a review of its leak survey frequency for the purpose of affirming its appropriateness. PG&E has not demonstrated that remaining on a 5-year cycle is inadequate.

PG&E identified two factors to support its proposal to accelerate the leak survey schedule. One is PG&E's claim that its system is currently aging at a faster rate than is being replaced. The system's aging alone should not be the determining factor to increase survey frequency. The Guide states that other factors such as material, type of facilities, operating pressure, leak history records, corrosion, proximity to buildings or other structures, environmental conditions and construction activity, or other conditions that have significant potential to initiate a leak should be considered in increasing the survey frequency.[279]

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[277] 2012 Guide for Transmission and Distribution Piping Systems, Gas Piping Technology Committee Z380, p. 309.

[278] 2012 Guide for Transmission and Distribution Piping Systems, Gas Piping Technology Committee Z380, p. 310.

[279] Ibid.

PG&E's support for the proposed change to a 3-year cycle is the Accelerated Leak Survey (ALS) that the company performed from 2008-2010.[280] The ALS was performed as a response to PG&E's identification of problems with its leak detection process, not the survey frequency. PG&E states that the reason for the ALS being conducted was:

> "In 2007, the Leak Survey Program in Sonoma County was one of those programs that were assessed for effectiveness. PG&E *discovered deficiencies in the leak survey performed*. The leak detection rates associated with the leak survey were not at a level considered adequate. As a result, PG&E determined that further corrective actions were required and performed a complete resurvey of Sonoma County in 2008.
> In the performance of the resurvey in Sonoma County and in sampling the survey work performed Company-wide between 2002-2007, PG&E determined that *its leak detection process needed improvement*. As a result PG&E modified work procedures, training, and the qualification processes associated with leak survey.
>
> In addition to the new enhanced training, qualification process, and work procedures, PG&E proceeded with an accelerated leak survey of all PG&E gas facilities previously surveyed in 2006 and 2007. This accelerated leak survey, along with the normal routine surveys conducted in 2008, 2009, and 2010, will result in an enhanced gas leak survey process, using the new training and gas leak survey procedures being performed on all PG&E gas facilities by December 31, 2010.[281]

PG&E states that during 2008, personnel involved in leak survey were re-qualified and a QC program was added to audit the leak surveys. Approximately two-thirds of the company leak surveyors did not re-qualify under the new program.[282]

PG&E compares the leak survey and find rates of the years 2007-2012 and concludes that, "Following the accelerated leak survey, PG&E saw an 11 percent reduction in Grade 1 leaks found to repair as a result of customer calls. This is a

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[280] Ex. PG&E-3, pp. 6-14 to 6-15.

[281] PG&E's response to DRA-24, Q. 6.

[282] PG&E-3, Workpapers, p. WP 6-136.

strong indication that the accelerated leak survey was effective in eliminating potentially hazardous situations."[283]

Any comparisons made using the leak rate before the ALS was performed as well as in the subsequent year after it should be disregarded. The leak rates detected in the years preceding the ALS have been documented by PG&E to be deficient and inaccurate. Comparisons of leak rates following the ALS and the changes in survey processes and procedures are also of little value. In the Review of PG&E's Annual Leak Reporting PHMSA Annual Report, dated January 26, 2011, PG&E's consultant, ViaData LP, states, "These changes to leak survey procedures makes comparisons of year-to-year data questionable until two full reporting cycles are completed that incorporate all changes to the leak survey and reporting procedures."[284]

PG&E does not adequately support the reasons identified in testimony to accelerate leak survey to a 3-year cycle. PG&E has not performed a risk analysis associated with remaining with the current 5-year survey interval.[285] The system leaks data reported to PHMSA shows that PG&E's system is improving, leaking less. The number of system leaks identified in PG&E's Annual Reports to PHMSA shows a steady decline from 2009 to 2011. In 2009, there were a total of 58,089 leaks reported and 25,700 known system leaks at end of year were scheduled for repair.[286] In 2010, the number of system leaks decreased 23% to 13,565 and 12,233 known system leaks at end of year were scheduled for repair.[287] In 2011,

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[283] Ex. PG&E-3, p. 6-15.

[284] Ex. PG&E-3, p. WP 6-136.

[285] PG&E's response to DRA-168, Q. 5.

[286] PG&E's Annual Report for Calendar Year 2009, Gas Distribution System, identified in PG&E's response to DRA-26, Q. 4,Attachment 3.

[287] PG&E's Annual Report for Calendar Year 2010, Gas Distribution System, identified in PG&E's response to DRA-26, Q. 4,Attachment 4.

the number of system leaks decrease 73% to 9838 and 8,064 leaks were scheduled for repair.[288]

In PG&E's workpapers supporting its leak survey proposal, PG&E included a report entitled Accelerated Natural Gas Transmission System Aerial and Ground Leak Survey Trends Report, and dated February 1, 2011, which the company provided to the CPUC (the "Report").[289] The Report was provided to the CPUC in response to the Commission's directive for PG&E to conduct an accelerated system survey of all natural gas transmission pipelines. The Report states that PG&E's completed its survey on November 19, 2010.

It is understandable that PG&E accelerate the leak survey cycle of its transmission system as a result of the San Bruno incident. There is no indication offered by PG&E in this application that its distribution system is in a state of disarray such that PG&E would also need to accelerate the leak surveys.

PG&E's leak grading rule already exceeds best practices, as set by the 2012 ANSI GPTC Guide for Gas Transmission and Distribution Piping systems, in that PG&E uses a Grade 2+ category with a scheduled priority repair within 90 days. In the Report to the Commission, PG&E states, "PG&E's grading rules exceed industry standards…"[290] By having a Grade 2 leak identified as Grade 2+, PG&E is prioritizing and repairing system leaks in an accelerated time frame. While Grade 2 leaks require a repair within 15 months and a recheck every 6 months until repaired, Grade 2+ leaks are repaired within 90 days or less.[291] Industry practices and ASME standards identify only 3 leak grades, Grade 1, Grade 2, and Grade 3.[292]

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[288] Ex. PG&E-3, Workpapers, p. WP 5-74.

[289] Ex. PG&E-3, Workpapers, p. WP 6-112 to 6-159.

[290] Ex. PG&E-3, Workpapers, p. WP 6-118.

[291] Ex. PG&E-3, p. 6-23.

[292] Ex. PG&E-3, p. 6-23, and the 2012 Guide for Transmission and Distribution Piping Systems, Gas Piping Technology Committee Z380, Appendix G-192-11, p. 598.

PG&E is performing additional leak surveys on targeted populations of pipes (pipes at risk) as part of its Distribution Integrity Management Program (DIMP). PG&E states, "PG&E's Routine Leak Surveys are a continuous monitoring process used to identify and repair leaks that occur within PG&E's gas infrastructure. These routine surveys are part of PG&E's long standing gas distribution safety and monitoring program, are clearly defined in PG&E's gas standards, and are identified by the CPUC as a mandated compliance requirement. PG&E conducts leak surveys on all pipelines within its distribution system at least once every five years. The Distribution Integrity Management Program (DIMP) Leak Survey program goes beyond PG&E's Routine Leak Survey program under MWC DE and is not a mandated compliance requirement. This DIMP program targets specific location or materials to determine the potential increase in risk associated with leaks at those locations or on those materials.[293]

DRA recommends PG&E retain the current 5-year leak survey cycle and perform a total of 841,012 surveys at PG&E's proposed unit cost of $15.25 per survey for 2014. The number of survey units is the average of the number of actual surveys performed in 2011, and the planned surveys for 2012 and 2013. DRA does not take issue with PG&E's proposed unit cost, which is based on the 2011 recorded cost times escalation.

DRA's 2014 leak survey recommendation is based on PG&E performing 50% of the survey using the traditional foot survey and mobile methods and 50% using the Picarro Surveyor. DRA's recommendation of surveying 50% of the services, or 420,506 services is less than the number of services PG&E proposes to survey in the 3 divisions proposed for 2014.[294] Of the total 3,395,443 number of services in the 18 divisions of PG&E's gas distribution system, each division is approximately

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[293] PG&E's response to DRA-200, Q. 6(a).

[294] Ex. PG&E-3, p. 6-12.

made up of 188,636 services.[295] The 3 divisions that PG&E plans to survey using the Picarro Surveyor in 2014 will total approximately 565,908 services.

Although DRA does not take issue with PG&E's proposal to use the Picarro Surveyor to perform increasing number of services, DRA is cautious about PG&E's adaptability regarding the Picarro Surveyor. First, it is a new technology that PG&E is still investigating. Although it is significantly more sensitive than other leak detection equipment currently used, PG&E is piloting this technology this year in one of its divisions. PG&E needs to determine its effectiveness in surveying the diverse terrain of the service territory, and if the company will be able to respond adequately to this technology. For example, while Picarro may be sensitive to identifying leaks, the technology cannot grade leaks. The Picarro unit is being driven by a Picarro Company contractor. PG&E will need to send out an employee to grade any leaks found.

The other issue is that once a leak is identified and graded, the clock starts ticking and PG&E needs to respond within the required timeframe. If PG&E detects and grades more Grade 1, Grade 2+, and Grade 2 leaks than previously, then the company would need to send out a repair crew that could repair and recheck all the new leaks that are detected by Picarro within the required timeframe. With Picarro as new equipment, PG&E must be prepared to handle the issues associated with new work process, hiring people, and training them appropriately to adapt to the new technology. There is no assurance that PG&E will be able to fully implement Picarro in 2014 as planned.

In 2012, PG&E tested the Picarro Surveyor on 2 divisions. PG&E plans to pilot the Picarro on one division and study it in 2013. DRA believes that PG&E's forecast for leak survey and repair in the GRC is premature. Until PG&E completes the pilot study, DRA cautions against rushing to accept PG&E's Picarro adaptability.

PG&E is also exploring other technology besides Picarro. At this time, Picarro can only be driven around for leak surveys. According to PG&E, among other limitations such as wind factor, Picarro cannot survey tall buildings and it

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[295] Ex. PG&E-3, Workpapers, p. WP 6-64.

cannot survey assets if they are located too far off the roadway beyond the leak detection area.[296] This prevents PG&E from surveying all of its assets and making it less effective than traditional foot surveys where the surveyor wears the surveying equipment on his/her back and traverses the pipelines and services.

New technology is being developed. It is possible that the current Picarro Surveyor may not be as fully deployed as PG&E is suggesting. PG&E is also looking to develop leak surveying equipment that is truly portable—equipment that can be carried by foot surveyors for leak surveys.

A Mountain View company called Los Gatos Research (LGR) has released the world's first ultra-portable gas analyzer. According to a press release in February 2012, by LaserFocusWorld, the LGR product is being touted as "unique, compact and ultra-portable". The press release states, "This new ultra-portable Greenhouse Gas Analyzer (UGAA) simultaneously measures, CO2, CH4, and H20 concentrations, without cross sensitivity with over gases and consumes less than 70 watts."[297]

Based on the preceding investigation and analysis, DRA proposes the leak survey cost of $7.6 million for 2014. This amount is based on PG&E surveying 420,506 services at the PG&E proposed unit cost of $15.25 per survey using the traditional methods, and 420,506 services at the PG&E proposed unit cost of $2.67 per survey using the Picarro Surveyor.

A summary of the differences between DRA and PG&E's proposed leak surveys and costs is presented in the table below.

[296] As told to DRA on the Picarro demonstration field trip on November 2, 2012.

[297] LaserFocusWorld Press Release, 2/13/12. Los Gatos Research Portable Gas Analyzer Consumes <70W.

Table 9-31
DRA's vs. PG&E's 2014 Leak Survey Forecast
(In Thousands of Dollars)

PG&E	Units	Cost
3-year cycle, Picarro to survey 3 divisions, leak grades for Picarro surveys, leak clusters	1,314,101	$20,044
DRA		
5-year cycle, 50% traditional and 50% Picarro, leak clusters	841,012	$7,560
PG&E>DRA	473,089	$12,484

a. Picarro Cluster Surveys/DIMP Leak Cluster Surveys

xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx.[298] DRA does not take issue with PG&E's request to use the Picarro Surveyor to perform leak surveys on leak clusters. However, DRA takes issue with the number of leak clusters that PG&E claims it has identified and proposes to survey in 2014. DRA does not agree with PG&E's higher leak find rate associated with leak cluster surveys, which leads to a higher level of repairs. This is discussed in detail under the section MWC FI, Leak Repairs, which follows this section.

PG&E proposes to use the Picarro Surveyor to survey 1,000 leak clusters which equates to 57,000 services, above and beyond the routine leak survey. According to PG&E, "Clusters are subsets or services which have been defined by the integrity management group as areas with higher density of known leaks. There are approximately 57 services within each of the 1,000 clusters which have been defined."[299]

[298] PG&E's Leak Survey and Repair Model, PG&E's response to DRA-168, Q. 2, Attachment 1, Confidential, line 69.

[299] Ex. PG&E-3, Workpapers, p. WP 6-43.

PG&E's explanation of how the 57,000 services were determined is as follows:

> "To determine the number of services forecasted, PG&E used the service counts associated with the Aldyl-A clusters in 2012 (approximately 10,000 services associated with 175 clusters, for about 57 services per cluster) and forecasted a similar amount for the remaining clusters (~57 services per cluster for 860 clusters in the all material cluster survey). PG&E used the overall number of clusters in 2012 (1035 clusters) to estimate a round number of 1,000 clusters in 2014."[300]

Based on PG&E's explanation, the company has identified 1,000 leak clusters, (or 57,000 services) of which Aldyl A makes up 17.5% of the total clusters and the remaining 82.5% of the clusters is made up of all other types of materials.

DRA takes issue with the 1,000 leak clusters or 57,000 services for several reasons. First, PG&E explains in testimony that leak clusters need to be surveyed until a mitigation plan is created to reduce the risk on the pipe segment, a replacement pipeline is in place, or it is determined that the issue causing the leaks has been resolved.[301]

For the Aldyl-A pipelines, PG&E's DIMP program is addressing the risks associated with this type of pipe with a targeted mitigation plan called the Aldyl-A Replacement Program for the replacement of high risk Aldyl-A. PG&E does not factor this in its proposal to survey Aldyl-A pipes in the leak clusters it identified.

The 1,000 leak clusters PG&E identified to perform additional annual surveys is excessive because PG&E has not adequately supported its request. DRA discovered from the data that there is no differentiation between leaks that were repaired by performing a replacement of certain segments versus leaks repaired by other methods such as welding, or tightening of cap/bolt.

The 1,000 leak clusters included leaks that were identified and repaired over the last 20 years. There is no discussion or analysis to show why leaks detected

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[300] PG&E's response to DRA-200, Q. 6(f).

[301] Ex. PG&E-3, p. 4-22.

and repaired over 20 years ago, or pipelines replaced over 20 years ago to clear leaks, need to be surveyed annually starting in 2014.

It does not appear that PG&E considered the time difference of when the 7 leaks were identified. There is no discussion in PG&E's determination of the 1,000 leak clusters whether the 7 leaks in a cluster are fresh leaks from recent years, or if the 7 leaks happened over the last 20 years.

PG&E does not differentiate the grades of the leaks selected for the 1,000 leak clusters. The 1,000 leak clusters includes both hazardous and non-hazardous leaks identified as Grade 1, Grade 2+, Grade 2, and Grade 3. PG&E has not submitted any risk analysis regarding the leak classification in the 1,000 leak clusters it identified. From the data provided, it appears that a non-hazardous Grade 3 leak is weighted the same as a hazardous Grade 1 leak. It appears that there is no risk assessment regarding the aggregate risks either. PG&E stated that a leak cluster's threshold is 7 leaks. There is no differentiation regarding risk for pipelines that have 7 or more Grade 1 leaks, versus pipelines that have 7 or more Grade 3 leaks, or pipelines with different combinations of various grades.

PG&E failed to adequately support the identification of 1,000 clusters using 7 leaks as the threshold. Although PG&E states that it reviewed the leak history data from the Company's leak management program, IGIS, and specific criteria were applied to the geospatial data to establish the leak clusters, there is no support for the identified threshold. PG&E does not explain why a cluster with 6 or less leaks is not at high risk compared to a cluster with 7 or more leaks.

PG&E did not differentiate the location of the leaks either, whether or not it is above ground or below ground. In its RMP-15—Risk Management Plan for Gas Distribution Integrity Management Program, PG&E assigns a lower risk score to pipelines located above ground. PG&E states, "Above ground leaks are lower in consequence as a result of the gas venting to the atmosphere."[302] There is any distinction made between leaks found above or below ground in the proposed 1,000 leak clusters.

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[302] PG&E's response to DRA-49, Q. 13, attachment 1.

DRA asked PG&E to provide a copy of all the analyses/studies performed to identify these clusters. PG&E did not provide any such studies/analyses. PG&E provided to DRA an Excel spreadsheet containing all leaks detected each year by PG&E and an Excel spreadsheet that PG&E claimed is for cluster data. The leaks detected spreadsheet contains data collected from 1993 to the present.[303] From the leaks detected spreadsheet, the cluster data was culled. PG&E stated that the company collected known leaks for from 1993 to the present.[304]

The cluster data spreadsheet contains the leaks by Division name, Cluster identification number, Number of Leaks, and whether the pipeline was installed "Pre-73" or "blank." DRA filtered the data and only found 325 records/clusters that had 7 or more leaks and were installed before 1973. There were 1,202 records/clusters that had 7 or more leaks and were installed after 1973. In testimony, PG&E states, "The scope of work for 2012 and 2013 is to leak survey Pre-1973 Aldyl-A main and other material main that have leak clusters of seven or greater. In 2014, approximately 1,000 clusters of seven leaks or greater will be surveyed."

For the test year, PG&E proposes to perform almost 3 times as many leak surveys of the leak clusters as the company planned to survey in 2012 and 2013 combined. PG&E has not offered any risk assessment identifying an increase risk with these clusters if the company surveys at the rate it proposes for 2012 and 2013.

There is no discussion or analysis provided regarding leaks identified as part of the 1,000 clusters that was replaced instead of repaired. For example, the leak cluster identified as "KER378" with 10 leaks, contains the following descriptions under the heading "Repair Description", (1) Replace distribution main, (2) Replace partial service, or (3) Replace entire service. Under the category of repairs, PG&E identifies many types including, "patch weld," "fill weld," "mechanical repair fitting," "tightening," etc. One would think that pipes that have minor leaks or need minor repairs would be treated differently than if certain segments were leaking grade 1

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[303] PG&E's response to DRA 24, Q. 3 (f)

[304] PG&E's response to DRA-24, Q. 3, (f).

leaks exclusively, or that entire segments were replaced with new pipes thereby completely eliminating the identified risk. Almost all of the pipelines under a leak cluster located in the Kern Division, and identified as KER378, were replaced with new pipe when the leaks were repaired. The 10 leaks identified for KER378 cluster were reported and repaired between 1997 and 2012.

A leak cluster in the Central Coast Division identified as CEN2762 had 14 leaks. The leaks were identified between 1998 and 2008. With the exception of 1 leak, all leaks were repaired by partial or complete replacement of the pipeline. There is no record of any leaks associated with this cluster in the past 4 years. However, this cluster is included to be annually surveyed as part of the 1,000 clusters in 2014.

PG&E's request to survey 1,000 leak clusters is not aligned with the company's DIMP procedure. The RMP 15—Risk Management Plan for Gas Distribution Management does not consider leak data from 20 years ago. According to the RMP15, "the controlling document for the integrity management of PG&E's gas distribution system," PG&E's system risk management approach considers five years of historical data of repaired leaks and applies a consequence factor to each leak to establish a risk score for each leak.[305] PG&E states that where there are discrepancies between this procedure and other supporting documents, this procedure shall take precedence.[306]

In the RMP 15, PG&E defines a leak cluster as a spatial representation of repaired and open leaks that form a cluster.[307] Each leak has a 100' radius buffer and where the buffers touch a cluster is formed.[308] PG&E discusses establishing a risk score for each leak and performing root cause analyses to determine

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[305] PG&E's response to DRA-49, Q. 13, attachment 1, p. 1.

[306] Ibid.

[307] PG&E's response to DRA-49, Q. 13, Attachment 1, p. 6.

[308] Ibid.

appropriate programs and activities to address risk and mitigate threats in the Risk Management Plan. There is no such risk assessment for the 1,000 leak clusters PG&E proposes to survey annually in 2014. There is no root-cause analysis performed to determine appropriate mitigation strategy for these leaks.

PG&E should perform a root-cause analysis of these clusters and perform an appropriate mitigation strategy for these leaks instead of simply surveying these services more regularly. PG&E's forecast to survey 57,000 services additionally each year without proper analyses is excessive and unsupported. PG&E includes irrelevant data and counts leaks that occurred 20 years ago as part of the annual surveys. PG&E's cluster data contradicts its DIMP risk management policy, and lacks adequate support for the 1,000 cluster counts. For these reasons, DRA opposes PG&E's proposal to survey an additional 57,000 services.

PG&E identifies several programs and activities that PG&E currently manages to address pipeline risks. PG&E should know the level of risk of each of the 57,000 services. If PG&E determined that pipelines need to be replaced, these pipelines can be included as part of the Aldyl-A Replacement Program or the Gas Pipeline Replacement Program, or the Copper Services Replacement Program. According to PG&E, the primary source of leaks is plastic tee caps, so the repair and replacement of tee caps will eliminate many leaks.[309]

For all the reasons above, DRA finds that PG&E has not adequately justified performing annual surveys on 57,000 services that have been estimated using the 1,000 leak clusters. DRA recommends using the same survey rate that PG&E performed in 2012 and 2013 on leak clusters for 2014. PG&E states in testimony that the company will survey pre-1973 clusters as part of DIMP in 2012 and 2013.[310] The leak cluster data provided by PG&E shows a total of 325 leak clusters with pipelines installed before 1973. On average, PG&E surveyed 163 clusters each year for 2012 and 2013.

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[309] Ex. PG&E-3, p. 4-17.

[310] Ex. PG&E-3, p. 4-22.

Since PG&E has not identified an increased risk with these clusters to accelerate their survey cycle, DRA recommends that PG&E survey 163 clusters or 9,291 additional services in 2014. DRA does not object to PG&E's use of the Picarro Surveyor to survey these leak clusters annually.

The DRA proposed leak survey expense amount of $7.6 million for Routine Leak Survey includes the cost to survey 9,291 additional services based on leak clusters using the Picarro Surveyor. The cost component of leak cluster survey is $25,000.

b. The Picarro Leak Find Rate for Routine Surveys and for Leak Cluster Surveys

PG&E forecasts a leak find rate of 8.68% for Routine Leak Surveys.[311] In a response to a DRA discovery request, PG&E stated that it found a calculation error and now expects Picarro to find leaks at a higher rate of 9.65%.[312] PG&E's estimated Picarro leak find rate is excessive and inadequately supported. PG&E based its figure on the combined leak rate of 3.561% for 2008-2011 and the first 2 months of 2012, multiplied by a factor of 2.44.

The 3.561% leak rate is based on the 2008-2010 Accelerated Leak Surveys. The partial 2012 leak survey rate PG&E included is based only on the few services surveyed by PG&E as of February 2012 and not representative of the system rate surveyed for 2012. The 2.44 leak find factor that PG&E applied to the combined rate of 3.561% is flawed and should not be used. PG&E based this factor on leak surveys performed on only 2 divisions that both had very high leak rates in 2011. The Diablo division had the 5th highest leak rate out of 18 divisions. The Sacramento division had the highest leak rate compared to all other divisions, and is more than double the rate of the Diablo division.[313]

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[311] Ex. PG&E-3, Workpapers, p. WP 6-90.

[312] PG&E's response to DRA-201, Q. 1.

[313] PG&E's response to DRA-49, Q. 13, Attachment 2, p. 5 of 7.

PG&E states that the Diablo division was chosen because of its challenging topography as there are several rolling hills, plateaus, and valleys. Diablo was considered a diverse presentation of the system to determine Picarro's capabilities as a viable leak detection instrument. PG&E states that Sacramento was chosen because it is mostly flat and PG&E wanted to evaluate the Sacramento division's test results relative to the results for diverse terrain in Diablo division.[314]

The Picarro test protocols are the same for both Diablo and Sacramento. PG&E chose 16 gas distribution system maps, known as plat maps, for each division. The plat maps contain the spatial location of mains and services, outside diameter, material, job number, cathodic protection system, and other components in PG&E's gas distribution system.[315] The plat maps were driven with the Picarro Surveyor over a two day period during regular business hours. XXXXXXXXXXXX XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX.[316] Of the total of 21,600 gas distribution system maps,[317] PG&E surveyed 32 maps, or 0.15 percent of its system.

Before the Picarro Surveyor was deployed, PG&E's foot surveyors walked the services and mains using the same 32 plat maps selected for Picarro and surveyed for leaks using traditional methods. These surveys were conducted up to 3 months before the Picarro Surveyor was deployed. PG&E reported that Picarro found more leaks compared to traditional foot surveyors[318] and that Picarro found 8 Grade 1 leaks missed by the traditional foot surveys.[319]

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[314] PG&E's response to DRA-24, Q. 4.

[315] PG&E's response to DRA-49, Q. 13, Attachment 1, p. 19.

[316] PG&E's response to DRA-24, Q. 3, Attachment 1CONF and Attachment 2CONF.

[317] PG&Ecurrents.com

[318] Ex. PG&E-3, p. 6-90.

[319] PG&E's response to DRA-27, Q.6.

DRA asked PG&E to explain how these leaks were missed by traditional leak surveys. PG&E explained,

> "PG&E surveyors completed the traditional surveys in both divisions, up to 12 weeks earlier than the inspection performed by the Picarro Surveyor™ for the same gas pipes and assets. Since there was a time lag between the traditional and the Picarro surveys it is difficult to determine the reason(s) for the missed Grade 1 leaks. There are a number of possible reasons that the leaks were missed. There might have been improper placement of the leak survey instrument over the exact leak location (the Picarro technology, including its extra sensitivity, does not require the equipment to be close to the leak location to detect it). It is possible that procedures may not have been followed correctly by the PG&E surveyor performing the traditional foot survey. It is also possible that the leaks may have been missed due to the Gifford Gaussion model effect on plumes of gas, whereby the traditional leak surveyor instrument was not in the plume of gas when they walked along the gas main or service lines. Finally, it is possible that one or more of the leaks manifested after the first survey. PG&E will conduct further tests during the pilot scheduled in 2013 in Mission division to better understand why leaks may be missed."[320]

PG&E called the comparison between traditional surveys and those conducted using the Picarro Surveyor, "Picarro Study Analysis-Side by Side." DRA requested a copy of the side-by-side test results and the comparison performed by PG&E. DRA was directed to PG&E's workpapers which only identify the number of leaks found per plat maps using the Picarro Surveyors for the Diablo and Sacramento divisions.[321] PG&E did not identify the number of leaks found by traditional foot surveyors for any of the plat maps for Diablo or Sacramento.

PG&E claimed that there is a three-fold increase in both leak survey effectiveness and efficiency.[322] DRA asked PG&E to provide a copy of the comparison performed.[323] PG&E did not provide a comparison, but instead directed

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[320] PG&E's response to DRA-27, Q06Rev01.

[321] PG&E's response to DRA-24, Q. 4(b).

[322] Ex. PG&E-3, p. 6-11.

[323] DRA-24, Q.4, (c).

DRA to one page of workpapers that identifies the leak find rate of the traditional and Picarro for Diablo and Sacramento.[324] The workpaper is a summary of leaks identified for Diablo and Sacramento and categorized as "grade-able leaks," "w/Trad Repaired 1 and 2+ Grade-able Leaks," and "Meter Set Leaks." Although this workpaper identifies three different leak find rates for Picarro versus traditional leak surveys, there is no way to verify the accuracy of the numbers.

For the first group identified as "Grade-able Leaks", the workpapers state that traditional leak surveyors found 82 leaks or 1.06% compared to Picarro, which found 226 leaks or 3.29%. For the second group, identified as "w/Trad Repaired 1 and 2+ Grade-able Leaks" the total test shows the traditional found 103 leaks, or 1.33% and the Picarro found 247 leaks, or 3.60%. The third group, "meter set leaks," the Traditional surveyors found 204 leaks, or 2.64% and the Picarro found 257 leaks, or 3.75%.[325]

Based on this preliminary side-by-side analysis, PG&E used the average find rate for the three groups and concluded that the leak find rate for Picarro would be 8.68%. This leak find rate was determined by PG&E multiplying the average leak find rate of the three groups by a factor of 2.44. The 8.68% leak find rate is then applied to the number of leak surveys PG&E plans to perform in 2014, and the number of repairs is estimated, as will be discussed in the section regarding leak repairs (MWC FI) on page 106 below.

DRA takes issue with PG&E's 2012 study side-by-side analysis. First, PG&E chose Sacramento as one of the two divisions being tested. According to PG&E's 2011 RMP-15, Risk Management Plan—Gas Distribution Integrity Management Program, Revision 3, published on 11-19-2012, Sacramento has the highest number of leaks repaired in 2011.[326] Sacramento recorded a total of 1,132,686 leaks.

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[324] Ex. PG&E's response to DRA-24, Q. 4(c).

[325] Ex. PG&E-3, Workpapers, p. WP. 6-90.

[326] PG&E's response to DRA-49, Q. 13, Attachment 2, PG&E's Risk Management Procedure, Procedure No. RMP-15, Revision 3, Attachment B, p. 5 of 7.

Given that the Sacramento Division had the highest number of leaks, it is not representative of the other PG&E divisions and service territory. Diablo was the 5th one in order, recording a total of 428,406 leaks. PG&E's 2014 leak repair forecast is based on using the leak rate of the worst performing division and applying this leak rate to its entire territory for 2014. This alone shows that the preliminary study is biased and any results collected do not reflect the other divisions.

Another difference in the preliminary comparisons between Picarro and traditional foot surveys is that Picarro was driven twice over the same plat maps while foot surveyors only walked the areas once. This probably increased the number of leaks found by Picarro as well.

While foot surveyors were able to access all of the services identified on the 32 plat maps, the Picarro Surveyor had very limited access to the services. For the first run in Diablo and Sacramento, Picarro was only able to access a combined 58% of the identified services. The second run shows that Picarro was able to access 75% of the identified services.[327]

XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX XXXXX.[328] This is based on PG&E's expectation that even with traditional methods PG&E will find an 8% leak find rate. Applying this higher expected leak rate for leak clusters to the 2.44 Picarro factor and PG&E expects to find almost 20% more leaks.

Based on its review of PG&E's testimony, workpapers, responses to discovery requests, field visit, conference calls and meetings with PG&E, DRA concludes that PG&E's estimated Picarro leak find rates are excessive and unsupported. DRA estimates a leak find rate of 3.25% for Picarro surveys for routine leak surveys and for leak clusters. The 3.25% Picarro leak find rate is 33% higher than the traditional foot survey rate of 2.44% that PG&E recorded for 2011. The 33% higher than the recent historical rate is a reasonable approximation for Picarro.

[327] PG&E-3, Workpapers, p. WP 6-91.

[328] PG&E's response to DRA-24, Q. 1, Attachment 1, Confidential.

DRA's proposed Picarro leak find rate of 3.25% takes into consideration the PG&E system average leak rate has been declining since 2009. The system average leak rate per mile decreased from 0.29 to 0.16 from 2009 to 2011.[329] The leak rate for services has also declined from 2009. The leak rate in 2009 was 4.71% and the leak rate for 2011 was 2.44%.[330] The 2012 leak find rate was 1.5%.[331]

The DRA proposed Picarro leak find rate also takes into consideration the leak data PG&E reports annually to the US Department of Transportation, Pipeline Hazardous Materials and Safety Administration. According to recent annual reports, the number of system leaks has been steadily declining from 2009 to 2011. In 2009, there were a total of 58,089 leaks reported and 25,700 known system leaks at end of year were scheduled for repair.[332] In 2010, the number of system leaks decreased 23% to 13,565 and 12,233 known system leaks at end of year were scheduled for repair.[333] In 2011, the number of system leaks decrease 73% to 9838 and 8,064 leaks were scheduled for repair.[334]

PG&E claims in testimony that it has improved its leak survey process and operator qualification as a result of the ALS. The number of leaks has been decreasing. There is no indication that the Picarro will find leaks at the 8.68% and 19.51% that PG&E proposes. Based on inadequate information regarding the Picarro Surveyor, biased survey methodologies, and the fact that the system is

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[329] PG&E's response to DRA-31, Q. 10.

[330] Ex. PG&E-3, Workpapers, p. WP 6-94.

[331] PG&E's Gas Distribution Pipeline Safety Report, In Compliance with CPUC Decision 11-05-018, Submitted March 29, 2013, p. 61. PG&E surveyed a total of 852,225 services and found 12,613 leaks, or 1.5%.

[332] PG&E's Annual Report for Calendar Year 2009, Gas Distribution System, identified in PG&E's response to DRA-26, Q. 4,Attachment 3.

[333] PG&E's Annual Report for Calendar Year 2010, Gas Distribution System, identified in PG&E's response to DRA-26, Q. 4,Attachment 4.

[334] Ex. PG&E-3, Workpapers, p. WP 5-74.

leaking less, not more, DRA recommends the Commission reject PG&E's proposed rates and adopt the 3.25% rate.

2. Special Leak Survey

PG&E requests $1.1 million in 2014 for Special Leak Survey.[335] This amount is an increase of $800,000 above the 2011 recorded amount of $366,000. Special Leak Survey includes performing non-routine foot, mobile, or vegetation surveys of main and services by special request by cities, paving companies or other customer requests.[336]

According to PG&E, the 2014 request is based on the recorded 2011 value of $400,000 and escalated using standard labor escalation.[337] No other additional increase is being forecasted.

DRA reviewed PG&E's workpapers and found that PG&E's 2014 request for $1.1 million includes $665,000 for gas service representative standby time. PG&E's explanation is that in 2011, approximately $0.7 million of gas service representative standby time was improperly included under MWC DE, for Routine Leak Survey instead of under Special Leak Survey. For 2014, PG&E will be tracking the standby time in the appropriate sub-account, Special Leak Survey. Hence, the increase in Special Leak Survey.

DRA agrees with the proposed $1.1 million for Special Leak Survey.

3. Downgrade No Repair

PG&E requests $1.8 million for Downgrade No Repair work activities. This amount is an increase of $1.4 million above the 2011 recorded amount of $404,000. Downgrade No Repair happens when PG&E downgrades a Grade 1, Grade 2+, or Grade 2 leak to a non-hazardous Grade 3 leak.

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[335] Ex. PG&E-3, p. 6-21.

[336] Ex. PG&E-3, pp. 6-17 to 6-18.

The justification PG&E provides for the increase in the test year is that the 2011 recorded value did not reflect what PG&E believes to be the true cost of this sub-account. PG&E estimates that the total costs booked to this sub-account represent at most three months' worth of costs.[338] Therefore, PG&E multiplied the 2011 recorded expenses by 4 to get the 2014 forecast.

The Table below provides a summary of the recorded number of downgrade leaks for each year from 2007-2012 (September YTD).

Table 9-32
2007-2012 PG&E's Number of Leaks Downgraded

Previous Grade	Subsequent Grade	2007	2008	2009	2010	2011	2012 (Sept)
1	3	1	6	15	6	4	3
2	3	86	94	41	2347	1618	339
2+	3	19	30	64	117	33	8
TOTAL		**106**	**130**	**220**	**2470**	**1655**	**350**

Source: PG&E's response to DRA-27, Q. 1(b)

The number of leaks downgraded to a Grade 3 and no repairs are needed was 1,655 leaks in 2011. Although this number was lower than the 2010 number, it was significantly higher than the 2007, 2008, and 2009 numbers. For 2012, PG&E downgraded 350 leaks for 3 quarters. Using the leak rate of 117 leaks per quarter, 467 downgraded leaks for 2012 can be expected. The estimated number of 2012 downgraded leaks is a little more than a quarter of the number of leaks downgraded in 2011.

Based on the recent recorded data of downgraded leaks, DRA disagrees with PG&E's estimate that the 2011 level of funding will be deficient for 2014. DRA

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[337] Ex. PG&E-3, p. 6-18.

[338] Ex. PG&E-3, p. 6-18.

recommends no increase for 2014 because the number of leaks downgraded for 2012 is significantly less than the base year level. There is embedded funding in rates for 1,655 downgraded leaks and PG&E has not adequately supported the requested increase for 2014. DRA recommends retaining the level of spending the same in 2014 as 2011 for Downgrade No Repair subaccount. DRA's recommendation of $0.4 million is $1.4 million lower than PG&E's forecast of $1.8 million.

4. Re-Checks

PG&E requests $6.4 million for Rechecks work activities. This amount is an increase of $1.7 million above the 2011 recorded amount of $4.7 million. Re-Checks are activities performed by PG&E to check on leaks that were previously recorded as a Grade 2 or Grade 3 leaks as a result of the Routine Leak Survey program.

Grade 3 leaks are identified as leaks that are non-hazardous at the time of detection and can be reasonably expected to remain non-hazardous.

PG&E states the American National Standards Institute Z380.1 Guide Material Appendix G-192-11 Gas Leakage Control Guidelines for Natural Gas Systems recommends Grade 3 leaks should be re-evaluated during the next scheduled survey, or within 15 months of the date reported, whichever occurs first, until the leak is re-graded or no longer results in a reading. PG&E's current practice is re-evaluate Grade 3 leaks during the next leak cycle (6 months, one year, three years, or five years). By decreasing the time interval between re-checking these leaks, PG&E further reduces distribution integrity risks.[339]

PG&E is accelerating the re-check cycle even faster than is recommended by the ANSI Guide. PG&E proposes to increase the rate for checking grade 3 leaks from the current rate to a rate of once a year.[340] PG&E' 2014 proposal is to recheck

[339] Ex. PG&E-3, p. 4-28.

[340] Ex. PG&E-3, p. 4-29.

27,680 leaks at a unit cost of $230 per re-check. This number is 12,963, or 88.1% higher than the 2011 recorded.[341]

PG&E states that the first cycle of the annual grade three leak re-check began in 2012. [342] The cost of annual leak rechecks for 2012 and 2013 is included in MWC JS. For 2014, this cost will be tracked in MWC DE. PG&E spent $992,000 under MWC JS as of September 2012.[343]

PG&E has not offered adequate support for accelerating the re-check cycle 20% faster than is recommended. PG&E claims a further reduction to distribution integrity risk as required by DIMP by rechecking within a 12 month cycle. PG&E neither provided nor identified any risk assessment of re-checking Grade 3 leaks on a 12 month cycle versus a 15 month, nor any analysis regarding risk reduction to the integrity of the distribution system.

DRA recommends rechecking Grade 3 leaks within the 15 months cycle as recommended by the ANSI Guide. DRA's estimate for 2014 re-checks is $5.1 million for 22,132 rechecks using PG&E's 2014 unit cost of $230 per recheck. DRA's recommendation is $1.3 million lower than PG&E's estimate of $6.4 million.

DRA's recommendation is based on PG&E's identified Grade 2 and Grade 3 leaks in 2011.[344] DRA's assumption is conservative in that Grade 2 leaks would be re-checked 2 times per year and repaired within 15 months. In reality, some Grade 2 leaks will be re-checked only once before they are repaired. DRA's assumption for Grade 3 leaks is that they would be rechecked within 15 months at 50% each year and that a small number of Grade 3 leaks would be upgraded or downgraded, based

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[341] Ex. PG&E-3, p. 6-21.

[342] Ex. PG&E-3, p. 4-29.

[343] PG&E's response to DRA-46, Q. 1, Attachment 1.

[344] Ex. PG&E-3, Workpapers, p. WP 6-94.

on the 2011 recorded numbers,[345] and removed from the re-check population. Table 9-33 below provides a summary of the number of rechecks proposed by DRA.

Table 9-33
DRA 2014 Proposed Leak Rechecks

	2014
Grade 3 identified in 2014 (not included in Recheck schedule)	10777
Grade 3 identified in 2013(forecast based on 2011 recorded)	5,389
Grade 3 identified in 2012(forecast based on 2011 recorded)	5,389
Grade 3 identified in 2011 (recorded)	5389
Grade 3 identified in 2010 (recorded)	2581
Grade 3 leaks identified in 2009 (recorded)	1,044
Grade 2 identified in 2011 (checked 2x per 12 months)	5,702
Grade 3 leaks Downgraded to Grade 0/status cleared[346] (removed from 2014 schedule)	1,368
Upgraded to 2+, 2, 1 [347] (Removed from 2014 Recheck Schedule)	134
TOTAL RECHECKS	23,992

5. Customer Calls

PG&E requests $2 million in expense for Customer Calls. This amount is $200,000 above the 2011 recorded amount of $1.8 million. Customer Calls is a leak survey description used to identify leak surveys based on calls from customers. DRA agrees with the proposed $200,000 increase for this sub-account.

6. Other

PG&E requests $2.6 million in expense for Other work activities.[348] This amount is $3 million higher than the 2011 recorded amount of ($367,000). The

[345] PG&E's response to DRA-24, Q4, attachment 1.

[346] PG&E's response to DRA-24, Q.4, Attachment 1. 292 (Recorded for 2009)+236(Recorded for 2010) +280 (Recorded for 2011) +280(forecast for 2012)+280 (forecast for 2012)

[347] PG&E's response to DRA-24, Q. 4, attachment 1. 18 in 2009, 11 in 2010, 35 in 2011, forecast 35 in 2012 and 35 in 2013.

expense for Other work activities is tracked in the subaccount MAT_NA under which PG&E tracks the costs associated with Picarro.[349] In PG&E's workpapers, the company identifies $3.4 million under the cost assumptions for Picarro and the justification and support for the expense forecast consists of 4 lines explaining the cost estimate.[350] PG&E states, "$2.6 million to train the employees", "$0.7 million for licensing fees for seven Picarro Surveyor Units", "$0.1 million for data management and systems maintenance", and "$0.03 million to lease five vehicles to carry the Picarro analyzers". The itemization of the 2014 cost shows, "Source: Based upon PG&E IT Department and Engineering judgment."[351] The 2014 forecast includes an adjustment of $1 million from the previous year bringing the total to $2.6 million.[352]

DRA requested that PG&E explain in detail and provide a copy of all supporting calculations and documents used in determining the $2.6 million in training costs.[353]

PG&E responded by quoting from its testimony, "…the $2.6 million covers more than just training, it covers project support "to train the employees to use the equipment, and to interpret the data, to develop and refine the work procedures, and to analyze the information and report on the operational results."[354] PG&E explained in the response that $450,000 is forecast for training and change management activities. The 2014 costs were developed based on deploying Picarro

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[348] Ex. PG&E-3, p. 6-21.

[349] PG&E's response to DRA-Oral-08, Question 1.

[350] Ex. PG&E-3, Workpapers, p. WP 6-31.

[351] Ex. PG&E-3, Workpapers, p. WP 6-19.

[352] Ibid.

[353] DRA-201, Q.8.

[354] PG&E's response to DRA-201, Q. 8 and PG&E-3, p. 6-20.

in three divisions. PG&E identified $144 per hour based on an internal management rate of 2,080 hours per year for $300,040 per FTE. PG&E then forecasts 8.5 FTEs: (1) 1.5 for training and change management, (2) 3 FTEs for Process Development, and (4) 4 FTEs for Operational Dispatchers.

PG&E did not provide support for the number of FTEs identified. DRA recommends 1 FTE for Process Development because PG&E has not adequately demonstrated that it will need 3 FTEs. DRA recommends 2 FTEs for Operational Dispatchers because PG&E has not adequately demonstrated that it will need 4 FTEs. In the 2012 preliminary test with the Diablo and Sacramento divisions, PG&E used 1 Picarro contractor for the leak surveys.

DRA's recommendation results in an adjustment of $1.2 million from the $2.6 million request. DRA's 2014 proposal is $1.4 million in contrast to the $2.6 million PG&E requested.

B. MWC FI

MWC FI tracks expenses for corrective maintenance. Work activities under MWC FI consist of repairing and replacing damaged or failed facilities. PG&E states that in many cases, the need for such maintenance is identified during the leak survey activities.[355] PG&E requests $102.1 million in expenses to repair leaks, regulator stations, and valves, and to perform corrosion.[356] This request is $64.8 million higher than the 2011 recorded expense amount $37.3 million, or a 174% increase in this MWC. DRA recommends $35.6 million for 2014.

The major increases for Corrective Maintenance are below-ground service leak repairs and main leak repairs. For Below-ground Service Leak Repairs, PG&E requests an increase from $97,000 to $40.7 million. For Main Leak Repairs, PG&E

[355] Ex. PG&E-3, p. 6-21.

[356] Ex. PG&E-3, p. 6-37.

requests an increase from $11.7 million to $38.7 million.[357] The costs associated with these two sub-accounts are tracked under Leak Repair other Than Dig-Ins.

Table 9-34 below identifies the recorded expenses of MWC FI for years 2007-2012.

Table 9-34
2007-2012 Recorded Data for MWC FI
(in Thousands of Dollars)

Description	2007	2008	2009	2010	2011	2012
MWC FI	$16,073	$35,134	$81,579	$45,942	$37,292	$61,480

Source: No costs were incurred from 2007-2010. DIMP was implemented in 2011 and 2011 data comes from PG&E's response to DRA-DEF-10A-Q.1, Attachment 1. 2012 data from PG&E's response to DRA-108, Q. 4, Attachment 1.

Although the 2012 recorded expenses were higher than the 2011 level, it is not likely that the level of leak repair and spending will continue into 2014. There are two reasons behind the significant expenses PG&E incurred in 2012 to address a leak backlog that will be eliminated by the end of 2013. According to PG&E's online newsletter, PG&E Currents, "The company has set ambitious goals for decreasing the number of existing leaks in its system…Any Grade 2+ or Grade 2 leaks found in 2011 will be repaired by October of this year [2012]…"[358] The second reason is PG&E's plan to repair even the smallest leaks by the end of 2013. In the same online newsletter PG&E states, "…PG&E recently began working on an aggressive plan to repair very small leaks by the end of 2013. How small are these trace leaks? They are very small leaks found on customer meter sets. These types of trace leaks vent into the atmosphere and typically pose no danger or hazard to PG&E customers. In fact, federal regulations do not require that they be repaired…[PG&E] will have eliminated the backlog of meter-set leaks by the end of 2013."[359]

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[357] Ex. PG&E-3, p. 6-37.

[358] PG&E Currents, PG&E's Gas Distribution Operations: Faster Response, Improved Leak Surveys and Repairs, posted on August 10, 2012.

[359] Ibid.

DRA recommends $35.6 million, which is $66.6 million lower than PG&E's request of $102.1 million. DRA's recommendation is based on fewer leak repairs on services and mains based on PG&E remaining on the current 5-year leak survey cycle and a lower leak find rate than PG&E proposed for traditional and for the Picarro Surveyor leak survey methods. A comparison of PG&E's and DRA's proposal for MWC FI for 2014 is presented below.

Table 9-35
DRA's vs. PG&E's 2014 Forecast for MWC FI
(In Thousands of Dollars)

MWC FI	DRA	PG&E
Service Leak Repair Above-Ground	$3,448	$14,036
Service Leak Repair Below-Ground	$12,045	$40,692
Main Leak Repair	$11,311	$38,713
Main Dig-in Repair	$0	$346
Service Dig-In Repair	$0	$606
CP Restoration	$3,241	$3,241
Regulator Station Repair	$3,419	$3,419
Valve Repair	$811	$811
Gas Overbuild	$1,315	$2,156
Other	$0	-$1,879
TOTAL	**$35,590**	**$102,141**

1. Leak Repair other Than Dig-Ins

MWC FI tracks leak repairs caused by dig-ins separately from other leaks. Leak Repair Other than Dig-ins tracks all leak repairs on main or services where the leak was discovered by leak survey, by employees performing other maintenance, or by customer calls.[360] While leaks categorized as Grade 3 and Grade 2 are rechecked, all Grade 1, Grade 2 and Grade 2+ leaks are repaired according to the repair schedule. Grade 1 leaks must be repaired immediately, Grade 2+ leaks must be repaired within 90 days, and Grade 2 leaks must be repaired within 15 months.

In the 2014 forecast, the increase in repair expense reflects a number of new and planned initiatives for leak surveys, and the assumption that PG&E will find

[360] Ex. PG&E-3, p. 6-22.

more leaks in 2014 than before based on the new initiatives. These initiatives are: (1) using the Picarro in three divisions, (2) moving from a five year to a three year survey cycle, (3) using the Picarro to perform annual surveys of high risk pipe, ("Picarro Cluster Survey"), and (4) accelerating the rate of rechecking Grade 3 leaks.

PG&E also proposes new leak repair initiatives. PG&E plans to repair Grade 2 leaks within 15 months rather than 18 months. PG&E is proposing to repair all above ground Grade 3 leaks within 15 months instead of re-checking these leaks.

PG&E identifies 7 contributors to the increased forecast:

1. Increased unit cost for some leak repairs;
2. Increased expected leak find rate for Routine Leak Survey;
3. Additional miles of pipe surveyed due to move to a 3-year survey cycle;
4. Increased expected find rate for divisions using Picarro Surveyor;
5. The impact of using Picarro Surveyor on three division and moving to a three-year survey cycle;
6. Increased expected find rate due to annual survey of high-risk pipe with Picarro Surveyor;
7. Increased cost to repair above-ground grade 3 leaks.

DRA's review and analysis of PG&E's proposals are summarized below:

1. Unit cost
    a. DRA does not take issue with the unit cost for service leak repair above ground at $587 per repair.
    b. DRA does not take issue with the unit cost for Service Leak Repair below ground at $3,015 per repair.
2. DRA disagrees with PG&E's assumption that there will be an increase in the leak find rate for surveys performed under Routine Leak Survey. DRA forecasts a slightly higher than system leak find rate for surveys performed by Picarro.
3. DRA recommends staying with the 5-year survey cycle instead of accelerating to 3-year.

4. DRA forecasts that Picarro will be used to survey 10% of the number of surveys scheduled for the 5-year Routine Leak Survey and not to survey 3 divisions on an accelerated 3-year leak survey cycle.
5. DRA concludes that Picarro will have an impact on routine leak surveys but not at the rate PG&E proposes.
6. DRA finds that PG&E's identification of leak clusters and the data used to support the leak cluster is unreliable and should be ignored.
7. DRA takes issue with PG&E's proposal to repair above ground Grade 3 leaks.

a. DRA's Analysis and Recommendation Regarding Service Leak Repair

PG&E requests $14 million in expense to perform 23,896 service leak repairs for above-ground leaks and $40.7 million to repair below-ground leaks in 2014. Also, PG&E requests $38.7 million to repair leaks associated with mains.

According to PG&E, the company did not separate leaks repaired between above-ground or below-ground in 2011, therefore it does not know the number of units or cost of repairs for above-ground or below-ground leaks.[361] PG&E states in testimony, PG&E's forecast model assumed that in 2011, 50 percent of repairs were on above-ground services, 34 percent on below-ground services and 16 percent on mains.[362] PG&E states that the Forecast Model assumes the same ratio going forward from 2012 to 2014.

Table 9-36 below provides a comparison of the leak repairs performed in 2011 and forecasted for 2014. PG&E's leak repair numbers for 2011 do not corroborate PG&E's statement regarding the ratios in the Forecast Model. It appears that the ratios used in the 2014 forecast are not based on the ratios used for 2011 at all. Most significantly though, is the increase between the leaks repaired in 2011 and PG&E's leak repair proposal for 2014.

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[361] Ex. PG&E-3, p. 6-29.

[362] Ex. PG&E-3, p. 6-29.

Table 9-36
Comparison of PG&E's 2011 Recorded and 2014 Proposed Leak Repairs and Ratio of Repairs

	2011	% of Total	2014	% of Total	2014>2011
Service Leak Repair Above Ground	11,305	84%	23,896	55%	111%
Service Leak Repair Below Ground	26	0%	13,496	31%	51,808%
Service Leak Repair on Mains	2,150	16%	6,435	15%	199%
Total Number of Leaks	**13,481**		**43,827**		225%

Source: Ex. PG&E-3, p. 6-37 and p. 6-29.

PG&E did not provide any support for the estimated ratios of leaks repaired above-ground versus below-ground. As PG&E stated, it did not track separate leak repairs,[363] and its 2014 forecast is a guess at most. The significance 51,808% increase in the number of below-ground repairs estimated for 2014 is excessive. DRA notes that the unit cost PG&E proposes for below-ground leaks is $3,015 per repair and the above-ground leak is estimated at $587 per repair.[364]

According to the Annual Reports for Gas Distribution System that PG&E submits to the US Department of Transportation, Pipeline and Hazardous Materials Safety Administration in recent years, the number of repairs that PG&E forecasts for 2014 is excessive. A summary of the number of known system leaks at the end of year scheduled for repair for each year from 2007-2011 is shown in the table below.

[363] Ex. PG&E-3, p. 6-29.

[364] Ex. PG&E-3, p. 6-37.

Table 9-37
PG&E Scheduled Leak Repairs from 2007-2011 as Reported to PHMSA

Year	Mains and Services Leaks Scheduled for Repair
2007	2,126
2008	5,071
2009	25,700
2010	12,233
2011	8,064
2012	4,408

Source: 2007-2010 from PG&E's response to DRA-26, Q. 4, Attachment 1. 2011 data is from PG&E-3, p. WP 5-74. 2012 data is from PG&E's response to DRA-251, Q.1., att.1.

The reason the 2009 and 2010 number of repairs was significantly higher than previous years was because PG&E already conducted an accelerated leak survey of its entire system and performed an increased number of repairs as a result. PG&E's Accelerated Leak Survey between 2008 and 2010 came about because its leak survey process was deficient. As a result of its review, PG&E instituted a disciplinary process if Grade 1 leaks were missed or a leak surveyor's results showed large variances from the Quality Control audit.[365] PG&E states that this placed increased emphasis on leak grading and reporting and resulted in an increase in the number of reportable leaks in 2008 and 2009.[366]

The schedule for Grade 2 leak repairs is 15 months. Therefore the number of leak repairs in 2009 was likely attributable to leaks identified in 2008 and the repairs in 2010 was likely attributable to leaks identified in 2009. For 2011, there is a marked decrease in the number of leak repairs compared to the previous 2 years.

PG&E's 2014 repair level should not be anywhere at the level seen in the 2009-2010 timeframe because of the deficiencies identified by PG&E. And yet the proposed 43,827 repairs for 2014 is almost the sum of the repairs made for years

[365] Ex. PG&E-3, Workpapers, p. WP 6-136.

[366] Ibid.

2009, 2010, and 2011 combined. The Commission should reject PG&E's unreasonable request.

DRA recommends that Commission adopt the total number of leak repairs as proposed below. DRA's leak repair number comes from the leak surveys estimated for MWC DE, as discussed on page 88 above. The total number of repairs for each category is made up of the total repairs from routine leak surveys, Picarro surveys, and high-risk pipe/leak cluster surveys. DRA applied the PG&E ratio of aboveground and belowground services and main repairs, as proposed in its testimony, to derive the number of repairs for each category. A comparison of PG&E's and DRA's 2014 leak repair forecast for mains and services is shown in the tables below. The first table shows the differences between DRA's and PG&E's leak repair forecast based on traditional and Picarro surveys, and Aboveground Grade 3 leaks, and leak cluster surveys. The main differences are (1) PG&E's forecast includes a higher number or repairs as a result of accelerating the survey process to a 3-year cycle (2) its proposal to repair all aboveground Grade 3 leaks, and (3) a higher forecast of services to be surveyed from leak clusters, and (4) a higher Picarro leak find rate for traditional surveys and for leak clusters. DRA's forecast is based on (1) remaining on the 5-year cycle, (2) a lower leak find rate using Picarro, (3) no repairs for aboveground Grade 3 leaks, (4) fewer services to be surveyed from leak clusters, and (5) a lower Picarro leak find rate.

The second table provides a breakdown of the repair category for services and mains from the universe of leaks detected from all sources that need to be repaired.

Table 9-38
DRA's vs. PG&E's 2014 Other than Dig-in Leaks Found and Repairs

	Traditional	Picarro	Grade 3 Aboveground	Leak Clusters
PG&E's Leak Repairs	XXXXXX	XXXXX	XXXXX	XXXXX
DRA's leak Repairs	4,976	6,628	0	146
PG&E>DRA	XXXXXX	XXXXXX	XXXXX	XXXXX

Source: PG&E's leak repair forecast is from PG&E's response to DRA-24, Q. 1, Attachment 1, Confidential

Table 9-39
DRA's vs. PG&E's 2014 Forecast of Mains and Services Leak Repairs Other than Dig-Ins
(In Thousands of Dollars)

	DRA Units	DRA 2014 Forecast	PG&E Units	PG&E 2014 Forecast
Aboveground Services	5,876	$3,448	23,896	$14,036
Below Ground Services	3,995	$12,045	13,496	$40,692
Mains	1,880	$11,311	6,435	$38,713
Total	**11,751**	**$26,806**	**43,827**	**$93,441**

Using PG&E's ratio of leaks above-ground, below-ground, and mains, and PG&E's unit cost for 2014, DRA's forecast of the number of repairs by type and a breakdown of the costs for each is shown below.

Table 9-40
DRA's 2014 Leak Repair by Type and Cost

	Ratio	Unit	Unit cost[367]	Total
Aboveground Services	50%	5,876	$587	$3,448
Belowground Services	34%	3,995	$3,015	$12,045
Mains	16%	1,880	$6,016	$11,311
Total	**100%**	**11,751**		**$26,806**

A detailed analysis of how the leak repair numbers are derived follows.

b. DRA's Forecast of Leak Repairs

DRA recommends that PG&E stay with the current leak survey cycle instead of accelerating to a 3-year cycle. Based on DRA's analysis discussed above, PG&E has not adequately supported changing the current survey cycle. At this time, PG&E's survey cycle is as follows:

- Six months—substations
- Annual—Business Districts, high public assemblies (e.g. schools), atmospheric exposed mains, bare steel mains
- Three-year—copper services, cast iron mains, unprotected steel mains
- Five year—Non-business areas (everything else)

PG&E requests $14 million to repair 23,896 above-ground leaks as a result of traditional leak surveys and surveys by Picarro, and to repair above-ground Grade 3 leaks in 2014.[368] PG&E requests $40.7 million to repair 13,496 belowground

[367] PG&E's unit cost for leak repairs, PG&E-3, p. 6-37.

[368] Ex. PG&E-3, Workpapers, p. WP 6-165.

service leaks found by traditional surveys and by Picarro in 2014.[369] PG&E requests $38.7 million to repair 6,435 leaks found on mains in 2014.[370]

DRA forecasts a lower number of repairs for 2014 compared to PG&E's request. DRA's forecast is based on determining the total number of repairs for 2014 based on remaining on the 5-year cycle, surveys by foot using traditional methods, and surveys performed by Picarro. DRA's 2014 repair rate is estimated to be the same as the 2011 actual repairs of Grade 1, Grade 2+, and Grade 2 leaks because this is the most recent completed year of survey.

DRA's expense forecast is determined by applying the PG&E proposed ratio of above-ground (50%), below-ground (36%), and mains (14%), to the total number of repairs estimated for 2014. DRA then uses the PG&E-proposed unit cost for each type of repair by applying it to the corresponding number of repairs estimated. DRA's 2014 forecast is $23.3 million for leak repairs associated with services and mains.

i. Traditional Foot Surveys

PG&E proposes $7.7 million to repair 26,703 leaks found by traditional foot surveys as part of the routine leak surveys.[371] PG&E's justification that it needs to accelerate to a 3-year cycle for all non-business areas is based on industry best practice. The majority of industry surveys on a 3-year cycle only on the bare pipelines that are not cathodically protected, and not on their entire system as PG&E claims in its testimony. Based on this and other reasons discussed above, DRA recommends remaining on the 5-year survey cycle for non-business areas.

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[369] Ibid.

[370] Ibid.

[371] Ex. PG&E-3, Workpapers, p. WP 6-165.

DRA's repair forecast is based on remaining on the 5-year survey cycle and the 2011 repair rate of Grade 1, Grade 2+, and Grade 2 leaks.[372] Based on the PG&E 2011 leak find rate of 2.44%, 48.5% of those leaks required repairs.[373]

As discussed under the Leak Survey section above, (MWC DE), DRA recommends a total number of 420,506 services to be surveyed using traditional methods and remaining on the 5-year cycle. Of this number, DRA recommends using the 2.44% leak find rate that PG&E recorded in 2011. DRA estimates PG&E will find a total of 10,260 leaks of all grades. Of this total, only 48.5% of those leaks found (leaks identified as Grade 1, Grade 2, Grade 2+), will require repairs. Using the preceding assumptions, DRA's forecast is 4,976 repairs as a result of leak surveys found using traditional methods. DRA's estimate of 4,976 repairs is 21,727 repairs less than the 2014 PG&E forecast of 26,703 repairs.

ii. DRA's Recommendation regarding Repairs Associated with Picarro Surveyor

XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX XXXXXXXXXXXXXXXXXXXX.[374] The total cost proposed is $9.4 million and is based on $1.1 million for services above-ground, $4.2 million for services below-ground, and $4.1 million for mains.[375]

DRA's recommendation is based on leaks found as a result of surveying 50% of the system using Picarro. The rationale for DRA's proposal of the 50% Picarro survey rate is discussed above under the Leak Survey section above.

The DRA forecast for Picarro survey is 420,506 services, which is 50% of the 841,012 total services DRA proposes to be surveyed in 2014. While DRA proposed

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[372] DRA did not adjust for downgrade and upgrade leaks because these generally even out and do not represent significant number of leaks.

[373] Ex. PG&E-3, Workpapers, p. WP 6-94.

[374] PG&E's Leak Survey and Repair Forecast Model. PG&E's response to DRA-24, Q.1, Attachment 1 CONF.

[375] Ex. PG&E-3, Workpapers, p. WP6-165.

a higher leak find rate for Picarro, DRA expects the repair rate to be the same regardless of the number of leaks detected. The ratio of the number of Grade 1, Grade 2, and Grade 3 leaks found is independent of the survey method or equipment. Therefore, DRA recommends adopting the repair rate of 48.5%, the same rate for the 2011 repair rate above for routine leak surveys with traditional methods, for Picarro surveys.

Based on the discussion under leak surveys (MWC DE) above, DRA proposes a leak find rate of 3.25% for the Picarro Surveyor. This leak find rate results in an estimated 13,666 leaks for 2014. Of the 13,666 leaks found, DRA expects that 48.5% will require repairs. The resulting number of repairs is 6,628 for 2014.

DRA's recommendation of 6,628 repairs is 2,710 more repairs compared to PG&E's forecast of 3,918 for 2014. DRA aggregates this number and applies PG&E's ratio to determine the number of aboveground and below ground services as well as mains for the 2014 forecast.

iii. DRA's Recommendation regarding Repairs Associated with Above Ground Grade 3 Leaks

PG&E' requests $3.3 million to repair all Grade 3 leaks detected above-ground. PG&E also requests $100,000 to repair above-ground Grade 3 leaks found with Picarro.[376] XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX XXXXXXXXXXXXXX.[377]

PG&E states in testimony, "…rather than rechecking above-ground Grade 3 leaks every 15 months, PG&E plans to repair them within 15 months."

DRA recommends the Commission reject PG&E's proposal to repair all above-ground Grade 3 leaks. First, Grade 3 leaks are categorized as non-

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[376] Ex.PG&E-3, p. 6-27.

[377] PG&E's Leak Survey and Repair Forecast Model. Response to DRA-24-Q. 1, Attachment 1 Conf.

hazardous and can reasonably be expected to remain so. PG&E has not performed a risk assessment to support the repairing of Grade 3 leaks identified aboveground at this time. There is no regulation requiring PG&E to repair Grade 3 leaks identified aboveground at this time. There is no industry standard recommending that PG&E repair all Grade 3 leaks identified aboveground at this time.

There are no identified risks associated with above-ground leaks graded as Grade 3 at this time. Although PG&E recently completed an accelerated survey of its entire transmission system, in its recommendations to the Commission PG&E did not propose to repair above ground Grade 3 leaks associated with its transmission system.[378] In the Report, PG&E stated, "PG&E is also enhancing its Grade 3 leak monitoring from the current "re-evaluate during the next scheduled survey not to exceed 5 years from the date the leak was reported" to "reevaluate during the next scheduled survey or within 15 months of date reported, whichever comes first," which aligns with the ASME GPTC guidelines. This change is effective for all Grade 2 and Grade 3 indications of potential leaks found during the Accelerated Leak Survey, and for all indications of potential leaks found starting January 1, 2011."[379] Non-hazardous Grade 3 leaks found on its distribution system should continue to be rechecked as required by Federal and State laws.

DRA takes no issue with PG&E's proposal to re-check all Grade 3 leaks within 15 months instead of within 60 months, which will enable PG&E to assess the leaks to see if repairs are necessary.

Using the 2011 recorded number of Grade 3 leaks, (10,777)[380] and the 2014 PG&E unit costs, the cost of rechecking Grade 3 leaks would be $2.5 million compared to $6.3 million to repair if all 10,777 leaks are aboveground. Although PG&E proposes to repair 5,571 aboveground leaks, there is no basis for this number because PG&E did not separately track above-ground or below-ground repairs in the

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[378] Ex. PG&E-3, Workpapers, p. WP 6-125.

[379] Ex. PG&E-3, Workpapers, p. WP 6-125.Leak Survey Trends Report.

[380] Ex. PG&E-3, Workpapers, p. WP 6-94.

past. Thus, PG&E has no solid basis to forecast how many above-ground leaks, or on which type of assets (above-ground or below-ground), the company will detect in 2014. It's possible that the number of above ground Grade 3 leaks could be higher than the 5,571 PG&E estimates.

Grade 3 leaks are non-hazardous. In fact, DOT, does not consider a Grade 3 leak a reportable leak. DOT defines the following in the annual report instructions. "Leaks are unintentional escapes of gas from the pipeline. A non-hazardous release that can be eliminated by lubrication, adjustment, or tightening is not a leak."[381]

Based on the reasons above, DRA recommends that PG&E recheck all Grade 3 leaks according to regulation.

iv. DRA's Recommendation Regarding Repairs Associated with Leak Cluster Surveys Performed by Picarro

XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX XXXXXXXXXXXXXXXXXXXXXXXX.[382]

As discussed above under MWC DE, Routine Leak Surveys, under the section heading Picarro Cluster Survey/DIMP Cluster Surveys, DRA recommends a total of 9,291 services as part of the leak clusters to be surveyed using the Picarro Surveyor.

By applying the DRA recommended Picarro leak find rate of 3.25%, DRA estimates that Picarro will find 302 leaks. Of the 302 leaks, DRA estimate that 146 leaks, or 48.5%, will require repairs.

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381 Ex. PG&E-3, Workpapers, p. WP 6-134.

382 PG&E's Forecast Model, PG&E's response to DRA-24, Q. 1 Attachment 1 Conf., line 47.

2. Dig-In Repair

a. Main Dig-In Repair

PG&E requests $346,000 to repair leaks found on mains as result of Dig-Ins.[383] This amount is an increase of $295,000 above the recorded amount of $51,000.

DRA recommends no increase above the 2011 recorded level for this request as captured under this subaccount. DRA's leak repair forecast, as discussed above, is based on repairs made to leaks found on mains and services regardless of cause. DRA believes that the proposed funding is adequate for repairs of main dig-ins.

b. Service Dig-In Repair

PG&E requests $606,000 to repair leaks found on services as a result of dig-ins. In 2011, PG&E did not incur any costs for this repair activity and instead, received a credit of $232,000. DRA recommends no increase above the 2011 recorded amount for this subaccount. DRA's leak repair forecast provides funding for the repair of all leaks on mains and services regardless of cause. DRA believes that the proposed funding is adequate to cover costs associated with leaks found on services as a result of dig-ins. Once the repairs are made, to the extent possible, PG&E should be able to recover the costs associated with the repairs from known parties that caused the dig-ins.

3. CP Restoration

PG&E requests $3.2 million for corrosion control as part of the sub-account CP Restoration. In 2011, PG&E incurred $2.8 million for these activities. DRA agrees with PG&E's forecast.

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[383] Ex. PG&E-3, p. 6-37.

4. Regulator Station Repair

PG&E requests $3.4 million to perform regulator station repairs on 1,372 units.[384] The 2011 recorded amount spent on this sub-account is $3.2 million to repair 1,372 units. DRA agrees with PG&E's forecast.

5. Distribution Valve Repair

PG&E requests $811 to repair 271 valves.[385] In 2011, PG&E spent $748 to repair 271 valves. DRA agrees with PG&E's forecast.

6. Gas Overbuilds

PG&E requests $2.2 million in expense for the subaccount Gas Overbuild.[386] In 2011, PG&E spent $1.3 million to relocate 107 units. For 2014, PG&E does not identify the number of units for the forecast.

According to PG&E, activities involved in gas overbuild corrective maintenance include relocating partial gas service and/or main (<100 feet) due to overbuild condition, where its facilities have been built over by third parties without its knowledge.[387]

PG&E has not adequately supported an increase to almost twice the 2011 recorded expense. PG&E states that it has been focusing more on identifying overbuilds and it expects to locate and remediate more overbuilds.[388] However, no support was provided for this claim.

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[384] Ex. PG&E-3, p. 6-37.

[385] Ibid.

[386] Ibid.

[387] PG&E-3, p. 6-36.

[388] Ibid.

According to PG&E, the costs associated with overbuilds had previously been recorded with other costs.[389] Therefore, PG&E has embedded funding in other areas for this work activity. Until PG&E can demonstrate that there are more overbuilds to relocate/remediate than historical levels, its request should be rejected.

DRA recommends no increase for this sub-account. DRA's recommendation is $1.3 million, based on the 2011 recorded amount, in contrast to the $2.2 million as PG&E requests.

IX. DISCUSSION / ANALYSIS OF GAS FIELD SERVICES AND RESPONSE

This section discusses PG&E's request of $113.7 million in expense for the Gas Field Services and Response Program. This forecast is 48% higher than the recorded 2011 expenses of $76.9 million.[390] The principal reasons for the forecast increases are: (1) PG&E proposes responding to all gas odor calls within the specified 60 minutes and 30 minute timeframes, (2) additional work to repair meter set leaks found as a result of the enhanced leak survey efforts, and (3) additional work to remediate atmospheric corrosion identified by the atmospheric corrosion survey.

Table 9-41 summarizes PG&E's request and DRA's recommendation for the MWCs within Gas Field Services and Response.

[389] Ibid.

[390] Ex. PG&E-3, p. 7-2.

Table 9-41
Gas Distribution Expenses for TY2014
Gas Field Services and Response
(In Thousands of Dollars)

Description (a)	DRA Recommended (b)	PG&E Proposed[391] (c)
MWC DD	$96,432	$105,956
MWC HY	$5,663	$7,756
Total	$102,095	$113,713

Based on DRA's analysis presented below, DRA recommends $96.4 million for MWC DD and $5.7 million for MWC HY.

A. MWC DD

PG&E requests $106.0 million in 2014 for Gas Field Services and Response organizations.[392] The work activities associated with this MWC are: (1) responding to gas odor calls, (2) carbon monoxide monitoring, (3) customer requests for starts and stops of gas service, (4) appliance pilot relights, and (5) appliance safety checks. The 2014 forecast is a $29.1 million increase (38%) over the 2011 recorded amount of $76.9 million. In 2011, the cost of meter set leak repairs was also tracked under MWC DD. PG&E has determined that these costs should be recorded in a separate account and is proposing to track this expense under MWC HY going forward and for 2014.[393]

According to PG&E, the primary reason for the increase in MWC DD expenses in 2014 is the hiring of an additional 80 Gas Service Representatives, or GSRs, to meet new safety performance goals the company has set. PG&E's key initiative is to respond to all gas odor calls within 30 minutes 75 percent of the time

[391] Ex. PG&E-3, p. 7-21.

[392] Ex. PG&E-3, p. 7-9.

[393] Ibid.

and within 60 minutes 99 percent of the time. PG&E states it is exploring changes to its current emergency response process and improving and updating GSR training curriculum for GSRs as first responders. PG&E states that GSRs will be trained to operate transmission and distribution valves and grade leaks.[394]

PG&E's expense request for the additional GSRs is embedded within the various subaccounts for work activities associated with MWC DD, such as Emergency and Gas Odor Calls, Gas Start/Stop, Customer Appliance, Pilot Relight, and Gas Fumigation. A summary of PG&E's request as allocated to each subaccount is identified in the section below.

DRA recommends the Commission adopt the PG&E 2012 recorded expense amount of $96.4 million for 2014. DRA's recommendation is based on the fact that PG&E has hired almost all of the 80 GSRs it planned to hire by 2014 and on PG&E's achievement of the targeted response to all gas odor calls.

In 2012, PG&E hired 77 GSRs.[395] PG&E currently has 668 GSRs and 36 GSR supervisors.[396] With this level of staffing, PG&E has achieved a majority of the number of jobs estimated for each of the work category for 2014. PG&E's 2012 performance exceeded the proposed level of work for 2014 for most of the work activities under MWC DD. For Emergency/IR Gas Odor Calls and same Day Odor Response, PG&E forecasts 184,072 jobs for 2014. In 2012, the company completed 186,376 jobs.[397] For Gas Start/Stop, the company estimates 197,259 jobs for 2014 and completed 203,759 jobs in 2012. For Gas Fumigation, the company forecasts 30,862 jobs for 2014 and completed 33,451 jobs in 2012. For Atmospheric Corrosion remediation, the company forecasts 11,500 jobs for 2014 and completed

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[394] Ex. PG&E-3, p. 7-8.

[395] PG&E's response to DRA-79, Q. 8, (c).

[396] PG&E's response to DRA-79, Q. 2, Attachment 1.

[397] PG&E's response to DRA-79, Q. 1, Attachment 1.

13,710 in 2012. For Leak Survey Repair at Meter, PG&E forecasted 30,000 units for 2014 and completed 63,836 in 2012.

DRA asked PG&E if the 2012 target of responding to odor calls designated as immediate response was met. PG&E responded,

> "PG&E's 2012 target of responding to odor calls designated as immediate response in 30 minutes 75% of the time and 60 minutes 99 % of the time was a goal set for achievement starting in quarter three(Q 3) of 2012. Yes, PG&E did meet its gas odor response goals in Q3 and Q4 of 2012, below are the results:
>
> Immediate Response 30 minutes: 85.29 percent
> Immediate Response 60 minutes: 99.21 percent"[398]

DRA supports PG&E's effort/goal to improve response time to gas odor calls within the proposed time frame. The PG&E 2012 recorded units of work and recorded expenses show that PG&E exceeded the level of the 2012 and 2014 job estimates. Although PG&E planned to spend $87.7 million in 2012, the company recorded almost $10 million more than estimated. However, the 2012 recorded amount of $96.4 million is an adequate level of funding for achieving all the safety and service goals identified for 2014. DRA does not take issue with those PG&E's requests, as itemized below. However, DRA recommends adopting the 2012 recorded expense for 2014. This is reasonable and the Commission should adopt $96.4 million for MWC DD.

Table 9-42
2007-2012 Recorded Data for MWC DD
Provide Field Service
(in Thousands of Dollars)

Description	2007	2008	2009	2010	2011	2012
MWC DD	$51,400	$52,888	$58,893	$62,493	$76,875	$96,432

Source: 2007-2011 data from PG&E's response to DRA_DEF10A-Q.1-Attachment1. 2012 data from PG&E's response to DRA-108, Q. 4, attachment 1.

[398] PG&E's response to DRA-79, Q. 10.

1. Emergency and Gas Odor Calls

PG&E requests $41 million in 2014 for Emergency and odor calls. This is an increase of $6.5 million above the 2011 recorded amount of $34.5 million. Part of the expenses in this subaccount is for the hiring of the additional 80 GSRs planned for 2014.

2. Gas Start/Stop/RGSO

PG&E requests a total of $26.5 million for Gas Start/Stop/ and RGSO in 2014.[399] In 2011, PG&E recorded an expense amount of $15.6 million for a total of 121,116 requests. For 2014, PG&E estimates a total of 197,259 requests.

3. Customer Appliance

PG&E requests $2.3 million in 2014 for requests associated with Customer Appliance. This amount is $387,000 higher than the recorded amount of $1.9 million recorded in 2011. According to PG&E, the cost being requested includes escalation and a partial cost for the additional 80 GSRs requested.

4. Pilot Relight

PG&E requests $31.8 million in expenses for a total of 235,511 relight requests. In 2011, PG&E responded to 235,111 relight requests as well. According to PG&E, the cost being requested includes escalation and a partial cost for the additional 80 GSRs requested.

5. Gas Fumigation

PG&E requests a total of $4.5 million in expenses for gas fumigation. In 2011, PG&E recorded $3.7 million for work activities related to this MWC. According to PG&E, the cost being requested includes escalation and a partial cost for the additional 80 GSRs requested.

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[399] Ex. PG&E-3, p. 7-21.

B. MWC HY

PG&E requests $7.8 million for expenses tracked by MWC HY for 2014.[400] The work activities under MWC HY are categorized as atmospheric corrosion remediation and leak survey repairs at meter. The work activities now tracked under MWC HY used to be part of the expenses under MWC DD.[401]

PG&E estimated $12 million for 2012 to repair atmospheric corrosion at 2,300 meters and to perform 9,700 leak repairs at meter. The company spent $9.4 million, or 78% of its forecast in 2012. A summary of PG&E's 2007-2012 recorded expenses for MWC HY is presented in the table below.

Table 9-43
2007-2012 Recorded Data for MWC HY
Change/Maintained Used Gas Meters
(in Thousands of Dollars)

Description	2007	2008	2009	2010	2011	2012
MWC HY	$0	$0	$0	$0	$127	$9,439

Source: 2007-2011 data from PG&E's response to DRA_DEF10A-Q.1-Attachment1. 2012 data from PG&E's response to DRA-108, Q. 4, attachment 1.

For 2014, PG&E forecasts a 40% reduction in the level of atmospheric corrosion remediation and leak repairs compared to the 2012 level. Based on a lack of historical data for this MWC, DRA recommends adopting $5.7 million for MWC HY. DRA's recommendation is based on the ratio of recorded to proposed cost for 2012. Since PG&E spent 40% less in 2012 than the company proposed in testimony, DRA recommends adopting a reduction of 40% of PG&E's 2014 forecast.

1. Atmospheric Corrosion

PG&E requests $1.4 million in expenses to remediate atmospheric corrosion on 11,500 meters in 2014.[402] For 2012, the company planned to repair atmospheric

[400] Ex. PG&E-3, p. 7-21.

[401] Ex. PG&E-3, p. 7-9.

[402] Ex. PG&E-3, p. 7-21, and p. 7-4.

corrosion at 20,000 meters and repair leaks at 78,000 meters for a total of $2.3 million. The 2014 forecast is 42% lower than proposed for 2012.

PG&E did not identify the 2011 base year unit of work or expenses for atmospheric corrosion.[403] It is not possible to discern the work level and expenses for this particular work activity. The reason the 2014 level of work is lower compared to the 2012 and 2013 level is because of a backlog of work that PG&E planned to finish before 2014.

Since the 2014 forecast is 42% lower than the 2012 level proposed by PG&E, DRA recommends adopting 60% of the 2012 recorded expense of this subaccount as the estimate for 2014. Based on the fact that this is a new MWC with no level of work or recorded expenses identified, the recorded 2012 expense is a rational base to estimate the 2014 forecast.

2. Leak Repairs at Meter Set

PG&E proposes to repair a total of 48,448 leaks at the meter set for a total of $6.3 million in 2014.[404] The 2014 proposal is approximately 40% lower than the 2012 proposed level of work. The reason the 2012 and 2013 level of work is higher compared to the 2014 forecast is due to a backlog that PG&E claimed it will complete by 2014.[405]

PG&E did not identify the 2011 base year unit of work or expenses for leak repair at meters.[406] It is not possible to discern the work level and expenses for this particular work activity. The 2014 level of work is an estimate of the number of leaks detected using traditional methods and leaks detected as a result of Picarro. Due to

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[403] Ex. PG&E-3, Workpapers, p. WP-7-25.

[404] Ex. PG&E-3, p. 7-21 and 7-4.

[405] Ex. PG&E-3, p. 7-10.

[406] Ex. PG&E-3, Workpapers, p. WP-7-25.

a lack of historical work activities and cost data, DRA is not able to determine the reasonableness of PG&E's 2014 forecast.

Since these activities are going to be tracked under a new MWC and the only available recorded expense is 2012, DRA recommends using this as the base to estimate the forecast. Since the 2014 forecast is 40% lower than the 2012 proposed level, DRA recommends adopting 60% of the 2012 recorded expense for this subaccount.

X. DISCUSSION / ANALYSIS OF NEW BUSINESS and WORK AT THE REQUEST OF OTHERS

This section discusses PG&E's 2014 forecast of relocation related expenses tracked by MWC LK. The following table summarizes PG&E's request and DRA's recommendation for the MWC LK within New Business and Work at the Request of Others.

Table 9-44
Gas Distribution Expenses for TY2014
New Business and Work at the Request of Others
(In Thousands of Dollars)

Description (a)	DRA Recommended (b)	PG&E Proposed[407] (c)
MWC LK	$6,000	$6,000
Total	$6,000	$6,000

A. MWC LK

MWC LK tracks expenses related to gas Work at the Request of Others (WRO).[408] PG&E requests $6 million in expenses for work activities such as non-plant relocations and alterations of gas facilities. The work activities associated with

[407] Ex. PG&E-3, p. 9-27.

[408] Ex. PG&E-3, p. 9-9.

gas relocations are required by tariffs and franchise agreements.[409] Table 9-45 below provides a summary of the recorded expenses tracked by this MWC from 2007-2012.

Table 9-45
2007-2012 Recorded Data for MWC LK
Gas Work at the Request of Others
(in Thousands of Dollars)

Description	2007	2008	2009	2010	2011	2012
MWC LK	$7,593	$5,681	$8,273	$6,144	$6,149	$7,211

Source: 2007-2011 data from PG&E's response to DRA_DEF10A-Q01, Attachment 1. 2012 data from PG&E's response to DRA-108-Q.4, Supp01, Attachment 1.

PG&E's 2014 forecast is reasonable and DRA agrees with it.

XI. DISCUSSION / ANALYSIS OF TECHNICAL TRAINING and RESEARCH AND DEVELOPMENT

This section discusses PG&E's request of $12.7 million for the development of an updated and expanded Technical Training program and $2.5 million for Research and Development (R&D) and Innovation.[410]

The following table summarizes PG&E's request and DRA's recommendation for the MWCs within Technical Training and Research & Development.

[409] Ex. PG&E-3, p. 9-9.

[410] Ex. PG&E-3, p. 10-1.

Table 9-46
Gas Distribution Expenses for TY2014
Technical Training and Research & Development
(In Thousands of Dollars)

Description (a)	DRA Recommended (b)	PG&E Proposed[411] (c)
MWC AB	$3,880	$12,690
MWC GZ	$1,518	$2,500
Total	$5,398	$15,191

A. MWC AB

PG&E requests $12.7 million for Gas Distribution Technical Training activities.[412] For 2014, PG&E lists 19 technical training areas proposed for new or modified curriculums and these areas are the basis of the forecasted expenses.[413] In particular, PG&E states that it has identified a total of 60 courses that require development or significant expansion from 2014 to 2016.[414] DRA forecasts $3.9 million for MWC AB.

Table 9-47 below provides a summary of expenses tracked by MWC AB from 2007-2013.

Table 9-47
2007-2012 Recorded Data for MWC AB
(in Thousands of Dollars)

Description	2007	2008	2009	2010	2011	2012
MWC AB	$0	$0	$0	$0	$0	$3,880

Source: 2007-2011 data from PG&E's response to DRA_DEF10A-Q01, Attachment 1. 2012 data from PG&E's response to DRA-108-Q.4, Supp01, Attachment 1.

[411] Ex. PG&E-3, p. 10-17.

[412] Ex. PG&E-3, p. 10-8.

[413] Ex. PG&E-3, p. 10-7.

[414] Ex. PG&E-3, p. 10-6.

1. Internal Benchmark Study Results and the CPUC RAU's Recommendations

PG&E states in testimony that its 2014 forecast is based on a comprehensive review of the current training materials, course curriculum, course durations, and time spent in training as a result of the findings of the recently completed benchmark study.[415] This review identified 39 courses that need to be either created or significantly updated in the near term, as well as 60 courses for future development.[416]

One of the issues identified by the internal benchmark study is that while

> "…xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx, xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx xxxxxxxxxxxxxx[417]xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx xxxxxxxx"[418]

DRA does not oppose PG&E's effort to improve its training development in order to be more effective. As identified in the benchmark study provided, PG&E's training was developed by individual Lines of Businesses (LOBs) in the past and this has proven to be ineffective. There is embedded funding for training development within each of the LOBs that PG&E can access in order to address the improvements identified by the study.

In testimony PG&E states, "[f]or 2011 and prior, a portion of the training development costs were recorded in MWC AB, while the majority of the training development costs were historically planned for and tracked within the specific MWC

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[415] Ex. PG&E-3, p. 10-6.

[416] Ex. PG&E-3, p. 10-2.

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[418] PG&E's response to DRA-117, Q. 4, Attachment 1CONF., p. 203.

that captured the operating expenditures for the program that the training supported."[419]

DRA asked PG&E to identify all other MWCs wherein training development costs were captured each year from 2007-2012. PG&E identified the embedded training costs for each year from 2008-2012.[420] A summary of these expenses is presented below.

Table 9-48
Embedded Training Development Costs
(In thousands of Dollars)

	2007	2008	2009	2010	2011	2012
Embedded Training Development Costs Contained In Other MWCs	n/a	$135	$4,559	$1,105	$1,741	$12,402

Based on the cost data PG&E provided, there is at least $12 million of embedded funding that exists in other MWCs used for training related activities.

PG&E states that its training development proposal for 2014 is a response to the CPUC's RAU's recommendations. DRA asked PG&E to explain and show how the RAU's recommendations led to the development of the 2014 forecast. PG&E responded, "…It highlighted risks that require a trained workforce that is competent and skilled at performing the many activities necessary to mitigate the risks. It also specifically raised the concern of understaffing, succession planning and an aging workforce which PG&E will mitigate through additional hiring and training of employees."[421] PG&E then referred DRA back to testimony wherein the 19

[419] Ex. PG&E-3, p. 10-6.

[420] PG&E's response and supplemental 01 to DRA-117, Q.2(a)(b)

[421] PG&E's response to DRA 121, Q.1(c).

proposed courses are identified.[422] The most expensive course identified is "Annual Skills Refresher Training" for $2.5 million.[423]

Without taking issue with PG&E's benchmark study showing that it needs more effective training development, PG&E has not demonstrated that this leads to an increase in training costs above and beyond the embedded funding already in rates.

2. 2012 Recorded Expenses for MWC AB

In 2012, PG&E spent $3.9 million on training development costs tracked by MWC AB. According to PG&E, it developed a total of 37 new courses in 2012.[424] Between 2007 and 2011, on average PG&E developed or enhanced 19 courses each year.[425] The cost to develop/enhance these courses is embedded in MWCs other than MWC AB.

3. DRA's 2014 Forecast

From the recorded expenses that PG&E identified for MWC AB and other MWCs, PG&E spent a total of $18.1 million on training and training development/enhancements in 2012. In testimony, PG&E states that there are 39 courses that need to be either created or significantly updated, as well as 60 courses for future development.[426]

DRA recommends the Commission adopt MWC AB's 2012 recorded expenses as the 2014 forecast. From PG&E's proposal in testimony, the 60 courses are proposed over a 3-year timeframe for 2014-2016. The $3.9 million figure, along

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[422] Ibid.

[423] Ex. PG&E-3, p. 10-8.

[424] PG&E's response to DRA-121, Q. 2.

[425] Ibid.

[426] Ex. PG&E-3, p. 10-6.

with embedded training development funding from other MWCs, provides adequate funding to support the development of an average of 20 courses per year starting in 2014.

B. MWC GZ

PG&E requests $2.5 million for MWC GZ for the identification of new or improved efforts to enhance operation, safety and efficiency within PG&E's Gas Operations.[427] According to PG&E, its 2014 forecast is significantly higher than the recorded actual expenses in 2011 because it needs to adequately identify and assess innovations, manage the development and adaptations of solutions, and facilitate the deployment of innovations within Gas Operations.[428] The table below provides a summary of MWC GZ recorded expenses from 2007-2012.

Table 9-49
2007-2012 Recorded Data for MWC GZ
(in Thousands of Dollars)

Description	2007	2008	2009	2010	2011	2012
MWC GZ	$1,161	$491	$324	$104	$6	$1,110

Source: 2007-2011 data from PG&E's response to DRA_DEF10A-Q01, Attachment 1. 2012 data from PG&E's response to DRA-108-Q.4, Supp01, Attachment 1.

DRA recommends a lower level of funding for MWC GZ in 2014. Table 9-50 below provides a comparison of DRA's and PG&E's 2014 forecast.

[427] Ex. PG&E-3, p. 10-9.

[428] Ibid.

Table 9-50
Gas Distribution Expenses for TY2014
MWC GZ, R&D Non-Balancing Account
(In Thousands of Dollars)

Description (a)	DRA Recommended (b)	PG&E Proposed[429] (c)
MWC JV	$1,518	$2,500
Total	$1,518	$2,500

PG&E's 2014 estimate is based on 2 components: (1) $802,000 for Collaborative R&D and (2) $1.7 million for staff.[430] The Collaborative R&D expense consists of fees and project costs associated with PRCI, NYSEARCH, and OTD—international R&D organizations, and are allocated between distribution and transmission.[431] PG&E states the forecast includes $1.7 million to manage the development and adaptations of the R&D activities and facilitate the deployment of innovations within the company. DRA reviewed PG&E's workpapers and responses to data requests and finds PG&E's 2014 forecast excessive. First, DRA takes issue with PG&E's allocation of Distribution costs. PG&E is not able to support the allocation of higher membership costs to Distribution. In PG&E's response to DRA, PG&E could not identify the percentages it allocated to Distribution and Transmission each year from 2007-2012. PG&E's explanation of how it came up with the 2014 allocation for Distribution is, "the percentage identified under 'Distribution' were established by analyzing the portfolio of the collaborative programs and by assigning to each project a portion for Transmission and Distribution…This evaluation is not static since portfolios continuously evolve from

[429] Ex. PG&E-3, p. 11-42

[430] Ex. PG&E-3, p. 10-10.

[431] Ex. PG&E-3, p. 10-9 and 10-10.

year to year. The assigned percentages were rounded to the closest 10 percent in light of this variability."[432]

DRA recommends an even split between Transmission and Distribution. PG&E cannot support allocating higher costs to Distribution, because PG&E does not know how much was allocated between the two operations historically, and because the portfolios change from year to year. DRA's proposed 50% allocation to Distribution is fair.

DRA recommends basing the 2014 forecast on actual membership fees and project costs incurred between 2010 and 2012 because these years represent to most recent history and the membership fees and project costs fluctuate from year to year. The three-year average expense in fees and project costs is $489,943. The Distribution portion, based on a 50% split, is $244,972 for Collaborative R&D.

As for PG&E's staffing request, the company has not adequately supported its proposal for 1 FTE for "Test and Adaptation", 2 FTEs for "Research and Development", 1 FTE for "Detection and Assessment", and .8 FTE for "Research and Development Management and Contract Management."[433] In a response to a data request, PG&E stated that the workpapers contained errors and that Test and Adaptation efforts are generally performed by third party contracts.[434] PG&E did not provide any support for the 2 FTEs for "Research and Development." PG&E states that the estimate for 2 FTEs for "Research and Development" was an error because Research and Development activities are led by partners directly or through collaborative R&D. PG&E lacks support for its claim that all internal efforts will focus on Test and Adaptations of solutions.[435]

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[432] PG&E's response to DRA-121, Q. 9.

[433] Ex. PG&E-3, Workpapers, p. WP 10-19.

[434] Ex. PG&E-3, Workpapers, p. WP 10-19.

[435] PG&E's response to DRA-121, Q. 9 (f).

PG&E failed to provide adequate support to show how it determined the number of FTEs for 2014. Based on unclear and inadequate support, DRA recommends 2 FTEs at the PG&E proposed cost of $150,000 per FTE for a total of $300,000. Along with this, DRA does not take issue with PG&E's proposal for expenses for third party contracts at $973,000. DRA believes 2 FTEs are adequate to manage the third party contracts and Research and Development. DRA's estimate for 2 FTEs and expenses for third party contracts is $1.3 million.

Based on the preceding analysis, DRA recommends $244,972 for Collaborative R&D, $300,000 for 2 FTEs, and $973,000 for third party contracts. DRA's recommendation of $1.5 million for MWC GZ is reasonable and should be adopted. Compared to PG&E's request of $2.5 million, DRA's recommendation is $1 million lower.

XII. DISCUSSION / ANALYSIS OF GAS OPERATIONS TECHNOLOGY

This section discusses PG&E's request for Gas Operations Technology. PG&E requests $19.2 million in expenses for Gas Distribution Asset Management, Public Safety and Integrity Management, Gas Operations, and Mobile Platform. PG&E's 2014 request is approximately $18.7 million higher than its base year recorded expenses of $0.5 million.

DRA recommends $10.7 million for 2014. This amount consists of $3.7 million for Gas Distribution Asset Management, $4.3 million for Public Safety and Integrity Management, $1.4 million for Gas Operations, and $1.2 million for Mobile Platform.

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

Table 9-51
Gas Distribution Expenses for TY2014
Gas Operations Technology
MWC JV
(In Thousands of Dollars)

Description (a)	DRA Recommended (b)	PG&E Proposed[436] (c)
MWC JV	$10,664	$19,244
Total	$10,664	$19,244

A. MWC JV

PG&E's 2014 forecast consists of 4 cost elements: (1) $11.2 million for Gas Distribution Management, of which $10.3 million is for expenses related to the Pathfinder Project, (2) $4.3 million is for Public Safety and Integrity Management, (3) $1.7 million is for Gas Operations, (4) $2.1 million is for Mobile Devices.[437] The corresponding DRA 2014 forecasts are (1) $3.7 million for Gas Distribution Management, (2) $4.3 million for Public Safety and Integrity Management, (3) $1.4 million for Gas Operations, and (4) $1.2 million for Mobile Devices.

Table 9-52 below shows the 2007-2012 recorded expenses for MWC JV.

Table 9-52
2007-2012 Recorded Data for JV
(in Thousands of Dollars)

Description	2007	2008	2009	2010	2011	2012
MWC JV	$24,832	$0	$902	$396	$518	$6,836

Source: 2007-2011 data from PG&E's response to DRA_DEF10A-Q01, Attachment 1. 2012 data from PG&E's response to DRA-108-Q.4, Supp01, Attachment 1.

[436] Ex. PG&E-3, p. 11-42

[437] Ibid.

1. Gas Distribution Asset Management

PG&E requests $11.2 million for expenses associated with the Pathfinder Project and $890,000 for Estimator Toolset Enhancements, including Graphic Work Design Tool.[438] PG&E's estimate is based on the Pathfinder Project, which the company proposes to begin in 2012 and be completed in 2015.

The expenses proposed are for the data conversion work for the Pathfinder Project originally scheduled to begin early 2012 and end by 2014. PG&E's forecast of $10.3 million was based on the original cost estimate and extending the project another year to 2015.[439]

According to PG&E, the cost estimate is based on an estimate of the number of hours to perform conversion tasks for Geographic Information System (GIS)-based data. PG&E states that the estimated time to perform conversion activities was based on various attributes of each PG&E division, such as number of customers and gas services, miles of main and size of the division service area, as well as experience with other data conversions completed in the gas industry. PG&E explains that the cost was not based on the number of documents that would be converted into Pathfinder Project.[440] PG&E identified a total of 9,968,614 documents that are not yet converted.[441] Of this total, approximately 51% are paper-based records and approximately 49% of the records can be converted from a GIS-compatible format.[442]

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[438] Ex. PG&E-3, pp. 11-15 and 11-16.

[439] PG&E's response to DRA-204, Q. 1(a)

[440] PG&E's response to DRA-204, Q. 1(a)

[441] Ibid.

[442] Ibid.

In 2012, PG&E spent a total of $4.5 million and converted a total of 878 documents, 95% of which came from an incompatible format.[443]

PG&E's proposed forecast of $10.3 million for expenses associated with records conversion for the Pathfinder Project is excessive and inadequately supported. First, PG&E has not presented any evidence that the data conversion needs to happen within a specific timeframe. PG&E's schedule has already been extended from 2014 to 2015. If PG&E were to extend the data conversion process by another year or two, this will ease rate shock for PG&E's customers. Based on the fact that PG&E only spent 48% of the forecasted $10.3 million for 2012, and scanned a small fraction of the total number of existing records, PG&E has failed to demonstrate that this project can or should be compressed and entirely completed within the 4-year time-frame that PG&E proposes.

DRA does not take issue with the remaining number of records that PG&E claims still need to be scanned and converted to a Pathfinder-compatible file. However, almost 50% of the records already exist in a Pathfinder-compatible format, and do not require extensive conversion as paper records. DRA cannot verify the total number of records PG&E claims require conversion. While PG&E identified a total of 9,968,414 records in existence, PG&E's data contains estimates of the counts of the different types that PG&E claims needs to be converted.[444] PG&E proposes a total of 4,241,095 records for 2014, 1,775,203 for 2013, and 878 for 2012, which places the maximum burden and cost in 2014.

DRA recommends that the Commission adopt the PG&E forecast of $10.3 million, but normalized over the 3-year cycle of the rate case. The normalized amount is $3.4 million. DRA's forecast is based on PG&E's conversion of the estimated number of records over the 2014-2016 timeframe. DRA's proposal is comparable to PG&E's most recent spending on record conversion for the Pathfinder Project.

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[443] PG&E's response to DRA-157, Q. 2, Supplemental 1 and response to DRA-204, Q. 1(a).

[444] PG&E's response to DRA-204, Q.1 (a).

As for PG&E's request of $890,000 for 2014, DRA does not take issue with the forecast, but recommends that this amount be normalized over the 2014-2016 timeframe as well. DRA's recommendation is based on a declining level of expenses PG&E forecasts for 2014-2016. The normalized amount is $297,000 for 2014.

DRA's overall recommendation for this subaccount is $3.7 million. DRA's forecast is $7.5 million lower than PG&E's forecast of $11.2 million.

2. Public Safety and Integrity Management

PG&E requests $4.3 million for expenses related to Public Safety and Integrity Management.[445] DRA agrees with PG&E's expense request.

3. Gas Operations

PG&E requests $1.7 million for expenses related to gas operations.[446] The forecast includes expenses for the Gas Control Center Radio System, Gas Control Information Technology Applications, Pipe-to-Soil Monitors, and Gas Operations IT Enhancements.

DRA recommends $1.4 million for this subaccount. This recommendation reflects a lower forecast for Gas Control Center Radio System based on DRA's analysis regarding PG&E's request for capital expenditures related to this project. DRA's discussion of Gas Distribution Capital Expenditures recommendations are presented in Exhibit DRA-10 (Gas Distribution Capital Expenditures).

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[445] Ex. PG&E-3, p. 11-42.

[446] Ibid.

4. Mobile

PG&E requests $2.1 million for expenses related to mobile device replacement/upgrade and mobile enhancements for its crews.[447]

DRA recommends $1.2 million in expenses for Mobile O&M Leak Survey, Repair and Replacement and First Responder Portal. DRA's recommendation is $900,000 lower than PG&E's forecast and is based on a reduced capital expenditure forecast for 2014. Exhibit DRA-10 discusses the reasons for the proposed reductions in capital expenses for Mobile for Long Cycle Work, Mobile for Short Cycle Crews, Mobile Extension and Enhancement to Additional Crews, and Mobile Device Replacement/Upgrade.

XIII. DISCUSSION / ANALYSIS OF GAS OPERATIONS BUILDING PROJECTS, AGA FEES, and PAS 55 CERTIFICATION

PG&E requests $7.4 million in expense in support of the Gas Operations Building Projects, American Gas Association (AGA) Dues and Publicly Available Standard (PAS) 55 certification. DRA presents its analysis of PG&E's request regarding the capital cost supporting these areas and DRA's recommendation in Exhibit DRA-10.

DRA recommends $2.5 million for MWC AB. The forecast consists of $2.1 million for the leasing cost of the Gas Operations Headquarters Building, zero for the Gas Training Center, $300,000 for expenses associated with Major Projects, zero for expenses related to Minor Projects, and a normalized expense amount for PAS 55 Certification Support.

Table 9-53 summarizes PG&E's request and DRA's recommendation for the MWCs within Gas Operations Building Projects, AGA Fees, and PAS 55 Certification.

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[447] Ex. PG&E-3, p. 11-42.

Table 9-53
Gas Distribution Expenses for TY2014
Gas Operations Building Projects, AGA Fees, and PAS 55 Certification
(In Thousands of Nominal Dollars)

Description (a)	DRA Recommended (b)	PG&E Proposed[448] (c)
MWC AB	$2,525	$7,359
Total	$2,525	$7,359

A. MWC AB

PG&E requests a total of $7.4 million in expense for work activities tracked by MWC AB, Support Expense. The work activities and expenses PG&E requests for 2014 are listed in the table below.[449]

Table 9-54
PG&E's MWC AB 2014 Forecast
(In Thousands of Nominal Dollars)

Projects	2014 Expense
Major Projects >$1 million	
Gas Operations Headquarters Building and Lease	$2,058
Gas Training Center Building	$1,300
Antioch Service Center Permanent Building	$700
Vaca Dixon Sub GC Yard Permanent Building	$100
San Carlos Service Center Building Addition	$230
Minor Projects < $1 million	
Various projects	$2,171
PAS 55 Certification Support	$500

[448] Ex. PG&E-3, Workpapers, p. WP 12-1.

[449] Ex. PG&E-3, p. 12-14, Workpapers, pp. WP 12-13 to 12-15.

Table 9-55
2007-2012 Recorded Data for Miscellaneous Expense, Support
MWC AB
(in Thousands of Nominal Dollars)

Description	2007	2008	2009	2010	2011	2012
MWC AB	$1	$359	$(269)	$378	$(254)	$14,249

Source: 2007-2011 data from PG&E's response to DRA_DEF10A, Q. 1, Attachment 1. 2012 data from PG&E's response to DRA's data request DRA-108, Q. 4, and Attachment 1.

1. Gas Operations Headquarters Building and Lease

PG&E estimates the leasing costs associated with the Gas Operations Headquarter Consolidation project to be $7.3 million for 2014.[450] Of this total, 40% is allocated to expense and 60% to capital.[451] After factoring in a savings of $2.1 million for the termination of leases for the Walnut Creek Offices, PG&E requests $2.1 million for expenses and $3.1 million for capital associated with the annual lease for this project.[452]

According to PG&E, "This project will relocate and consolidate employees and contractors from various Walnut Creek and San Francisco buildings into a single 250,000 square foot building in San Ramon. The new building will co-locate the knowledge base, line staff, management, and operations control center for transmission, distribution and dispatch.

DRA reviewed the lease agreement for the new headquarters and takes no issue with this expense request.

[450] Ex. PG&E-3, Workpapers, p. WP 12-24.

[451] Ex. PG&E-3, Workpapers, p. WP 12-22.

[452] Ex. PG&E-3, Workpapers, p. WP 12-24.

2. Gas Training Center Building

PG&E requests $1.3 million for expenses associated with the Gas Training Center Building project in 2014.[453] This amount is approximately half of the total project expense amount of $2.3 million estimated for 2013 and 2014, in which $2 million is allocated for relocation expense and $300,000 for contingency expense.[454]

DRA recommends zero O&M funding for PG&E's requested expense for 2014. These expenses are directly related to PG&E's request for the Gas Training Center Building project, for which DRA recommends no funding. DRA's analysis and discussion of this project is presented in Exhibit DRA-10.

3. Expenses Associated with Capital Projects Greater Than and Less Than $1 million.

In the 2014 GRC forecast, PG&E groups the expenses and capital requests into those that are estimated to cost more than $1 million, identified as Major Projects, and those that are estimated to cost less than $1 million, identified as Minor Projects. PG&E identifies 3 projects with expenses associated with planned capital projects in the Major Projects group and requests a total of $1 million for these projects.[455] For the Minor Projects group, PG&E identifies seventeen projects with a total requested amount of $2.2 million.

The projects identified under the category "Major Projects>$1 million" are broken down as follows: (1) $700,000 for the Antioch Service Center to replace furniture, demolish existing trailers and mitigation, move employees to a temporary space and then on to the permanent space, (2) $230,000 for the San Carlos Service Center, to relocate employees from to a temporary location and back into the new

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[453] Ex. PG&E-3, Workpapers, p. WP 12-44.

[454] Ex. PG&E-3, Workpapers, p. WP 12-43.

[455] Ex. PG&E-3, p. Workpapers, p. WP 12-13.

addition,[456] and (3) $100,000 to demolish existing trailers and replace existing furniture.[457]

DRA proposes $300,000 for 2014 for expenses identified under "Major Projects >$1 million". DRA's recommendation is based on the fact that these are one-time expenses and that DRA proposes a lower capital expenditure related to the Vaca-Dixon project and the San Carlos Service Center project.

PG&E also identifies several projects under the "Minor Projects <$1 million" category and requests a total of $2.2 million in expenses for these projects. Many projects are estimated at less than $50,000. Examples of work activities that PG&E requests for 2014 includes, installing new gates at existing locations, installing new work stations, painting improvements, paving improvements, conference room modernization, general upgrades, and reconfiguration of offices.

DRA asked PG&E if any of the Minor Projects' expenses is for brand new work activities PG&E has never before performed on any of its facilities. PG&E responded, "None of the projects…are new work activities."[458] In other words, the activities for which PG&E is seeking $2.2 million in expenses are typical maintenance activities.

DRA asked PG&E to provide the annual expenses incurred to perform these typical activities either for different or the same locations within PG&E's territory for each year from 2007-2012. PG&E responded that the annual expenses are not available.[459] PG&E stated, "Prior to 2013, the costs for these projects were not tracked separately by planning order. Instead, these costs were charged to individual Provider Cost Centers (PCC) based on the department requesting the

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[456] Ex. PG&E-3, Workpapers, pp. WP 12-13, 12-72 to 12-73.

[457] Ex. PG&E-3, Workpapers, pp. WP 12-13.

[458] PG&E's response to DRA's data request number DRA 156, Q. 4 (b).

[459] PG&E's response to DRA's data request DRA-156, Q. 4 (a).

work. Because the costs were charged to PCC's the costs were embedded in the recorded expenses incurred in other MWCs."[460]

Based on PG&E's statement above, DRA concludes that the additional expenses PG&E is seeking for 2014 are not justified. It appears that in the recent past (2007-2012), PG&E has received funding in rates for maintenance activities, at the same or different location in its system. Since this funding is embedded in PG&E's rates, the company should be able to perform the requested work activities because these are not new or incremental work. PG&E does not know how much was incurred and spent for these maintenance activities. The company has not supported the additional increase for 2014.

DRA recommends no ratepayer funding in this area, instead of the $2.2 million PG&E requests for 2014.

1. Publicly Available Standard (PAS) 55 Certification Support

PG&E requests $500,000 to pursue independent validation of the company's overall asset management processes based on an industry leading standard.[461]

According to PG&E, "PAS 55 outlines clear definitions and a 28-point requirement specification for establishing and verifying an integrated and optimized management system for all types of physical assets. PAS 55 specifically requires evidence of alignment between good intentions and real, on-the-ground delivery. It is a valuable mechanism to ensure that the principles of life cycle planning, risk management, cost/benefit, customer focus and sustainability are actually delivered within the day-to-day activities of capital project implementation, operations, and maintenance."[462]

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[460] Ibid.

[461] Ex. PG&E-3, p. 12-13.

[462] Ex. PG&E-3, pp. 12-10 to 12-11.

The $500,000 is the cost to contract a consultant to assist in the certification of PAS 55 and that the certification process is expected to extent 8 weeks.[463] PG&E states, "PG&E is hiring Lloyd Register to objectively validate and certify, against an international standard, that the way PG&E's Gas Operations implemented risk management, among many other asset management controlling and enabling activities, is integrated, holistically applied, systematic and sustainable."[464] PG&E also states, the company is seeking third party validation rather than relying solely on PG&E"s own judgment.

PG&E states PAS 55 is currently used in 15 industry sectors, including electric transmission, electric distribution, gas transmission and gas distribution, as well as power generation.[465]

DRA recommends that the requested expenses be normalized to reflect the one-time cost in a 3-year cycle general rate case. The normalized expense amount for 2014 is $167,000, instead of the $500,000 PG&E requests.

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[463] Ex. PG&E-3, Workpapers, p. WP 12-82.

[464] PG&E's response to DRA-159, Q. 1.

[465] PG&E's response to DRA-159, Q. 4.