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ALJ	:	<u>Pulsifer</u>
Witness	:	<u>Jaeger</u>



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

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

**Electric Distribution Expenses  
Part 1 of 2**

San Francisco, California  
May 3, 2013

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# ELECTRIC DISTRIBUTION EXPENSES

## 2 I. INTRODUCTION

3 This exhibit presents the analyses and recommendations of the Division of  
4 Ratepayer Advocates (DRA) regarding Pacific Gas and Electric Company's (PG&E)  
5 forecasts of Electric Distribution Operation and Maintenance (O&M) expenses for  
6 Test Year (TY) 2014.

7 Electric distribution O&M expenses are for work activities related to the  
8 operation, supervision, and maintenance associated with the electric distribution  
9 system, load dispatching, station expenses, overhead and underground lines, poles,  
10 street lighting, customer installations, tree trimming, line transformers, and  
11 miscellaneous work.

12 Exhibit DRA-6 addresses other Electric Distribution expense forecasts  
13 associated with Electric Mapping and Records Management, Vegetation  
14 Management, and Distribution System. This exhibit specifically addresses all other  
15 Electric Distribution expense forecasts, and mainly corresponds to Exhibit PG&E-4.

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

## 23 II. SUMMARY OF RECOMMENDATIONS

24 PG&E forecasts \$365.197 million in Electric Distribution expenses for the  
25 following Major Work Categories (MWCs): AB, JV, BF, KA, KB, KC, BK, GA, EV,  
26 EW, GC, HX, BH, IF, FZ, and DN. PG&E's forecasts increase their 2011 expenses  
27 in every area within Electric Distribution other than emergency response (MWC BH

1 and MWC IF). The corresponding DRA estimate is \$313.543 million, \$51.654 million  
2 less than PG&E's forecast.

3 DRA recommends that the Commission adopt:

- 4 • DRA's estimate of \$4.675 million for PG&E's MWC JV – Electric  
5 Operations Technology. DRA's estimate is \$7.400 million lower  
6 than PG&E's TY forecast.
- 7 • DRA's estimate of \$1.066 million for PG&E's MWC AB – Electric  
8 Distribution Support (Applied Technologies Services). DRA's  
9 estimate is \$1.085 million lower than PG&E's TY forecast.
- 10 • PG&E's forecast of \$46.286 million for MWC BF – Patrols and  
11 Inspections.
- 12 • DRA's estimate of \$35.009 million for PG&E's MWC KA –  
13 Overhead Maintenance. DRA's estimate is \$18.650 million lower  
14 than PG&E's TY forecast.
- 15 • DRA's estimate of \$13.557 million for PG&E's MWC KB –  
16 Underground Maintenance. DRA's estimate is \$3.696 million lower  
17 than PG&E's TY forecast.
- 18 • PG&E's forecast of \$5.992 million for PG&E's MWC KC – Network  
19 Maintenance.
- 20 • PG&E's forecast of \$2.713 million for PG&E's MWC KC – Network  
21 Maintenance.
- 22 • DRA's estimate of \$12.267 million for PG&E's MWC GA – Pole  
23 Test and Treat, Restoration and Joint Utilities Coordination. DRA's  
24 estimate is \$3.850 million lower than PG&E's TY forecast.
- 25 • DRA's estimate of \$8.933 million for PG&E's MWC EV – New  
26 Business Service Inquiries. DRA's estimate is \$1.848 million lower  
27 than PG&E's TY forecast.
- 28 • PG&E's forecast of \$10.450 million for MWC EW – Work at the  
29 Request of Others.
- 30 • PG&E's forecast of \$72.608 million for MWC BH – Electric  
31 Emergency Corrective Maintenance.
- 32 • DRA's estimate of \$41.081 million for MWC IF – Electric  
33 Distribution Major Emergency. DRA's estimate is \$3.658 million  
34 lower than PG&E's TY forecast.
- 35 • DRA's estimate of \$35.452 million for PG&E's MWC GC –  
36 Distribution Substation Maintenance and Operations. DRA's  
37 estimate is \$4.612 million lower than PG&E's TY forecast.

- 1 • DRA's estimate of \$21.427 million for PG&E's MWC FZ –Electric
- 2 Engineering. DRA's estimate is \$2.720 million lower than PG&E's
- 3 TY forecast.
- 4 • PG&E's forecast of \$2.027 million for MWC HX – Distribution
- 5 Automation and System Protection.
- 6 • PG&E's forecasted offset of \$(10.191) million in MWC AB – Electric
- 7 Distribution Support.

8 DRA recommends that the Commission reject:

- 9 • PG&E's request for a two-way balancing account for MWC IF –
- 10 Electric Distribution Major Emergency.
- 11 • PG&E's request for additional funding for MWC DN Technical
- 12 Training Curriculum. PG&E did not provide historical costs for
- 13 training in MWC format; PG&E should have embedded historical
- 14 costs to address training costs.

15  
16 Table 5-1 compares DRA's and PG&E's TY2014 forecasts of Electric  
17 Distribution expenses addressed in this exhibit:

18 **Table 5-1**  
19 **Electric Distribution Escalated Expenses for TY2014**  
20 **(In Thousands of Dollars)**

Description (a)	DRA Recommended (b)	PG&E Proposed <sup>1</sup> (c)	Amount PG&E>DRA (d=c-b)	Percentage PG&E>DRA (e=d/b)
JV – Maintain IT Apps & Infra	\$4,675	\$12,075	\$7,400	158.29%
AB – Support	\$1,066	\$2,151	\$1,085	101.78%
BF – Patrols and Inspections	\$46,286	\$46,286	\$0	0.00%
KA – E Dist Maint-Overhead	\$35,009	\$53,659	\$18,650	53.27%
KB – E Dist Maint-Underground	\$13,557	\$17,253	\$3,696	27.26%
KC – E Dist Maint-Network	\$5,992	\$5,992	\$0	0.00%
BK – Maintain Other Equip	\$2,713	\$2,713	\$0	0.00%
GA – Poles- Inven/Test & Treat	\$12,267	\$16,117	\$3,850	31.39%
EV – Manage Service Inquiries	\$8,933	\$10,781	\$1,848	20.69%
EW – WRO - Maintenance	\$10,450	\$10,450	\$0	0.00%
BH – Perf Maint to Corr Fail	\$72,608	\$72,608	\$0	0.00%
IF – ED Major Emergency	\$41,081	\$44,739	\$3,658	8.90%
GC – Dist Sub: Maintain & Operate	\$35,452	\$40,064	\$4,612	13.01%
FZ – Opr Distribution Sys – EI Eng	\$21,427	\$24,147	\$2,720	12.69%
HX – T&D Automation	\$2,027	\$2,027	\$0	0.00%
DN – Develop & Provide Training	\$0	\$4,135	\$4,135	-
AB – Support	(\$10,191)	(\$10,191)	\$0	0.00%
<b>Total</b>	<b>\$313,543</b>	<b>\$365,197</b>	<b>\$51,654</b>	<b>16.47%</b>

<sup>1</sup> Exhibit (PG&E-4) WP 1-8

1 **III. GENERAL OVERVIEW**

2 **A. PG&E's Request**

3 PG&E developed the Electric Operations Improvements Plan as a guide for  
4 Electric Distribution Operations. The plan focuses on public and system safety,  
5 employee safety, reliability, compliance, customer satisfaction, and work efficiency.<sup>2</sup>  
6 PG&E heavily focused on more advanced technology to achieve its goals, which  
7 served as a major cost driver in the TY2014 forecast.

8 PG&E used various methods to develop its TY forecast for Electric  
9 Distribution O&M expenses. Common methods include averaging recorded  
10 historical expenses (e.g. 3-year and 5-year averages of historical data), estimating  
11 the number of units of work to be performed and then multiplying the units by the  
12 estimated unit cost to perform the work, and making adjustments to 2011 actual  
13 expenditures based on expected future program costs.

14 **B. Authorized vs. Recorded Expenses/Expenditures**

15 In PG&E's 2011 General Rate Case (GRC), the California Public Utilities  
16 Commission (Commission) ordered the utility to provide periodic compliance filings  
17 showing authorized and recorded expenses and capital expenditures, by Major Work  
18 Category (MWC), for electric distribution, electric generation, and gas distribution.<sup>3</sup>

19 As such, DRA provides the following historical comparison of authorized  
20 versus recorded electric distribution expenses for the MWCs addressed in this  
21 exhibit.

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<sup>2</sup> Exhibit (PG&E-4) page 1-1

<sup>3</sup> Decision (D.) 11-05-018, *mimeo.*, Ordering Paragraph 42, at pp. 98-99.

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**Table 5-2**  
**2007-2011 Authorized vs. Recorded Electric Distribution Expenses**  
**for Major Work Categories AB, BF, KA, KB, KC, BK, GA,**  
**EV, EW, GC, HX, BH, IF, FZ, and DN**  
**(In Thousands of Dollars)**

MWC		Year				
		2007	2008	2009	2010	2011
AB	Authorized	\$0	\$0	\$0	\$0	\$17,530
	Recorded	\$800	\$1,303	\$1,119	\$1,442	\$1,029
BF <sup>4</sup>	Authorized	\$27,334	\$28,156	\$28,978	\$29,800	\$40,712
	Recorded	\$28,958	\$29,595	\$27,358	\$33,293	\$44,874
KA, KB, KC	Authorized	\$63,224	\$65,125	\$67,026	\$68,927	\$72,665
	Recorded	\$67,433	\$65,210	\$53,032	\$54,348	\$67,366
BK	Authorized	\$4,102	\$4,225	\$4,348	\$4,472	\$2,057
	Recorded	\$4,904	\$5,555	\$(1,963)	\$2,913	\$2,353
GA	Authorized	\$16,914	\$17,423	\$17,931	\$18,440	\$16,462
	Recorded	\$12,756	\$12,515	\$9,807	\$6,382	\$6,550
EV	Authorized	\$11,219	\$11,557	\$11,894	\$12,231	\$13,488
	Recorded	\$20,235	\$20,065	\$13,370	\$7,199	\$6,194
EW	Authorized	\$7,369	\$7,590	\$7,812	\$8,033	\$21,294
	Recorded	\$11,300	\$12,969	\$12,670	\$6,991	\$9,021
GC	Authorized	\$26,337	\$27,129	\$27,920	\$28,712	\$34,432
	Recorded	\$30,952	\$31,148	\$30,707	\$29,677	\$33,077
HX	Authorized	\$2,182	\$2,248	\$2,313	\$2,158	\$1,900
	Recorded	\$2,094	\$1,566	\$1,845	\$2,166	\$2,081
BH	Authorized	\$48,262	\$49,713	\$50,670	\$50,983	\$64,618
	Recorded	\$60,195	\$61,031	\$71,048	\$72,534	\$75,955
IF	Authorized	\$10,586	\$10,904	\$11,180	\$11,435	\$21,240
	Recorded	\$9,264	\$40,798	\$30,524	\$51,797	\$80,428
FZ	Authorized	\$18,595	\$19,154	\$19,714	\$20,273	\$25,062
	Recorded	\$17,579	\$20,307	\$21,277	\$19,789	\$19,603
DN	Authorized	\$0	\$0	\$0	\$0	\$0
	Recorded	\$0	\$0	\$0	\$0	\$0

6 Source: Authorized 2007-2010 data from Master Data Request, Chapter 24 Question 1. Authorized  
7 2011 data from PG&E's August 3, 2011 Budget Report in Compliance with D.11-05-018. Recorded  
8 2007-2011 data from Exhibit (PG&E-4), Chapter 2, WP 2-1, Chapter 3, WP 3-1, Chapter 5, WP 5-1,  
9 Chapter 6, WP 6-1, Chapter 9, WP 9-1, Chapter 10, WP 10-1, Chapter 13, WP 13-1, Chapter 14, WP  
10 14-1, Chapter 17, WP 17-1, Chapter 20, WP 20-1.

<sup>4</sup> Between 2010 and 2011, PG&E adjusted the activities recorded in MWCs BF, KA, KB, KC, and BK. Previous to New: BF – BF/KC; BK-BK; GB-KB; BG-BK/KA/KB/KC

1 **IV. DISCUSSION / ANALYSIS OF ELECTRIC OPERATIONS**  
2 **TECHNOLOGY**

3 Electric Operations Technology is comprised of the technology projects that  
4 support PG&E's electric distribution grid, such as the automation of processes that  
5 were once manual and paper-based. The projects focus on four technology areas:  
6 1) system operations; 2) asset and records management; 3) work design; and 4)  
7 management, and workforce mobilization and scheduling.<sup>5</sup> PG&E forecasts  
8 \$12.075 million for TY2014 technology expenses, which is an increase of \$9.889  
9 million or 452.40% over 2011 expenses of \$2.186 million.<sup>6</sup> The corresponding DRA  
10 estimate for Electric Operations Technology expenses is \$4.675 million, which is  
11 \$7.400 million less than PG&E's forecast of \$12.075 million. DRA's 2014 estimate is  
12 \$2.489 million greater than PG&E's 2011 recorded expenses of \$2.186 million.

13 The following table summarizes PG&E's request and DRA's recommendation  
14 for Electric Operations Technology.

15 **Table 5-3**  
16 **Electric Distribution Expenses for TY2014**  
17 **Electric Operations Technology**  
18 **(In Thousands of Dollars)**

<b>Description (a)</b>	<b>DRA Recommended (b)</b>	<b>PG&amp;E Proposed<sup>7</sup> (c)</b>
JV – Maintain IT Apps & Infra	\$4,675	\$12,075

19 **A. MWC JV**

20 PG&E records expenses for Electric Operations technology in Major Work  
21 Category (MWC) JV. PG&E developed most project TY2014 forecasts using the

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<sup>5</sup> Exhibit (PG&E-4) page 2-1

<sup>6</sup> Exhibit (PG&E-4) WP 2-1

<sup>7</sup> Exhibit (PG&E-4) WP 2-1

1 Company’s application development estimating tool, referred to as the “Concept  
2 Estimating Tool.”<sup>8</sup>

3 **Table 5-4**  
4 **2007-2011 Recorded Data for Electric Operations Technology**  
5 **(In Thousands of Dollars)**

<b>Description</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>
JV – Maintain IT Apps & Infra	\$277	\$1,506	\$2,555	\$2,366	\$2,186

6 Source: Exhibit (PG&E-4) WP 2-1.

7 DRA’s recommendations for MWC JV are tied to the recommendations for  
8 project funding in Exhibit DRA-8 (Electric Distribution Capital Expenditures, Part 2 of  
9 2). In every case where DRA recommends the Commission reject PG&E’s request  
10 for capital expenditures, DRA recommends that the Commission also reject the  
11 associated project expenses.

12 PG&E forecasts expenses for twelve different projects in 2014. DRA  
13 opposed funding for four of PG&E’s twelve projects in MWC JV. DRA reduced  
14 forecasted expenses by 14% for six of the projects, which were all developed using  
15 the “Concept Estimating Tool.”<sup>9</sup> For the remaining project, Customer Connection  
16 Online Tools, DRA developed its TY estimate by dividing PG&E’s TY2014 forecast  
17 in half. DRA discusses each project below.

### 18 **1. Emergency Response Technology**

19 PG&E is requesting \$0.267 million for Emergency Response Technology. The  
20 project will upgrade IT infrastructure and telecommunications in Electric Distribution  
21 Storm Rooms (DSRs) to allow better coordination between PG&E’s emergency  
22 response facilities during unplanned outages.<sup>10</sup> DRA’s corresponding test year

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<sup>8</sup> Exhibit (PG&E-4) page 2-9

<sup>9</sup> DRA recommends in Exhibit DRA-13 that project expenses developed using the “Concept Estimating Tool” be reduced by 14%

<sup>10</sup> Exhibit (PG&E-4) WP 2-23.

1 estimate is \$0.230 million; DRA reduced forecasted expenses for the project by 14%  
2 as recommended in Exhibit DRA-13.

3 **2. Data Historian for Electric Distribution**

4 PG&E is requesting \$0.206 million for its Data Historian project.<sup>11</sup> The Data  
5 Historian software provides central data archiving and analysis for time series data  
6 from PG&E’s Supervisory Control and Data Acquisition (SCADA) system. This  
7 project will replace PG&E’s “legacy data historian software application” with a  
8 commercially available and industry-standard data historian application.<sup>12</sup> In Exhibit  
9 DRA-8 (Electric Distribution Capital Expenditures, Part 2 of 2), DRA recommends  
10 that the Commission reject PG&E’s request for funding of the Data Historian project.  
11 Therefore, DRA recommends that the Commission also reject the associated project  
12 expenses.

13 **3. Outage Reporting and Analysis System**

14 PG&E is requesting \$0.362 million for Outage Reporting & Analysis System  
15 Replacement.<sup>13</sup> The project will replace legacy tools and manual processes used to  
16 record outage data and monitor reliability metrics with an automated system that can  
17 more efficiently perform these processes. The new project will also integrate newly  
18 available SmartMeter and SCADA data.<sup>14</sup> DRA’s corresponding test year estimate  
19 is \$0.311 million; DRA reduced forecasted expenses for the project by 14% as  
20 recommended in Exhibit DRA-18 (Shared Services & Information Technology  
21 Costs).

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<sup>11</sup> Exhibit (PG&E-4) WP 2-13

<sup>12</sup> Exhibit (PG&E-4) WP 2-33

<sup>13</sup> Exhibit (PG&E-4) WP 2-33

<sup>14</sup> Exhibit (PG&E-4) WP 2-31

1 **4. Electric Distribution Geographic Information**  
2 **System/Asset Management (ED GIS/AM)**

3 PG&E is requesting \$1.830 million for the Electric Distribution Geographic  
4 Information System/Asset Management (ED GIS/AM) project.<sup>15</sup> The project will  
5 convert PG&E's electric distribution asset data into a single, integrated GIS system,  
6 as opposed to the isolated legacy systems which PG&E currently uses to record its  
7 asset data.<sup>16</sup> The ED/GIS project is a continuation of the Automated Mapping and  
8 Facilities Management (AM/FM) project. According to PG&E, the AM/FM project  
9 "completed upgrades to legacy systems and map alignment work before the project  
10 was completed in favor of the new integrated GIS/SAP approach envisioned for this  
11 project."<sup>17</sup>

12 DRA conducted discovery in order to better understand how funds for the  
13 AM/FM project were reallocated after 2011, when PG&E claims the AM/FM project  
14 was suspended.

15 DRA asked:<sup>18</sup>

16 "On page 2-26 of Exhibit PG&E-4, PG&E stated, 'PG&E expects to  
17 spend the amount forecast for the previous AM/FM project before the  
18 end of 2013.' Please explain why PG&E continues to spend money on  
19 a project that was brought to a close in September 2011."

20 PG&E's responded:

21 "PG&E suspended work on the AM/FM project in 2011 to assess the  
22 effectiveness of the project. The assessment determined that a more  
23 robust system was needed and original AM/FM project was closed in  
24 September 2011. The AM/FM project was re-launched as separate  
25 GIS/AM projects for Electric Distribution, Gas Distribution, Electric  
26 Transmission and Gas Transmission. The forecast amounts  
27 referenced in footnote 25 (Exhibit (PG&E-4), page 2-26) were included

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<sup>15</sup> Exhibit (PG&E-4), WP 2-13

<sup>16</sup> Exhibit (PG&E-4) WP 2-51.

<sup>17</sup> Exhibit (PG&E-4) WP 2-51

<sup>18</sup> DRA-067-EJ1 question 9f

1 in PG&E's 2011 GRC forecast and used to cover the cost of the initial  
2 phase of the AM/FM (or Base GIS) project through 2011 and will be  
3 allocated to the new ED GIS/AM project and the gas distribution GIS  
4 project also known as Pathfinder.”

5 DRA opposes additional funding for the ED/GIS project, which previously  
6 received ratepayer funding under a different project name. PG&E changed its  
7 approach for the project having already received and used ratepayer funds; it is  
8 unreasonable that ratepayers be forced to fund this project twice. The reallocation  
9 of embedded ratepayer funds from the AM/FM project to the ED GIS/AM project  
10 should be sufficient to cover subsequent phases of the project.

#### 11 **5. Asset Risk Management Tool for Public Safety**

12 PG&E is requesting \$0.349 million for its Asset Risk Management Tool for  
13 Public Safety.<sup>19</sup> The tool will allow PG&E to systematically identify high risk  
14 locations within its service area, interpret results, and plan mitigation activities.<sup>20</sup>  
15 DRA's corresponding test year estimate is \$0.300 million; DRA reduced forecasted  
16 expenses for the project by 14% as recommended in Exhibit DRA-18.

#### 17 **6. Graphic Work Design (GWD) Tools**

18 PG&E is requesting \$0.801 million for the Graphic Work Designs (GWD)  
19 project.<sup>21</sup> The project will replace PG&E's current construction design and  
20 estimating toolset with new graphics-based construction visualization and estimation  
21 software.<sup>22</sup> DRA's corresponding test year estimate is \$0.689 million; DRA reduced  
22 forecasted expenses for the project by 14% as recommended in Exhibit DRA-18.

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<sup>19</sup> Exhibit (PG&E-4) WP 2-58

<sup>20</sup> Exhibit (PG&E-4) WP 2-57

<sup>21</sup> Exhibit (PG&E-4) WP 2-64

<sup>22</sup> Exhibit (PG&E-4) WP 2-62

1 **7. Capital Asset and Expense Planning System**  
2 **(CAEPS) Enhancements**

3 PG&E is requesting \$0.141 million for the second phase of the Capital Asset  
4 and Expense Planning (CAEPS) Enhancements.<sup>23</sup> The tool will facilitate planning,  
5 budgeting, staffing, and monitoring work by using historic costs per unit of work.  
6 DRA's corresponding test year estimate is \$0.121 million; DRA reduced forecasted  
7 expenses for the project by 14% as recommended in Exhibit DRA-18.

8 **8. SAP Work Management Enhancements (Plant**  
9 **Maintenance Module) (a)**

10 PG&E is requesting \$0.751 million for SAP Work Management  
11 Enhancements.<sup>24</sup> The funding will help bring different departments onto the SAP  
12 platform, which facilitates work order management processes.<sup>25</sup> DRA's  
13 corresponding test year estimate is \$0.645 million; DRA reduced forecasted  
14 expenses for the project by 14% as recommended in Exhibit DRA-18.

15 **9. Project Management and Reporting Toolset**  
16 **Enhancements**

17 PG&E is requesting \$0.500 million for Project Management and Reporting  
18 Toolset Enhancements.<sup>26</sup> The project will provide more sophisticated project  
19 portfolio management tools to better manage and organize projects across the  
20 company. DRA's corresponding test year estimate is \$0.430 million; DRA reduced  
21 forecasted expenses for the project by 14% as recommended in Exhibit DRA-18.

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<sup>23</sup> Exhibit (PG&E-4) WP 2-68

<sup>24</sup> Exhibit (PG&E-4) WP 2-13

<sup>25</sup> Exhibit (PG&E-4) WP 2-70

<sup>26</sup> Exhibit (PG&E-4) WP 2-15

1                                   **10. Customer Connections Online (CCO) Tools**

2                   PG&E is requesting \$3.897 million for CCO Tools.<sup>27</sup> The project will revamp  
3 existing, older customer-facing systems to provide new Customer Connections  
4 Online (CCO) tools that better allow customers to create and track service  
5 requests.<sup>28</sup> DRA’s corresponding TY estimate is \$1.949 million.

6                   CCO Tools is PG&E’s most expensive expense request in Electric Operations  
7 Technology. The individual project costs for CCO Tools are higher than every  
8 annual recorded expense from 2007-2011 for the entire MWC JV.

9                   PG&E failed to provide sufficient cost-benefit analyses to support the high  
10 project costs. When DRA asked PG&E to provide any cost-benefit analyses used in  
11 determining the TY2014 forecast, PG&E directed DRA back to Exhibit (PG&E-4) WP  
12 2-84,<sup>29</sup> which provides a vague description of future cost-savings and benefits, none  
13 of which PG&E is able to quantify. The customer savings and benefits do not justify  
14 the extremely high cost of the project to ratepayers.

15                   PG&E forecasted \$0.500 million for 2012 project expenses, but only spent  
16 \$0.221 million, which is less than half of its 2012 forecast.<sup>30</sup> DRA’s TY2014  
17 estimate is \$1.949 million, which is half of PG&E’s TY2014 forecast of \$3.897 and is  
18 sufficient to cover the costs of this project.

19                                   **11. Workforce Mobilization by Field Crew or Work**  
20   **Type**

21                   PG&E is requesting \$1.858 million for its Workforce Mobilization by Field  
22 Crew or Work Type Project.<sup>31</sup> The money is being requested for expenses on the  
23 following projects: \$0.614 million for Mobile for Division (Locally Headquartered)

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<sup>27</sup> Exhibit (PG&E-4) WP 2-15

<sup>28</sup> Exhibit (PG&E-4) WP 2-81

<sup>29</sup> DRA-067-EJ1 question 15e

<sup>30</sup> DRA-067-EJ1 question 5

<sup>31</sup> Exhibit (PG&E-4) WP 2-15

1 Crews, \$0.150 million for Application Upgrade for Pole Test & Treat Crews,  
2 \$115,200 for Mobile for General Construction (T-300) Crews, \$0.430 million for  
3 Distribution Substation Crews, \$0.110 million for Additional Crew Members, and  
4 \$0.440 million for Automation of Clearance and Switching Processes. In Exhibit  
5 DRA-8 (Electric Distribution Capital Expenditures, Part 2 of 2), DRA recommends  
6 that the Commission reject PG&E's request for funding of Workforce Mobilization  
7 projects. Therefore, DRA recommends that the Commission also reject the  
8 associated project expenses

9 **12. Work Scheduling and Dispatch System**  
10 **Consolidation**

11 PG&E is requesting \$1.113 million for its Workforce Mobilization by Field  
12 Crew or Work Type Project.<sup>32</sup> The project will develop a more integrated scheduling  
13 system to better manage work crews, their schedules, and their required work; the  
14 tool is intended to replace PG&E's current manual tracking processes.<sup>33</sup> In Exhibit  
15 DRA-8 (Electric Distribution Capital Expenditures, Part 2 of 2), DRA recommends  
16 that the Commission reject PG&E's request for funding of the Work Scheduling and  
17 Dispatch System Consolidation project. Therefore, DRA recommends that the  
18 Commission also reject the associated project expenses.

19 **B. DRA's Analysis**

20 PG&E fails to provide historical evidence to support the stark increase in  
21 expenses over prior years for MWC JV. Historically, Information Technology (IT)  
22 expenses have never increased by the amount being proposed by PG&E in this  
23 case. The table below shows the annual increase in expenses using 2007-2012  
24 data and compares 2012 recorded expenses to PG&E's TY2014 forecast.

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<sup>32</sup> Exhibit (PG&E-4), WP 2-15

<sup>33</sup> Exhibit (PG&E-4), WP 2-94

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**Table 5-5**  
**Annual Increase in MWC JV Expenses (2007-2012)**  
**(In Thousands of Dollars)**

Year	2007	2008	2009	2010	2011	2012	TY2014
Recorded Expense/PG&E's forecast	\$277	\$1,506	\$2,555	\$2,366	\$2,186	\$4,729	\$12,075
Annual Increase (\$)		\$1,229	\$1,049	(\$189)	(\$180)	\$2,543	\$7,346

4 Source: 2007-2011 data from Exhibit (PG&E-4) WP 2-1. 2012 data from DRA-108-CKT question 4

5 The largest annual increase in MWC JV since 2007 was \$2.543 million from  
6 2011 to 2012. For TY2014, PG&E is forecasting an increase of \$7.346 million over  
7 2012 expenses. Given the historical data, which reveals PG&E's spending patterns,  
8 it is improbable that PG&E will increase expenses by the amount it proposes in this  
9 GRC. In addition, PG&E forecasted \$6.619 million for 2012 MWC JV expenses in its  
10 TY2014 application,<sup>34</sup> but only spent \$4.729 million in 2012.<sup>35</sup> PG&E overstated its  
11 2012 forecast by \$1.89 million. DRA reasons that PG&E's TY forecast of \$12.075  
12 million is also overstated.

13 The following table provides PG&E's TY2014 request for expenses and  
14 DRA's TY recommendation for each individual project within MWC JV.  
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<sup>34</sup> Exhibit (PG&E-4), WP 2-1

<sup>35</sup> 2012 data from DRA-108-CKT question 4

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**Table 5-6  
Electric Distribution TY2014 by Project  
Electric Operations Technology  
(In Thousands of Dollars)**

	<b>Project Name</b>	<b>PG&amp;E's Proposed (thousands)</b>	<b>DRA Proposed (thousands)</b>
<b>Electric Distribution System Operations</b>	Emergency Response Technology	\$267	\$230
	Data Historian for Electric Distribution	\$206	\$0
	Outage Reporting and Analysis System Replacement	\$362	\$311
<b>Electric Distribution Asset &amp; Records Management</b>	Electric Distribution Geographic Information System/Asset Management (ED GIS/AM)	\$1,830	\$0
	Asset Risk Management Tool for Public Safety	\$349	\$300
<b>Electric Distribution Work Design &amp; Management</b>	Graphic Work Design (GWD) Tools	\$801	\$689
	Capital Asset and Expense Planning System (CAEPS) Enhancements	\$141	\$121
	SAP Work Management Enhancements (Plant Maintenance Module)	\$751	\$645
	Project Management and Reporting Toolset Enhancements	\$500	\$430
	Customer Connections Online (CCO) Tools	\$3,897	\$1,949
<b>Electric Distribution Workforce Mobilization &amp; Scheduling</b>	Mobile for Division (Locally Headquartered) Crews	\$613	\$0
	Application Upgrade for Pole Test and Treat Crews	\$150	\$0
	Mobile for General Construction Crews	\$115	\$0
	Mobile for Distribution Substation Crews	\$430	\$0
	Mobile Devices for Additional Crew Members	\$110	\$0
	Mobile Automation of Clearance and Switching Processes	\$440	\$0
	Work Scheduling and Dispatch System Consolidation	\$1,113	\$0
	<b>Total</b>	<b>\$12,075</b>	<b>\$4,675</b>

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6 Source: Exhibit (PG&E-4), Workpaper Table 2-11

7 With the exception of the CCO Tools project, DRA reduced the costs of all  
8 projects developed using the "Concept Estimating Tool" by 14% as recommended in  
9 Exhibit DRA-18.

1 It is troubling that PG&E claims so many of its systems are simultaneously  
2 out-of-date, inefficient, or unable to support current requirements and that PG&E is  
3 only now choosing to update these systems. System and software updates are  
4 routine maintenance activities that ratepayers continually fund and PG&E should  
5 have embedded costs for IT projects. DRA did not take issue with additional funding  
6 for projects it believed had high efficiency for PG&E and high value to ratepayers,  
7 especially projects that focused on ratepayer cost savings, reliability, and safety.  
8 DRA opposed projects that seemed discretionary, ongoing, or had minimal benefits to  
9 ratepayers given their high costs. Therefore, DRA recommends its TY estimate of  
10 \$4.675 million for PG&E's IT expenses within MWC JV in 2014.

11 **V. DISCUSSION / ANALYSIS OF APPLIED TECHNOLOGY**  
12 **SERVICES**

13 PG&E's Applied Technology Services (ATS) is a multidisciplinary team of  
14 engineers, scientists, technicians, and support staff that provide support to PG&E's  
15 different engineering and operating departments.<sup>36</sup> PG&E forecasts \$2.151 million in  
16 TY2014 expenses for ATS, which is an increase of \$1.199 million or 116.61% over  
17 2012 expenses of \$0.952 million.<sup>37</sup>

18 The corresponding DRA estimate for PG&E's ATS expenses is \$1.066  
19 million, which is \$1.085 million less than PG&E's TY2014 forecast. DRA's TY  
20 estimate is \$0.114 million more than PG&E's 2012 recorded expenses of \$0.952  
21 million.

22 The following table summarizes PG&E's request and DRA's recommendation  
23 for Applied Technology Services.

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<sup>36</sup> Exhibit (PG&E-4) page 3-2

<sup>37</sup> Exhibit (PG&E-4) WP 3-1. 2012 data from DRA-108-CKT question 4.

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**Table 5-7**  
**Electric Distribution Expenses for TY2014**  
**Applied Technology Services**  
**(In Thousands of Dollars)**

<b>Description (a)</b>	<b>DRA Recommended (b)</b>	<b>PG&amp;E Proposed<sup>38</sup> (c)</b>
AB – Support	\$1,066	\$2,151

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**A. MWC AB**

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PG&E records expenses for the ATS program in Major Work Category (MWC) AB. Most expenses are charged to the organization or department within PG&E that requests the service from ATS. Expenses for the following programs are charged to ATS: Electric and Magnetic Field (EMF) program, Climate Change Program, ATS Document Library Scanning and Archiving, and the expense portion of the San Ramon Technology Center Facility Upgrades.<sup>39</sup>

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**Table 5-8**  
**2007-2012 Recorded Data**  
**(In Thousands of Dollars)**

<b>Description</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>
AB – Support	\$719	\$771	\$834	\$1,006	\$1,028	\$952

15

Source: 2007-2011 data from Exhibit (PG&E-4) WP 3-1. 2012 data from DRA-108-CKT question 4.

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After reviewing PG&E’s testimony, workpapers, and discovery responses, DRA agrees with PG&E’s TY expense forecast for the EMF program and the Climate Change program.

<sup>38</sup> Exhibit (PG&E-4) WP 3-1

<sup>39</sup> Exhibit (PG&E-4) page 3-3

1                                   **1. ATS Document Library Scanning and Archiving**

2                   PG&E forecasts \$1.000 million in TY2014 expenses for the ATS Document  
3 Library Scanning and Archiving project.<sup>40</sup> The project will convert the entire ATS  
4 library of reports and records into electronic format.<sup>41</sup> PG&E developed its test year  
5 forecast by multiplying the estimated number of documents by the estimated unit  
6 cost associated with retrieving, scanning, and special handling of the documents.  
7 The forecast includes the cost of a project manager to oversee the project.<sup>42</sup>

8                   DRA conducted discovery to assess PG&E’s estimates and found that PG&E  
9 was unable support its numbers with thorough documentation or analyses. PG&E’s  
10 forecast for scanning expenses is \$818,000, which constitutes the largest portion of  
11 the forecasted \$1 million in project expenses. PG&E calculated its forecast for  
12 scanning costs by multiplying the estimated number of documents by the estimated  
13 image cost for scanning. Scanning costs varied based on the size of the document,  
14 with oversized images estimated to cost more. DRA asked PG&E to explain how it  
15 developed its scanning costs and provide all supporting documentation and  
16 calculations.

17 DRA asked:<sup>43</sup>

18                   “Explain in detail how PG&E determined that standard images cost  
19                   \$0.10/image and oversize images cost \$1.50/image, and provide a  
20                   breakdown of costs. Provide all supporting documentation,  
21                   calculations, and analyses that support PG&E’s numbers.”

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<sup>40</sup> Exhibit (PG&E-4) WP 3-9

<sup>41</sup> Exhibit (PG&E-4) page 3-6

<sup>42</sup> Exhibit (PG&E-4) WP 3-9

<sup>43</sup> DRA-131-EJ1 question 11b

1 PG&E responded:

2 "The estimated billing rates of \$0.10/standard image and  
3 \$1.50/oversize image was based on an informal proposal from an  
4 external vendor and was also based on the experience of PG&E's Gas  
5 Operations organization with records scanning projects."

6 DRA asked:<sup>44</sup>

7 "Explain in detail how PG&E determined that 92% of images were  
8 standard size and 8% of images were oversize. Provide all supporting  
9 documentation, calculations, and analyses that support PG&E's  
10 numbers."

11 PG&E responded:

12 "The estimate of the percentage of records that are standard and  
13 oversized is based on PG&E's familiarity with the physical records.  
14 Most records are a standard size but a portion of them are oversized,  
15 including diagrams and other attachments included with the reports.  
16 Because of the variety of reports spanning 100 years, it was not  
17 feasible to make a physical count of oversized documents."

18 PG&E's TY2014 forecast for special handling expenses is \$80,000. Similar to  
19 the scanning portion of this project, PG&E calculated its TY2014 forecast by  
20 multiplying the estimated number of documents by the estimated unit cost. DRA  
21 asked PG&E to explain how it developed its special handling costs and provide all  
22 supporting documentation and calculations.

23 DRA asked:<sup>45</sup>

24 "Explain in detail how PG&E determined that special images cost an  
25 extra \$0.20/image. Provide all supporting documentation, calculations,  
26 and analyses that support PG&E's numbers."

27 PG&E responded:

28 "The estimated special images cost of an extra \$0.20/image was  
29 based on an informal proposal from an external vendor and was also

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<sup>44</sup> DRA-131-EJ1 question 11a

<sup>45</sup> DRA-131-EJ1 question 12b

1 based on the experience of PG&E's Gas Operations organization with  
2 records scanning projects.

3 DRA asked:<sup>46</sup>

4  
5 "Explain in detail how PG&E determined that 10% of images were  
6 special handling. Provide all supporting documentation, calculations,  
7 and analyses that support PG&E's numbers."

8 PG&E responded:

9 "The percentage of images requiring special handling was estimated  
10 based on PG&E's familiarity with the documents in the library.  
11 Approximately the first entire row of documents in the main storage  
12 room would be considered fragile, which comprises approximately ten  
13 percent of total images (these are the oldest records dating back to the  
14 1910s). Reports may also contain actual photos attached to a piece of  
15 paper or secured in a plastic sleeve (from before the widespread use  
16 of digital photos). The estimate of ten percent is very conservative."

17 DRA received similar discovery responses when it asked PG&E to explain  
18 how the cost for retrieval of documents was developed.

19 PG&E's TY2014 forecast for project management was \$87,000. DRA asked  
20 PG&E how it developed its cost estimate for project management and to provide all  
21 supporting documentation and calculations.

22 DRA asked:<sup>47</sup>

23 "The unit cost for project management is \$125/hr for a contractor.  
24 Provide a breakdown of unit cost and explain in detail how PG&E  
25 chose this rate. How does this rate compare to industry standards for  
26 comparable work? Provide all supporting documentation and  
27 calculations."

28 PG&E responded:

29 "The estimated project management billing rate of \$125 per hour for a  
30 contractor was based on an informal proposal from an external vendor  
31 and was also based on the experience of PG&E's Gas Operations

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<sup>46</sup> DRA-131-EJ1 question 12a

<sup>47</sup> DRA-131-EJ1 question 13a

1 organization with records management projects. The \$125 per hour  
2 billing rate for the retrieval of records is for an experienced project  
3 manager with specialized knowledge of all aspects of a records project  
4 of this magnitude.”

5 PG&E’s responses reveal that the majority of the company’s cost estimates  
6 are based on informal proposals and PG&E’s internal judgment. Significantly, PG&E  
7 failed to respond to DRA’s request to provide documentation or evidence to support  
8 its request and cost estimates. PG&E was unable to provide any solid calculations,  
9 paper estimates, or analyses to support its figures, yet the ATS Library project  
10 constitutes 89% of the TY2014 increase over 2011 expenses.

11 DRA considered ratepayer benefits when assessing the ATS Library Project.  
12 PG&E stated, “Although this project does not directly result in an ongoing reduction  
13 in the cost of maintaining ATS records, there are future benefits from an efficiency  
14 standpoint.”<sup>48</sup> The efficiencies to which PG&E refers focus mostly on quicker and  
15 easier retrieval of ATS documents by PG&E employees,<sup>49</sup> and add little value to  
16 ratepayer savings, reliability, or safety. This project is largely discretionary.

17 DRA opposes funding for the ATS Library project on the basis that it more  
18 than doubles expenses in MWC AB from all prior years while providing no hard  
19 evidence to substantiate the high project costs.

20 **2. Expense Portion of San Ramon Technology**  
21 **Center Facility Upgrades**

22 The San Ramon Technology Facility (SRTC) upgrade is a new project that  
23 focuses on modernizing the common areas of the facility.<sup>50</sup> PG&E forecasts  
24 \$85,000 for the expense portion of the project.<sup>51</sup>

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<sup>48</sup> Exhibit (PG&E-4) page 3-13

<sup>49</sup> Exhibit (PG&E-4) page 3-13

<sup>50</sup> Exhibit (PG&E-4) page 3-8

<sup>51</sup> Exhibit (PG&E-4) WP 3-26

1 PG&E does not need additional funding for the SRTC upgrades. Building  
2 upgrades and modernizations are ongoing processes. In PG&E’s project summary  
3 for the SRTC Upgrade, PG&E noted: “PG&E has invested in new labs and testing  
4 facilities at this location and the common areas need to be upgraded to support the  
5 work performed in these labs.”<sup>52</sup> It makes financial sense for ratepayers that PG&E  
6 is able to reallocate funding from previous investments and upgrades, such as the  
7 new labs and testing facilities mentioned by PG&E, to other locations such as the  
8 SRTC facility upgrades. Because there are embedded costs for facility upgrades,  
9 DRA recommends no additional funding for the project.

10 **VI. DISCUSSION / ANALYSIS OF ELECTRIC DISTRIBUTION**  
11 **MAINTENANCE**

12 The Electric Distribution Maintenance (EDM) Program is comprised of the  
13 maintenance activities that uphold PG&E’s electric distribution line assets. EDM  
14 work includes patrols, inspections, preventive maintenance, and equipment repair  
15 for PG&E’s overhead, underground, and network facilities.<sup>53</sup>

16 PG&E forecasts \$125.903 million for TY2014 Electric Distribution  
17 Maintenance expenses, which is an increase of \$11.310 million or 9.9% over 2011  
18 expenses of \$114.593 million.<sup>54</sup> EDM expenses are recorded in five Major Work  
19 Categories: BF for Patrols and Inspection with a forecast of \$46.286 million, KA for  
20 Electric Distribution Maintenance – Overhead with a forecast of \$2.713 million, KB  
21 for Electric Distribution Maintenance – Underground with a forecast of \$53.659  
22 million, KC for Electric Distribution Maintenance – Network with a forecast of  
23 \$17.253 million, and BK – Maintenance of Other Equipment with a forecast of  
24 \$5.992 million.

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<sup>52</sup> Exhibit (PG&E-4) WP 3-25

<sup>53</sup> Exhibit (PG&E-4) page 5-12

<sup>54</sup> Exhibit (PG&E-4) WP 5-1

1 Most forecasted expenses in the EDM Major Work Categories were  
 2 developed by estimating the number of work units to be performed and multiplying  
 3 them by the estimated unit cost.<sup>55</sup> This method was also used to develop the  
 4 additional project costs. The corresponding DRA estimate is \$103.557 million, which  
 5 is \$22.346 million less than PG&E's forecast of \$125.903 million.

6 Table 5-9 summarizes PG&E's request and DRA's recommendation for the  
 7 MWCs within Electric Distribution Maintenance.

8 **Table 5-9**  
 9 **Electric Distribution Expenses for TY2014**  
 10 **Electric Distribution Maintenance**  
 11 **(In Thousands of Dollars)**

Description (a)	DRA Recommended (b)	PG&E Proposed <sup>56</sup> (c)
BF – Patrols and Inspections	\$46,286	\$46,286
KA – E Dist. Maint-Overhead	\$35,009	\$53,659
KB – E Dist. Maint-Underground	\$13,557	\$17,253
KC – E Dist. Maint-Network	\$5,992	\$5,992
BK – Maint Other Equip	\$2,713	\$2,713
Total	\$103,557	\$125,903

12 **A. MWC BF**

13 PG&E records its expenses for patrols and inspections in MWC BF. This is  
 14 comprised of patrols and inspections of overhead and underground facilities, infrared  
 15 inspections, inspection and testing of overhead and underground line equipment,  
 16 post-outage inspections, and other maintenance work.<sup>57</sup> PG&E forecasts \$46.286  
 17 million in expenses for MWC BF, which is an increase of \$1.412 million or \$3.5%  
 18 over 2011 expenses of \$44.874 million.<sup>58</sup>

19 \_\_\_\_\_  
<sup>55</sup> Exhibit (PG&E-4) page 5-43

<sup>56</sup> Exhibit (PG&E-4) WP 5-1

<sup>57</sup> Exhibit (PG&E-4) page 5-12

<sup>58</sup> Exhibit (PG&E-4) WP 5-1

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**Table 5-10**  
**2007-2011 Recorded Data for MWC KC**  
**(In Thousands of Dollars)**

<b>Description</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>
BF – Patrols and Inspections	\$28,958	\$29,595	\$27,358	\$33,293	\$44,874

4 Source: Exhibit (PG&E-4) WP 5-17

5           After reviewing PG&E’s testimony, workpapers, and discovery responses,  
6 DRA agrees with PG&E’s request for \$46.286 million in expenses for MWC BK.

7           **B. MWC KA**

8           PG&E records expenses for overhead maintenance in MWC KA. This covers  
9 preventive maintenance and equipment repair of overhead facilities such as electric  
10 distribution pole equipment and streetlights. PG&E forecasts \$53.659 million in TY  
11 expenses for MWC KA, which is an increase of \$12.576 million or 30.61% over 2011  
12 expenses of \$41.083 million.<sup>59</sup> The corresponding DRA estimate for overhead  
13 maintenances expenses is \$35.009 million.  
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<sup>59</sup> Exhibit (PG&E-4) WP 5-10

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**Table 5-11**  
**2007-2011 Recorded Data and 2014 Forecast for MWC KA**  
**(In Thousands of Dollars)**

Activity Type	2007	2008	2009	2010	2011	PG&E's TY2014	DRA's TY2014
Overhead Notifications	\$26,267	\$21,279	\$14,049	\$15,339	\$21,692	\$11,726	\$11,726
Bird Safe	\$1,744	\$1,548	\$2,241	\$2,509	\$2,295	\$1,881	\$1,881
Bird Retrofits	\$967	\$1,104	\$996	\$1,162	\$1,119	\$1,706	\$1,706
Overhead COE	\$5,775	\$5,313	\$5,505	\$7,669	\$7,425	\$9,571	\$9,571
Streetlight Group Replacements	\$1,284	\$714	\$479	\$117	\$48	\$325	\$325
Streetlight Burnouts	\$3,920	\$4,160	\$4,360	\$4,559	\$6,131	\$6,409	\$5,930
Radio and Television Interference Investigations	\$539	\$643	\$649	\$583	\$623	\$657	\$657
Poles – Insulator Washing	\$103	\$177	\$104	\$22	\$21	\$459	\$52
Regs/Recls CM Tag	\$1,203	\$385	\$512	\$477	\$912	\$1,000	\$1,000
Transformer Labor Reclassification	-	-	-	-	\$974	\$1,000	\$1,000
Idle Facilities	\$32	\$17	\$6	\$8	\$2	\$3,819	\$0
Permit Updates	-	-	-	-	-	\$300	\$300
Infrared Inspections	-	-	-	-	-	\$3,500	\$0
Infrared Tags	-	-	-	-	-	\$10,000	\$0
<b>Total MWC KA</b>	<b>\$46,733</b>	<b>\$41,404</b>	<b>\$32,147</b>	<b>\$33,323</b>	<b>\$41,083</b>	<b>\$53,659</b>	<b>\$35,009</b>

4 Source: Exhibit (PG&E-4) WP 5-11. Total MWC KA expenses are escalated for TY2014; individual  
5 line items are not.

6 DRA agrees with PG&E's TY expense forecast for the following items:  
7 overhead notifications, bird safe and bird retrofits, overhead critical operating  
8 equipment, radio and television interference investigations, regs/recl CM tag, and  
9 transformer labor reclassification. The discussion, which follows, pertains to areas  
10 where DRA's forecasts differ from PG&E's request.

**1. Streetlight Group Replacements and Streetlight  
Burnouts**

13 PG&E forecasts \$0.325 million for streetlight group replacements and \$6.409  
14 million for streetlight burnouts. The streetlight group replacements program is  
15 considered preventive maintenance because streetlights are proactively replaced  
16 before a failure occurs while the streetlight burnouts program is corrective

1 maintenance because streetlights are replaced after they have failed.<sup>60</sup> DRA asked  
2 PG&E to explain why expenses for streetlight burnouts increased from 2007-2011.

3 DRA asked:<sup>61</sup>

4 “Line 26, WP 5-10 ‘Total Cost of Streetlight Burnouts’ – Please explain  
5 in detail the continual increase in total cost of streetlight burnouts  
6 inspected from 2007-2011. In particular, explain why annual recorded  
7 expenses for 2011 are substantially higher than annual recorded  
8 expenses for 2007-2010.”

9 PG&E responded:

10 “PG&E understands this question to refer to Line 27 of Workpaper  
11 Table 5-7 on page WP 5-10. The total cost of Streetlight Burnouts  
12 (which is a corrective maintenance replacement program, not an  
13 inspection program) increased in the recorded years 2007-2011  
14 primarily due to an increase in the number of units (e.g., bulbs  
15 replaced) and an increased focus on replacing the bulbs in a more  
16 timely manner. Unit volumes increased throughout the 2007-2011  
17 period (with 2008 having a 15 percent increase over the prior year,  
18 2009 a 2 percent increase, 2010 a 6 percent increase, and 2011 a 10  
19 percent increase). The main reason for the increase in unit volume  
20 was due to reduction in the amount of proactive streetlight  
21 replacements completed as part of the Streetlight Group Replacement  
22 program which is shown in line 26 of WP 5-10.”

23 PG&E’s response, supported by historical numbers, shows that there is an  
24 inverse relationship between streetlight replacements (preventive maintenance) and  
25 streetlight burnouts (corrective maintenance). The following tables provide the  
26 number of streetlight group replacements and streetlight burnouts from 2007 to 2012  
27 and the associated costs.  
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<sup>60</sup> Exhibit (PG&E-4) page 5-19

<sup>61</sup> DRA-128-EJ1 question 20

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**Table 5-12**  
**Streetlight Group Replacements and Streetlight Burnouts**  
**2007-2011 Recorded/PG&E's and DRA's TY2014 Forecast**  
**(In Thousands of Dollars)**

	2007	2008	2009	2010	2011	PG&E's TY2014	DRA's TY2014
Number of Group Replacements	19,378	13,294	4,472	1,208	739	5,000	5,000
Number of Burnouts	14,072	16,556	16,886	17,965	19,913	19,729	18,255
Cost per Group Replacement	\$66	\$54	\$107	\$97	\$65	\$65	\$65
Cost per Burnout	\$279	\$251	\$258	\$254	\$308	\$325	\$325
<b>Total Cost of Streetlight Group Replacements (1000's)</b>	<b>\$1,483</b>	<b>\$785</b>	<b>\$513</b>	<b>\$122</b>	<b>\$48</b>	<b>\$325</b>	<b>\$325</b>
<b>Total Cost of Streetlight Burnouts (1000's)</b>	<b>\$3,920</b>	<b>\$4,160</b>	<b>\$4,360</b>	<b>\$4,559</b>	<b>\$6,131</b>	<b>\$6,409</b>	<b>\$5,933</b>

5 Source: Exhibit (PG&E-4) WP 5-10

6 As the number of streetlight replacements and associated costs decreased  
7 from 2007-2011, the number of annual burnouts and associated costs increased  
8 from 2007-2011.

9 PG&E is forecasting 5,000 streetlight replacements starting in 2012 and  
10 continuing into the TY; this is 4,261 units or 576.59% greater than the 2011 amount  
11 of 739 units. PG&E is forecasting 19,729 burnouts in 2014; this is 183 units or 0.9%  
12 less than the 2011 amount of 19,913 units. PG&E stated that the reduction in  
13 streetlight replacements led to an increase in streetlight burnouts over the past five  
14 years; alternatively, as PG&E increases its number of replacements in the 2012-  
15 2014 timeframe, the number of streetlight burnouts and associated costs should  
16 decline more significantly than 183 units.

17 DRA accepts PG&E's forecast for 5,000 streetlight group replacements, and  
18 the associated costs of \$0.325 million, with the expectation that the number of  
19 streetlight burnouts should notably decline. DRA's forecast of streetlight burnouts is  
20 18,255 units, which DRA developed by using a 3-year average (2009-2011) of  
21 streetlight burnouts per year.<sup>62</sup> DRA developed its TY estimate of \$5.930 million for

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<sup>62</sup> See Table 5-12 for recorded 2009, 2010, and 2011 number of units.

1 streetlight burnouts by multiplying 18,255 units by PG&E's forecasted unit cost of  
2 \$325, which is a higher unit cost than all recorded years since 2007. DRA's TY  
3 estimate of \$5.930 million for streetlight burnouts is reasonable and should be  
4 adopted by the Commission.

5 **2. Insulator Washing**

6 PG&E forecasts \$0.459 million for TY2014 insulator washing expenses.<sup>63</sup>  
7 PG&E's requested increase is 2086% over 2011 expenses of \$0.021 million. DRA  
8 asked for additional information on PG&E's request.

9 DRA asked:<sup>64</sup>

10 "Line 29, WP 5-10 'Total Cost of Poles – Insulator Washing' – Please  
11 provide a detailed explanation for the TY2014 forecast of \$458,850  
12 including an explanation as to why forecasted expenses are higher  
13 than historical annual expenses for 2007-2011. Provide all supporting  
14 documentation and calculations."

15 PG&E responded:

16 "The purpose of insulator washing is to remove contamination on the  
17 surface of electric insulators before the insulation fails. A breakdown in  
18 the insulation can result in an outage, pole fire, or radio and television  
19 interference. Recorded costs for insulator washing between 2007 and  
20 2011 fluctuated and were relatively low in 2010 and 2011. The  
21 fluctuations in the recorded costs reflected annual differences in  
22 number of insulators washed. PG&E's mission is to provide safe and  
23 reliable service to its customers. Since the process of insulator  
24 washing is a component of maintenance, and it enables PG&E to  
25 prevent contamination from building up to the point of causing outages  
26 or pole fires, it is imperative that it be reinstated and enhanced.  
27 Therefore, PG&E's 2014 forecast for insulator washing is higher than  
28 2007-2011 recorded amounts because PG&E forecasts washing more  
29 insulators. In prior years, insulator washing was performed only in  
30 limited areas (where the insulators are exposed to corrosion from the  
31 marine layer). PG&E's 2014 forecast contemplates expanding the  
32 program throughout PG&E's service area. Please refer to Exhibit

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<sup>63</sup> Exhibit (PG&E-4) WP 5-10

<sup>64</sup> DRA-128-EJ1 question 22

1 (PG&E-4), Chapter 5, page 5-22, lines 2 to 9 for additional  
2 information.”

3 PG&E’s request is excessive and should be denied. PG&E did not provide  
4 sufficient documentation or calculations to demonstrate that it needs additional  
5 funding for this routine activity. DRA’s corresponding TY estimate is \$0.052 million,  
6 which was developed by using a 3-year average (2009-2011)<sup>65</sup> of recorded adjusted  
7 expenses for insulator washing.<sup>66</sup>

### 8 **3. Idle Facilities**

9 PG&E forecasts \$3.819 million in expenses for the Idle Facilities project. In  
10 Exhibit DRA-8 (Electric Distribution Capital Expenditures, Part 2 of 2), DRA  
11 recommends that the Commission reject PG&E’s request for funding of the Idle  
12 Facilities project. Therefore, DRA recommends that the Commission also reject the  
13 associated project expenses.

14 DRA’s corresponding TY estimate for routine maintenance of idle facilities is  
15 \$5,650. DRA developed its TY estimate by taking a 3-year average (2009-2011) of  
16 recorded expenses for idle facilities.<sup>67</sup>

### 17 **4. Infrared Inspection and Tags**

18 PG&E forecasts \$13.500 million in expenses for its Infrared Inspection and  
19 Tags project. In Exhibit DRA-8 (Electric Distribution Capital Expenditures, Part 2 of  
20 2), DRA recommends that the Commission reject PG&E’s request for funding of the

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<sup>65</sup> DRA took an average of 2009, 2010, and 2011 expenses, expressed in 2011 dollars. DRA totaled forecasts for all line items within a MWC before escalating to 2014 nominal dollars. PG&E did not escalate individual line items. DRA employs this methodology in every instance within this exhibit where DRA bases its TY forecast on a multi-year average.

<sup>66</sup> 2009 recorded expenses = \$110,819; 2010 recorded expenses = \$23,080; 2011 recorded expenses = \$21,024. The 3-year average is \$51,641. Recorded expenses in 2011 dollars from DRA-128-EJ1 question 18.

<sup>67</sup> 2009 recorded expenses = \$6,580; 2010 recorded expenses = \$8,781, 2011 recorded expenses = \$1,589. The 3-year average is \$5,650. Recorded expenses in 2011 dollars from DRA-128-EJ1 question 18.

1 Infrared Inspection and Tags project. Therefore, DRA recommends that the  
 2 Commission also reject the associated project expenses.

3 **C. MWC KB**

4 PG&E records expenses for underground maintenance of the electric  
 5 distribution system in MWC KB. This includes underground notifications, critical  
 6 operating equipment, bar code enclosures, oil switch replacements, and other  
 7 underground maintenance work.<sup>68</sup> PG&E forecasts \$17.253 million in expenses for  
 8 MWC KB.<sup>69</sup> The corresponding DRA estimate for underground maintenance  
 9 expenses is \$13.557 million.

10 **Table 5-13**  
 11 **2007-2011 Recorded Data and 2014 Forecast for MWC KB**  
 12 **(In Thousands of Dollars)**

Activity Type	2007	2008	2009	2010	2011	PG&E's TY2014	DRA's TY2014
Underground Notifications	\$14,029	\$11,150	\$11,654	\$10,688	\$15,189	\$7,983	\$7,983
Underground COE	\$1,466	\$1,720	\$1,650	\$2,174	\$2,280	\$3,484	\$3,484
Underground Oil Switch Replacements	-	-	-	-	-	\$1,500	\$0
Transformer Labor Reclassification	-	-	-	-	\$97	\$130	\$130
BART Cable Repair	-	-	\$54	\$18	-	\$131	\$27
Major Notifications	\$65	\$13	\$159	\$171	\$665	\$1,278	\$1,278
Elbows/Splices Repl.	\$195	\$116	\$240	\$428	\$285	\$325	\$325
UG Barcode Enclosures	-	-	-	-	-	\$2,000	\$0
<b>Total MWC KB</b>	<b>\$16,815</b>	<b>\$13,146</b>	<b>\$13,670</b>	<b>\$13,555</b>	<b>\$18,354</b>	<b>\$17,253</b>	<b>\$13,557</b>

13 Source: Exhibit (PG&E-4) WP 5-11. Total MWC KB expenses are escalated for TY2014; individual  
 14 line items are not.

15 DRA agrees with PG&E's TY expense forecast for the following items:  
 16 Underground Notifications, Underground COE, Transformer Labor Reclassification,  
 17 Major Notifications, and Elbows/Splice Replacement. The discussion, which follows,  
 18 pertains to areas where DRA's forecasts differ from PG&E's request.

<sup>68</sup> Exhibit (PG&E-4) page 5-25

<sup>69</sup> Exhibit (PG&E-4) WP 5-1

1                                   **1. Underground Oil Switch Replacements**

2                   PG&E forecasts \$1.500 million in expenses for its Underground Oil Switch  
3 Replacement project. In Exhibit DRA-8 (Electric Distribution Capital Expenditures,  
4 Part 2 of 2), DRA recommends that the Commission reject PG&E’s request for  
5 funding of the Underground Oil Switch Replacement project. Therefore, DRA  
6 recommends that the Commission also reject the associated project expenses.

7                                   **2. Bart Cable Repair**

8                   PG&E forecasts \$131,250 in expenses for Bart Cable Repair. The  
9 corresponding DRA estimate is \$25,648. DRA asked PG&E how it developed its TY  
10 forecast for BART cable repairs.

11 DRA asked:<sup>70</sup>

12                   “On WP 5-12, PG&E stated, ‘Project cost is based on historical costs  
13 from 2008-2010.’ PG&E has no historical costs for 2008; expenses for  
14 2009 and 2010 are respectively \$54,703 and \$17,790. Provide a  
15 detailed explanation for how the TY2014 forecast of \$131,250 was  
16 developed using historical costs. Provide all supporting documentation  
17 and calculations.”

18  
19 PG&E responded:

20  
21                   “The complexity and cost of BART cable repair work are variable  
22 because they are dependent on the mixture of work required to  
23 mitigate a major failure. PG&E’s 2014 forecast represents a base  
24 amount to make repairs. Due to the unforeseen nature of what this  
25 work could entail, these costs were estimated based on PG&E’s  
26 professional judgment as to the potential repair cost for underground  
27 BART cable.”

28                   According to PG&E, “Bart cable repair work is reactive, i.e., PG&E only  
29 performs this work when a BART cable fails or is damaged.”<sup>71</sup> No repairs were  
30 needed in 2007, 2008, or 2011, and repairs in 2009 and 2010 were substantially

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<sup>70</sup> DRA-128-EJ1 question 28b

<sup>71</sup> DRA-128-EJ1 question 28a

1 lower than PG&E's TY2014 forecast. PG&E does not provide any documentation or  
2 support to explain why additional funding is needed for Bart Cable Repairs. DRA  
3 developed its TY estimate of \$25,648 by using a 3-year average of recorded  
4 expenses (2009-2011), expressed in 2011 dollars.<sup>72</sup>

5 **3. Underground Barcode Enclosures**

6 PG&E forecasts \$2.0 million for its Underground (UG) Barcode Enclosures  
7 Program.<sup>73</sup> The UG Barcode Enclosures Program will establish a bar code  
8 scanning system that allows PG&E to identify data associated with underground  
9 enclosure equipment.<sup>74</sup>

10 DRA asked PG&E for more information about the program and discovered  
11 that the implementation of PG&E's UG Barcode Enclosures Program and the  
12 associated project benefits are dependent on the successful adoption of mobile  
13 technology by PG&E.

14 DRA asked:<sup>75</sup>

15 "Please elaborate on how the UG Bar Code Scanning System will work  
16 and its impact on PG&E's future services and functions."

17 PG&E responded:

18 "In conjunction with its regular cycle of underground inspections, PG&E  
19 will install a label with a bar code inside each of its primary  
20 underground facilities (enclosures, vaults and pad-mounts). Once the  
21 bar code is installed, PG&E will be able to electronically track future  
22 inspection cycles by requiring inspectors equipped with mobile  
23 technology to scan the bar code as part of their inspection. Having a  
24 bar code associated with each facility will also allow PG&E to improve

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<sup>72</sup> 2009 recorded expenses = \$58,501; 2010 recorded expenses = \$18,442, 2011 recorded expenses = \$0. The 3-year average is \$25,648. Recorded expenses in 2011 dollars from DRA-128-EJ1 question 27.

<sup>73</sup> Exhibit (PG&E-4) WP 5-48

<sup>74</sup> Exhibit (PG&E-4) WP 5-47

<sup>75</sup> DRA-128-EJ1 question 32a

1 the accuracy of its underground asset registry by making it possible to  
2 tie equipment inventories to particular locations by means of the bar  
3 code. The bar code will also allow PG&E to take advantage of other  
4 advantages associated with mobile technology, such as data accuracy,  
5 outage investigations efficiencies, and timely data input by avoiding the  
6 need to enter information on paper forms and/or refer to paper maps.”

7 PG&E set the project start date for 2012. PG&E forecasted that it would  
8 install bar codes for 60,000 enclosures in 2012 for a total cost of \$600,000.<sup>76</sup> DRA  
9 asked PG&E about the amount of work completed in 2012 for this project.

10 DRA asked:<sup>77</sup>

11  
12 “Identify the number of enclosures that had a bar code installed in  
13 2012 and the associated expense for each unit. Provide supporting  
14 documentation.”

15 PG&E responded:

16 “No bar codes were installed on underground facilities in 2012. The  
17 mobile technology that will be used in conjunction with the  
18 underground bar codes is still under development and has not been  
19 implemented yet. PG&E plans to initiate the bar coding process in  
20 conjunction with the roll out of the mobile technology, which PG&E  
21 currently expects will occur in 2013.”

22 In its 2012 forecast, PG&E misjudged the period and associated costs for the  
23 project, which is subject to the roll out of mobile technology.

24 DRA considered the cost savings and benefits of the UG Barcodes Enclosures  
25 Project and asked PG&E for any cost-analyses associated with the project.<sup>78</sup> PG&E  
26 stated, “There are no cost reductions or avoidances associated with this project. The  
27 primary purpose of the project is improved asset inventory knowledge and

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<sup>76</sup> Exhibit (PG&E-4) WP 5-47

<sup>77</sup> DRA-128-EJ1 question 32b

<sup>78</sup> DRA-128-EJ1 question 32j

1 management.”<sup>79</sup> The project has little to no ratepayer value. PG&E provided no  
2 additional documentation or analyses to substantiate its request of \$2.0 million.

3 It is premature to ask for \$2.0 million of ratepayer funding for a project relying so  
4 heavily on technology that is still in development, especially when there are no cost  
5 reductions or avoidances associated with the project. It is not the appropriate time to  
6 implement this largely discretionary and expensive project. DRA recommends that the  
7 Commission deny PG&E’s request for funding at this time.

8 **D. MWC KC**

9 PG&E records its expenses for network activities and projects in MWC KC.  
10 This includes network notifications, transformer oil sampling and oil replacement,  
11 network protector maintenance, and other maintenance work.<sup>80</sup> PG&E forecasts  
12 \$5.992 million in expenses for MWC BK.<sup>81</sup>

13 **Table 5-14**  
14 **2007-2011 Recorded Data for MWC KC**  
15 **(In Thousands of Dollars)**

<b>Description</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>
KC – E Dist. Maint-Network	\$3,884	\$10,660	\$7,214	\$7,560	\$7,930

16 Source: Exhibit (PG&E-4) WP 5-1

17 After reviewing PG&E’s testimony, workpapers, and discovery responses,  
18 DRA agrees with PG&E’s request for \$5.992 million in expenses for MWC BK.

19 **E. MWC BK**

20 PG&E records its expenses for Distribution Line Equipment Overhauls in  
21 MWC BK. Repairs and overhauls for distribution line equipment extend the useful  
22 service life of equipment such as transformers, voltage regulators, circuit reclosers,

---

<sup>79</sup> Exhibit (PG&E-4) WP 5-49

<sup>80</sup> Exhibit (PG&E-4) page 5-27

<sup>81</sup> Exhibit (PG&E-4) WP 5-1

1 capacitor banks, and line switches.<sup>82</sup> PG&E forecasts \$2.713 million in TY  
2 expenses for MWC BK.<sup>83</sup>

3 **Table 5-15**  
4 **2007-2011 Recorded Data for MWC BK**  
5 **(In Thousands of Dollars)**

<b>Description</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>
BK – Maint Other Equip	\$4,904	\$5,555	\$(1,963)	\$2,913	\$2,353

6 Source: Exhibit (PG&E-4) WP 5-1

7 After reviewing PG&E’s testimony, workpapers, and discovery responses,  
8 DRA agrees with PG&E’s request for \$2.713 million in expenses for MWC BK.

9 **VII. DISCUSSION / ANALYSIS OF POLE TEST AND TREAT,**  
10 **RESTORATION, AND JOINT UTILITIES COORDINATION**

11 PG&E’s Pole Test and Treat, Restoration and Joint Utilities Coordination  
12 programs maintain PG&E’s expansive system of distribution poles. PG&E forecasts  
13 \$16.177 million for TY2014 program expenses, which is an increase of \$9.567  
14 million or 146.06 % over 2011 expenses of \$6.550 million.<sup>84</sup> DRA’s estimate for  
15 PG&E’s pole-related expenses is \$12.267 million, which is \$3.85 million less than  
16 PG&E’s forecast of \$16.117 million. DRA’s TY estimate is \$5.717 million more than  
17 PG&E’s 2011 recorded adjusted expenses of \$6.550 million.

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<sup>82</sup> Exhibit (PG&E-4) page 5-33

<sup>83</sup> Exhibit (PG&E-4) WP 5-1

<sup>84</sup> Exhibit (PG&E-4) page 6-1

1 The following table summarizes PG&E’s request and DRA’s recommendation  
 2 for MWC GA – Pole Test and Treat, Restoration, and Joint Utilities Coordination.

3 **Table 5-16**  
 4 **Electric Distribution Expenses for TY2014**  
 5 **Pole Test and Treat, Restoration, and Joint Utilities Coordination**  
 6 **(In Thousands of Dollars)**

Description (a)	DRA Recommended (b)	PG&E Proposed <sup>85</sup> (c)
GA – Poles- Inven/Test & Treat	\$12,267	\$16,117

7  
 8 **A. MWC GA**

9 PG&E records expenses for its Pole Test and Treat, Restoration and Joint  
 10 Utilities Coordination Programs in Major Work Category (MWC) GA. PG&E  
 11 developed its forecast based on the forecast units of work and the unit costs to  
 12 perform the work.<sup>86</sup>

13 **Table 5-17**  
 14 **2007-2011 Recorded Data for MWC GA**  
 15 **(In Thousands of Dollars)**

Description	2007	2008	2009	2010	2011
GA – Poles- Inven/Test & Treat	\$12,756	\$12,515	\$9,807	\$6,382	\$6,550

16 Source: Exhibit (PG&E-4) WP 6-1.

17 All poles in PG&E’s electric distribution system are tested and treated on a  
 18 continuous 10-year cycle. PG&E inspected 2.2 million poles during its first 10-year  
 19 cycle from 1995-2004 and started its second cycle in 2005.<sup>87</sup> The following table  
 20 shows the number of poles PG&E inspected annually since 2005, the beginning of  
 21 PG&E’s second 10-year cycle.

22 \_\_\_\_\_  
<sup>85</sup> Exhibit (PG&E-4) WP 6-1

<sup>86</sup> Exhibit (PG&E-4) page 6-13

<sup>87</sup> Exhibit (PG&E-4) page 6-3

1  
2  
3

**Table 5-18**  
**2005-2012 Poles Inspected Annually and TY2014 Forecast**

2005	2006	2007	2008	2009	2010	2011	2012	PG&E's TY2014 Forecast	DRA's TY2014 Forecast
239,512	206,230	247,412	246,942	165,144	189,234	218,519	258,868	312,500	235,000

4 Source: 2005-2011 data from DRA-033-EJ1 question 1. 2012 data from DRA-172-EJ1 question 1.

5 PG&E stated that its 2014 expense forecast is \$9.6 million higher than 2011  
6 recorded costs “due to an increase in the forecast number of poles requiring work  
7 between 2012-2014 because the Company inspected fewer poles during 2009-2011  
8 than prior years.”<sup>88</sup> In order to maintain its 10-year cycle, PG&E plans to increase  
9 the number of poles inspected to 312,500 in 2014.

10 PG&E stated the reduction in pole inspections is “due to the reallocation of  
11 resources to other activities (e.g., emergency recovery).”<sup>89</sup> PG&E is responsible for  
12 crucial ongoing maintenance activities even if it chooses to reallocate its resources.  
13 DRA asked PG&E to provide a list of the resources that was reallocated from MWC  
14 GA. PG&E was unable to provide this information.

15 DRA asked:<sup>90</sup>

16 “Provide a detailed and itemized list of the resources (labor and non-  
17 labor dollars) that was reallocated from MWC GA to other areas within  
18 PG&E.”

19 PG&E responded:

20 “PG&E tracks reallocation of resources at the Major Work Category  
21 (MWC) level in terms of whether more or less than forecast was spent

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<sup>88</sup> Exhibit (PG&E-4) page 6-1

<sup>89</sup> Exhibit (PG&E-4) page 6-8

<sup>90</sup> DRA-033-EJ1 question 4

1 within a particular MWC, not as an “itemized list of resources (labor  
2 and non-labor dollars).”

3 PG&E’s reduction in pole inspections from 2009-2011 is a result of deferred  
4 maintenance. PG&E routinely receives funding for ongoing and essential  
5 maintenance activities including maintenance on PG&E’s system of electric  
6 distribution poles. In the 2011 GRC, PG&E projected \$16.462 million in expenses  
7 for MWC GA,<sup>91</sup> of which the entire amount was adopted by the CPUC.<sup>92</sup> PG&E’s  
8 recorded expenses for 2011 were \$6.550 million. PG&E’s underspending of its 2011  
9 forecast and Commission-authorized funding in MWC GA by \$9.612 million was a  
10 discretionary decision of PG&E and has directly resulted in the current delayed pole  
11 test and treat work.<sup>93</sup> This is not a one-time occurrence; PG&E has annually  
12 underspent its Commission-authorized expenses for MWC GA by millions of dollars  
13 for the past five years (2007-2011).<sup>94</sup>

14 Regarding deferred maintenance the Commission has stated the following:<sup>95</sup>

15 For us to authorize Edison’s recovery of deferred maintenance expense  
16 would establish an undesirable precedent, whereby the utility is effectively  
17 guaranteed that it can earn (or exceed) its authorized rate of return,  
18 regardless of its operating efficiency or inefficiency, simply by curtailing  
19 current maintenance activities, in the assurance that they could be refinanced  
20 later through recovery of deferred maintenance expenses in a succeeding  
21 rate case. This would create a perverse incentive for the utility to defer  
22 needed maintenance in the future. Consequently, we will disallow recovery of  
23 the \$34.6 million requested for deferred maintenance activities in 1983 and  
24 1984. Our disallowance of this expense for test year ratemaking purposes  
25 does not relieve Edison of its responsibility to maintain the operating

---

<sup>91</sup> DRA-172-EJ1 question 2

<sup>92</sup> DRA-172-EJ1 question 3

<sup>93</sup> DRA-033-EJ1 question 4

<sup>94</sup> See Table 5-2 “2007-2011 Authorized vs. Recorded Electric Distribution Expenses” of this exhibit

<sup>95</sup> 10 CPUC 2d 155,186; D.82-12-055.

1 efficiency of its utility plant in a timely manner. Indeed, we expect Edison to  
2 fulfill that responsibility more conscientiously in the future.

3 In its decision in SCE's TY 2009 GRC, the Commission stated:<sup>96</sup>

4 In the past we have found circumstances, such as the unanticipated scope of  
5 Year 2000 (Y2K) projects, to justify deferral of certain maintenance work. The  
6 circumstances surrounding Y2K and the related Y2K projects were one-time  
7 events and, as such, unique. In contrast, we do not find customer and load  
8 growth, even when unanticipated, to create unique circumstances. Load  
9 growth and customer growth are routine aspects of any rate case. If the  
10 adopted forecast overestimates expenses, we do not ask a utility to return  
11 funds to ratepayers. Similarly, if an adopted forecast underestimates  
12 expenses, we do not go back and give the utility funds to complete projects  
13 that should have been addressed in the prior GRC cycle. In short, errors in  
14 forecasting occur and we do not go back and fix those errors.

15  
16 Consistent with our policy regarding deferred maintenance, in certain  
17 instances in this decision, we adopt reductions to SCE's forecast for operation  
18 and maintenance and capital expenditures to reflect our finding that  
19 unanticipated load and customer growth does not justify SCE's decision to,  
20 among other things, defer maintenance.

21  
22 Ratepayers should not be charged twice for routine and on-going  
23 maintenance work that was deferred by PG&E. PG&E's shareholders, and not  
24 ratepayers, are responsible for additional costs associated with deferred  
25 maintenance.

## 26 **1. Pole Inspections**

27 PG&E forecasts that it will inspect 312,500 poles in 2014,<sup>97</sup> which is 93,981  
28 poles or 43% higher than the 218,519 pole inspections conducted in 2011.<sup>98</sup> There  
29 is no historical data to justify PG&E's increase in pole inspections other than a  
30 deferral of inspections that should have been conducted in prior years. Since the

---

<sup>96</sup> D.09-03-025, pp 4-5.

<sup>97</sup> Exhibit (PG&E-4) WP 6-7

<sup>98</sup> DRA-033-EJ1 question 1

1 start of PG&E’s second 10-year inspection cycle in 2005, the greatest number of  
 2 pole inspections was 258,868 poles in 2012 (see Table 5-18), which was still  
 3 significantly higher than previous years.<sup>99</sup> In addition, both the 2012 number of  
 4 poles and associated expenses for MWC GA were less than that forecasted by  
 5 PG&E in the 2014 GRC Application.<sup>100</sup>

6 DRA also reviewed PG&E’s first 10-year inspection cycle from 1995-2004.  
 7 The following table provides the number of poles inspected annually from 1995-  
 8 2005.

9 **Table 5-19**  
 10 **1995-2005 Poles Inspected Annually**  
 11

1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
131,829	168,033	293,423	264,745	256,409	199,407	213,829	263,645	187,701	256,405	58,200

12 Source: DRA-172-EJ1 question 6.

13 Only once, in 1997, did PG&E exceed an annual inspection of 264,745 poles  
 14 during its first 10-year inspection cycle from 1995-2004. PG&E was also not able to  
 15 “finish its first inspection cycle until a few months into the year 2005.”<sup>101</sup> PG&E has  
 16 demonstrated that there is no historical grounding for an unrealistic TY forecast of  
 17 312,500 pole inspections.

18 **B. DRA’s Analysis**

19 DRA opposes PG&E’s TY2014 request for \$16.777 million, the amount PG&E  
 20 forecasts it needs in order to inspect 312,500 poles in 2014. As noted, the request  
 21 is a consequence of deferred maintenance by PG&E. Despite receiving ample

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<sup>99</sup> DRA-033-EJ1 question 1

<sup>100</sup> Exhibit (PG&E-4) WP 6-7

<sup>101</sup> DRA-172-EJ1 question 6

1 funding from ratepayers in previous years for MWC GA,<sup>102</sup> there is an extreme  
2 backlog of poles that need to be inspected in order for PG&E to remain on its 10-  
3 year cycle.

4 DRA proposes a TY2014 forecast of \$12.267 million, the amount DRA  
5 estimates PG&E needs in order to inspect 235,000 poles in 2014. PG&E identified  
6 the number of poles that it plans to inspect in its second 10-year cycle as  
7 approximately 2.35 million; the number is generous and includes “inspections that  
8 cover new and removed poles” in addition to the “approximately 2.2 million wood  
9 poles in the PG&E system.”<sup>103</sup> In order to maintain a 10-year inspection cycle,  
10 PG&E should annually inspect 235,000 poles.<sup>104</sup> This figure represents a normal  
11 test year figure that should be funded by ratepayers in TY2014. By providing  
12 sufficient funding for 235,000 pole inspections in 2014, DRA ensures that ratepayers  
13 only pay once for routine maintenance; shareholders should be responsible for  
14 expenses associated with backlogged poles and deferred maintenance. DRA’s  
15 forecast for 235,000 poles is also much more realistic than PG&E’s forecast of  
16 312,500 poles based on the historical number of pole inspections, and represents a  
17 normalized test year forecast.

18 DRA developed its forecast by multiplying 235,000 poles by PG&E’s forecast  
19 unit cost to perform a pole inspection. A percentage of the 235,000 poles have  
20 additional costs associated with strength and load calculations and pole restoration;  
21 DRA multiplied the number of poles requiring strength and load calculations and  
22 pole restoration by the corresponding unit costs.<sup>105</sup> DRA accepted all assumptions  
23 by PG&E other than annual pole inspections.

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<sup>102</sup> DRA-172-EJ1 question 3

<sup>103</sup> DRA-223-EJ1 question 1

<sup>104</sup> 2.35 million poles divided by 10 years is 235,000 poles per year

<sup>105</sup> DRA developed its test year estimate using active Workpaper Table 6-7 provided by PG&E in response to DRA-172-EJ1 question 5. DRA input 235,000 poles under “Test & Treat Poles - Current Year” in order to forecast the number of pole inspections, strength and load calculations, and pole  
(continued on next page)

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

3 The New Business (NB) and Work at the Request of Others (WRO) program  
 4 consists of work that PG&E performs at the request of its customers and other  
 5 facilities.<sup>106</sup> PG&E forecasts \$21.231 million for TY2014 NB/WRO expenses, which  
 6 is an increase of \$6.016 million or 39.54% over 2011 expenses of \$15.215  
 7 million.<sup>107</sup> The NB/WRO program is recorded in two Major Work Categories  
 8 (MWCs): EV for New Business with a forecast of \$10.781 million, and NB for Work  
 9 at the Request of Others with a forecast of \$10.450 million.<sup>108</sup> The corresponding  
 10 DRA estimate for NB/WRO expenses is \$19.393 million, which is \$1.848 million less  
 11 than PG&E's TY forecast of \$21.231 million.

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

14 **Table 5-20**  
 15 **Electric Distribution Expenses for TY2014**  
 16 **New Business and Work at the Request of Others**  
 17 **(In Thousands of Dollars)**

Description (a)	DRA Recommended (b)	PG&E Proposed <sup>109</sup> (c)
EV – Manage Service Inquiries	\$8,933	\$10,781
EW – WRO- Maintenance	\$10,450	\$10,450
Total	\$19,383	\$21,231

(continued from previous page)  
 restorations, and the corresponding costs. DRA accepted all assumptions by PG&E other than  
 annual pole inspections.

<sup>106</sup> Exhibit (PG&E-4) page 9-1

<sup>107</sup> Exhibit (PG&E-4) WP 9-1

<sup>108</sup> Exhibit (PG&E-4) WP 9-1

<sup>109</sup> Exhibit (PG&E-4) WP 9-1



1 divided by the average ratio of connects to applications over the past three years.<sup>113</sup>

2 PG&E used new building permit and housing start forecast data from Moody's  
3 Investor Service (Moody's)/Economy.com and IHS Global Insight to forecast new  
4 residential and non-residential connections in the distribution system.<sup>114</sup>

5 The corresponding DRA estimate for MAT EVA is \$4.900 million. DRA  
6 developed its forecast using the 2012 ratio of connects to applications. PG&E's  
7 forecasted ratio of connects to applications is 2.9, signifying that for every 2.9 gas or  
8 electric connections made to the distribution system, PG&E anticipates there will be  
9 1 service application processed. PG&E developed the ratio of 2.9 using a 3-year  
10 average of connects to applications (2009-2011). DRA's corresponding ratio of  
11 connects to application is 3.3, which is the 2012 ratio of connects to applications.  
12 This number is appropriate because it reflects the most recent data and market  
13 conditions.

14 DRA's forecast of \$4.900 million for MAT EVA is \$2.079 million or 73.70%  
15 greater than PG&E's 2011 recorded adjusted expenses of \$2.821 and is sufficient  
16 for PG&E to address an increase in business service inquiries.

## 17 **2. MAT EVB – Ok to Serve**

18 MAT EVB work records expenses for existing customers who need additional  
19 load or upgraded services. The base forecast for MAT EVB uses the average  
20 annual percent change in PG&E's electric customer base.<sup>115</sup> DRA agrees with  
21 PG&E's forecast of \$3.100 million in expenses for base MAT EVB work that is not  
22 associated with PEV expenditures.

23

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<sup>113</sup> Exhibit (PG&E-4) page 9-11

<sup>114</sup> Exhibit (PG&E-4) page 9-5

<sup>115</sup> Exhibit (PG&E-4) page 9-12

1 **3. MAT EVB – Ok to Serve/ PEV Related**

2 PG&E separately forecasts expenses associated with added load service  
3 requests involving the purchase of Plug-in-Electric Vehicles (PEVs). PG&E  
4 forecasts \$1.900 million for PEV-related work, which is \$1.600 million or 533.33%  
5 greater than the 2011 recorded adjusted expense of \$0.300 million.<sup>116</sup> The forecast  
6 for MAT EVB was developed by multiplying the number of PEV applications  
7 processed by the estimated cost to process each application. In order to do so,  
8 PG&E developed TY2014 forecasts for the following items: PEV sales, application  
9 rate, and cost-per-application processing.<sup>117</sup>

10 The corresponding DRA estimate for MAT EVB is \$0.700 million. Table 5-22  
11 shows 2011 PEV data and compares PG&E's TY2014 forecast to DRA's TY2014  
12 forecast.

13 **Table 5-22**  
14 **Recorded 2011 PEV Data and TY2014 Forecast**  
15 **(Expenses in Thousands of Dollars)**

16

	2011	PG&E's TY2014	DRA's TY2014
Number of PEV Sales	3,000	6,300	6,000
Application Rate	40%	100%	40%
PEV Applications Processed	1,200	6,300	2,400
Cost-per-application processing	\$0.30	\$0.30	\$0.30
<b>Total MAT EVB</b>	<b>\$360</b>	<b>\$1,900</b>	<b>\$700</b>

17  
18  
19

20  
21 Source: 2011 Data and PG&E's TY2014 forecast from Exhibit (PG&E-4) WP 9-10. No PEV data  
22 prior to 2011 was provided.

23 DRA adjusted PG&E's forecasted application rate. PG&E forecasted that  
24 100% of PEV consumers would start contacting PG&E directly upon purchase of an  
25 electric vehicle and therefore, the number of PEV Applications processed would be  
26 the same as the number of PEV Sales. DRA asked PG&E to explain why the

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<sup>116</sup> Exhibit (PG&E-4) WP 9-10

<sup>117</sup> Exhibit (PG&E-4) WP 9-10

1 application rate for PEV load requests was forecasted to increase in 2012 and to  
2 identify the 2012 application rate.

3 DRA asked:<sup>118</sup>

4 "On WP 9-10, PG&E stated: 'Early PEV sales data indicate that only  
5 40% of consumers were contacting PG&E directly upon purchase of an  
6 electric vehicle. Starting in late 2011, PG&E started a process with  
7 auto manufacturers and sales outlets to identify all PEV consumers for  
8 load checks, increasing the load check rate to 100% of sales.' Please  
9 elaborate on this process and identify the load check rate in 2012."

10 PG&E responded:

11 "Starting in 2012, PG&E reached agreements with both General  
12 Motors and Nissan to provide customer information on electric vehicle  
13 sales, but with an opt-out provision for customers who do not wish to  
14 have this information released. Even with this additional information  
15 source, PG&E only identified 38 percent of all electric vehicle sales in  
16 2012 on which to perform load checks (2,264 assessments on 6,000  
17 vehicle purchases). PG&E continues to pursue additional avenues,  
18 including California Department of Motor Vehicle information, to  
19 identify new electric vehicles and ownership transfers to improve load  
20 assessment rates."

21 PG&E's agreements with General Motors and Nissan did not increase the  
22 application rate to 100% as PG&E anticipated. The application rate lowered from  
23 40% in 2011 to 38% in 2012. While "PG&E continues to pursue additional  
24 avenues... to identify new electric vehicles and ownership transfers to improve load  
25 assessment rates," it is not clear what these additional avenues are, when they will  
26 be implemented, or how effective they will be. There is currently no evidence that  
27 the application percentage will change over the next couple of years. Therefore,  
28 DRA uses the 40% application rate in developing its TY forecast.

29 DRA also made a minor adjustment to PG&E's forecasted PEV sales. PG&E  
30 forecasted the 2014 number of PEV sales to be 6,300 PEVs; the sales data was

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<sup>118</sup> DRA-181-EJ1 question 10

1 supplied by PG&E’s Emerging Market and Technologies Department.<sup>119</sup> DRA  
2 asked PG&E to identify the number of PEV sales in 2012. PG&E estimated, based  
3 on Clean Vehicle Rebate Project reported rebates, that 2012 PEV sales in PG&E’s  
4 service was 6,000 PEVs.<sup>120</sup> Despite uncertainty in the PEV market, DRA uses  
5 6,000 PEV sales in developing its TY2014 forecast.

6 The growth of the PEV market and associated costs remains largely  
7 uncertain. PG&E provided DRA with a copy of the “Joint IOU Electric Load  
8 Research Final Report,” which was filed on December 28, 2012.<sup>121</sup> The report was  
9 compiled in response to D.11-07-029, which ordered PG&E, San Diego Gas &  
10 Electric (SDG&E), and Southern California Edison (SCE) to evaluate service  
11 upgrade costs associated with the PEV load.<sup>122</sup> Data supporting the report was  
12 tracked from June 2011 to October 2012.

13 The report concluded that thus far there is little evidence that added PEV load  
14 increases service upgrade costs. The report stated: “Through monitoring service  
15 upgrade costs due to new PEV load, the IOUs have determined the costs are  
16 currently insignificant”. In regards to PG&E, “PG&E acknowledges that the PEV  
17 customer specific costs to date have been *de minimus*, but believes that it is too  
18 early to understand what the potential magnitude of upgrade costs might be given  
19 further EV penetration.”<sup>123</sup> There is little indication that PEV-related costs will  
20 increase drastically over the next few years. DRA’s forecast of \$0.700 million, which  
21 more than doubles PG&E’s recorded expenses from 2011, is reasonable and should  
22 be adopted by the Commission.

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<sup>119</sup> Exhibit (PG&E-4) WP 9-10

<sup>120</sup> DRA-181-EJ1 question 11a

<sup>121</sup> DRA-181-EJ1 question 11b

<sup>122</sup> “Joint IOU Electric Vehicle Load Research Final Report” filed on December 28, 2012. R.09-08-009 Ordered in D.11-07-029. Page 3.

<sup>123</sup> “Joint IOU Electric Vehicle Load Research Final Report” filed on December 28, 2012. R.09-08-009 Ordered in D.11-07-029. Page 4.



1 Electric Emergency Recovery expenses are recorded in two Major Work  
 2 Categories: BH for Corrective Maintenance – Expense with a forecast of \$72.608  
 3 million and IF for Major Emergencies – Expense with a forecast of \$44.739 million.  
 4 The following table summarizes PG&E’s request and DRA’s recommendation for the  
 5 MWCs within Electric Emergency Recovery.

6 **Table 5-24**  
 7 **Electric Distribution Expenses for TY2014**  
 8 **Electric Emergency Recovery**  
 9 **(In Thousands of Dollars)**

<b>Description (a)</b>	<b>DRA Recommended (b)</b>	<b>PG&amp;E Proposed<sup>127</sup> (c)</b>
BH – Perf Maint to Corr Fail	\$72,608	\$72,608
IF – ED Major Emergency	\$41,081	\$44,739
Total	\$113,689	\$117,347

10 **A. MWC BH – Corrective Maintenance Expense**

11 MWC BH records corrective maintenance expenses associated with routine  
 12 outages. PG&E forecasts \$72.608 million in expenses for MWC BH. PG&E  
 13 developed its forecast by taking an average of 2009-2011 recorded costs.  
 14 Additionally, EER is forecasting a 5 percent shift of expenditures from expense to  
 15 capital due to implementing Mobile Connect.<sup>128</sup>

16 **Table 5-25**  
 17 **2007-2011 Recorded Data for MWC BH**  
 18 **(In Thousands of Dollars)**

<b>Description</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>
BH – Perf Maint to Corr Fail	\$60,195	\$61,031	\$71,048	\$72,534	\$75,955

19 Source: Exhibit (PG&E-4) WP 10-1.

<sup>127</sup> Exhibit (PG&E-4) WP 10-1

<sup>128</sup> Exhibit (PG&E-4) page 10-15

1 After reviewing PG&E's testimony, workpapers, and discovery responses,  
2 DRA agrees with PG&E's TY forecast for MWC BH.

3 **B. MWC IF**

4 MWC IF records expenses associated with major emergencies. PG&E  
5 forecasts \$44.739 million in expenses for MWC IF. PG&E developed its forecast by  
6 taking a 5-year average of 2007-2011 recorded costs.<sup>129</sup> According to PG&E,  
7 recorded expenses for 2007-2011 have been adjusted to remove authorized  
8 recovery costs related to the Catastrophic Event Memorandum Account (CEMA).  
9 CEMA allows PG&E to recover costs for government declared state of emergencies  
10 and this cost recovery mechanism is separate from the GRC.<sup>130</sup>

11 The corresponding DRA estimate for major emergencies expenses is \$41.081  
12 million. In its forecast, PG&E did not adjust the recorded expenses to remove  
13 CEMA related-costs associated with Application (A.) 11-09-014. Although the  
14 Commission has not issued a final decision, all involved parties reached a  
15 settlement. The Settling Parties agreed to a CEMA-related cost recovery of \$17.844  
16 million.<sup>131</sup> DRA developed its TY forecast of \$41.081 million by removing these  
17 CEMA-related costs from the 2007-2011 recorded expenditures, shown in Table 5-  
18 25, before taking a 5-year average of 2007-2011 costs. DRA's forecast for MWC IF  
19 is reasonable and should be adopted by the Commission, because it ensures that  
20 there is no double recovery of costs through the CEMA mechanism and the GRC.  
21

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<sup>129</sup> Exhibit (PG&E-4) page10-20

<sup>130</sup> Exhibit (PG&E-4) page10-20

<sup>131</sup> A.11-09-0014 Application of Pacific Gas and Electric Company to Recover Costs Recorded in the Catastrophic Event Memorandum Account Pursuant to Public Utilities Code Section 454.9 Associated with Certain Declared Disasters Between August 2009 and March 2011

1  
2  
3

**Table 5-26**  
**2007-2011 Recorded Data for MWC IF**  
**(In Thousands of Dollars)**

<b>Description</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>
IF – ED Major Emergency	\$9,264	\$40,798	\$30,524	\$51,797	\$80,428

4 Source: Exhibit (PG&E-4) WP 10-1. These figures do not incorporate the \$17.844 million adjustment  
5 made by DRA in its test year forecast.

6 **1. PG&E’s Request for a Two-Way Balancing**  
7 **Account**

8 PG&E is proposing a two-way balancing account for MWC IF to recover costs  
9 for major emergencies that do not qualify for cost recovery through the Catastrophic  
10 Event Memorandum Account mechanism.<sup>132</sup> DRA recommends that the  
11 Commission deny PG&E’s request for a two way balancing account to recover non-  
12 CEMA related emergency costs. The Commission has a procedure established for  
13 PG&E to make its request for recovery of extraordinary incremental costs related to  
14 catastrophic events. Establishing another balancing account for recovery of  
15 expenses associated with emergencies that do not qualify for CEMA cost recovery is  
16 unnecessary and unreasonable because it would offer a “blank check” to PG&E at  
17 ratepayers’ expense.

18 **X. DISCUSSION / ANALYSIS OF SUBSTATION ASSET STRATEGY**

19 Substation Asset Strategy refers to the maintenance of PG&E’s 770  
20 distribution substations, consisting of transformers, voltage regulation equipment,  
21 protective devices, automation equipment, and bus structure equipment.<sup>133</sup> PG&E  
22 forecasts \$40.064 million for Substation Asset Strategy expenses for TY2014, which

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<sup>132</sup> Exhibit (PG&E-4) page 10-21

<sup>133</sup> Exhibit (PG&E-4) page 13-1

1 is an increase of \$6.988 million or 21% over 2011 expenses of \$33.077 million.<sup>134</sup>  
 2 The corresponding DRA estimate is \$35.452 million, which is \$4.612 million less  
 3 than PG&E's forecast of \$40.064 million, and \$2.375 million higher than 2011  
 4 recorded expenses.

5 The following table summarizes PG&E's request and DRA's recommendation  
 6 for the MWCs within Substation Asset Strategy. PG&E's forecast includes expenses  
 7 for corrective maintenance, preventive maintenance, and substation support  
 8 activities.

9  
 10 **Table 5-27**  
 11 **Electric Distribution Expenses for TY2014**  
 12 **Substation Asset Strategy**  
**(In Thousands of Dollars)**

<b>Description (a)</b>	<b>DRA Recommended (b)</b>	<b>PG&amp;E Proposed<sup>135</sup> (c)</b>
Corrective Maintenance	\$10,372	\$14,142
Preventive Maintenance	\$16,505	\$16,505
Substation Support Activities	\$7,697	\$8,425
GC – Dist. Sub: Maintain and Operate	\$35,452	\$40,064

13 **A. MWC GC**

14 PG&E records expenses for Substation Asset Strategy in Major Work  
 15 Category (MWC) GC.

16 **Table 5-28**  
 17 **2007-2011 Recorded Data for MWC GC**  
 18 **(In Thousands of Dollars)**

<b>Description</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>
GC – Dist. Sub: Maintain & Operate	\$30,952	\$31,148	\$30,707	\$29,677	\$33,077

19 Source: Exhibit (PG&E-4) WP 13-1

<sup>134</sup> Exhibit (PG&E-4) WP 13-1

<sup>135</sup> Exhibit (PG&E-4) WP 13-1

1 **1. Corrective Maintenance**

2 Corrective Maintenance includes the repair of failed equipment.<sup>136</sup> PG&E  
3 forecasts \$14.142 million in expenses for corrective maintenance, which is an  
4 increase of \$3.521 million or 33.15% over 2011 expense levels.<sup>137</sup> The forecast  
5 was developed by multiplying the forecasted number of notifications by the  
6 forecasted cost per notification.<sup>138</sup> The corresponding DRA estimate for corrective  
7 maintenance expenses is \$10.372 million.

8 During discovery, DRA identified errors with PG&E's cost per notification for  
9 2011, on which PG&E's TY2014 forecast is based.

10 DRA asked:<sup>139</sup>

11  
12 "The 2011 unit cost for corrective maintenance is '\$4.131' in PG&E's  
13 response to Question 2 of DR-DRA-016; the 2011 unit cost is '\$4.600'  
14 on WP 13-7. Please clarify the discrepancy. Note that PG&E uses the  
15 last year recorded (2011) as the basis for the TY2014 cost per  
16 notification."

17 PG&E's responded:

18 "The discrepancy is due to an error in the spreadsheet used in the  
19 forecast and provided as a workpaper. That spreadsheet did not have  
20 the most up-to-date information for the number of corrective  
21 notifications recorded in 2011. The correct total number of  
22 maintenance notifications recorded in 2011 is 2,571, not 2,265, and the  
23 correct unit cost is \$4.131 thousand. PG&E will correct this in the  
24 upcoming errata filing."

25 Using the corrected information, DRA noted that the cost per notification for  
26 corrective maintenance declined notably from \$4,131 in 2011 to \$3,446 in 2012. In  
27 order to take into account fluctuations in cost-per-notification throughout the years,

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<sup>136</sup> Exhibit (PG&E-4) page 13-6

<sup>137</sup> Exhibit (PG&E-4) page 13-1

<sup>138</sup> Exhibit (PG&E-4) WP 13-7

<sup>139</sup> DRA- EJ1-191 question 2

1 DRA developed its forecast using a four-year average of recorded unit costs (2009-  
 2 2012).<sup>140</sup> DRA agrees with PG&E's forecasted increase in number of notifications.  
 3 DRA developed its forecast of \$10.372 by multiplying the four-year average of  
 4 recorded unit costs by PG&E's forecasted number of notifications. Table 5-27  
 5 shows PG&E's number of notifications, cost per notification, and total corrective  
 6 maintenance expenses from 2007-2012 as well as the TY2014 forecast for PG&E  
 7 and DRA.

8 **Table 5-29**  
 9 **Corrective Maintenance**  
 10 **2009-2012 Number of Notifications & Cost per Notification**  
 11 **PG&E's & DRA's TY2014 Forecast**  
 12 **(Expenses Shown in Thousands of Dollars)**

	2009	2010	2011	2012	PG&E's TY2014	DRA's TY2014
Number of Notifications (in thousands)	2,451	2,234	2,571	3,235	3,074	3,074
Cost per Notification	\$2.754	\$3.166	\$4.131	\$3.446	\$4.600	\$3.374
<b>Corrective Maintenance Total</b>	<b>\$6,750</b>	<b>\$7,072</b>	<b>\$10,621</b>	<b>\$11,148</b>	<b>\$14,142</b>	<b>\$10,372</b>

13 Source: 2009-2011 data from Exhibit (PG&E-4) WP 13-7. 2012 Data from DRA-191-EJ1 question 1.

14 DRA's forecast of \$10.372 million for corrective maintenance expenses is  
 15 reasonable because it was developed using historical unit costs, but also takes into  
 16 account PG&E's expected increase in corrective maintenance notifications.

17 **2. Preventive Maintenance**

18 Preventive Maintenance includes inspections, switching and restoring service  
 19 to customers, calibration and adjustment, and other routine maintenance work  
 20 performed on PG&E's substations. PG&E forecasts \$16.505 million in TY expenses  
 21 for preventive maintenance. PG&E developed its forecast by multiplying the number  
 22 of planned units in 2012 times a 2-year average of cost.<sup>141</sup> After reviewing PG&E's

<sup>140</sup> See Table 5-28. Unit cost prior to 2009 was not provided.

<sup>141</sup> Exhibit (PG&E-4) page 13-6

1 testimony, workpapers, and discovery responses, DRA agrees with PG&E's request  
2 of expenses for preventive maintenance.

3 **3. Substation Support Activities**

4 Substation Support Activities include all other projects or staff that support  
5 PG&E's substation system including SAS engineering staff, system funded projects,  
6 miscellaneous materials and contracts, and vegetation management.<sup>142</sup> PG&E is  
7 forecasting \$8.550 million in TY expense for substation support activities. PG&E  
8 forecasted most TY expenses for substation support activities using a 3-year  
9 average (2009-2011) of recorded adjusted costs for each activity.<sup>143</sup> The  
10 corresponding DRA estimate is \$7.697 million.

11 PG&E forecasts \$2.500 million for System Funded Projects, one of PG&E's  
12 substation support activities. System funded projects include lease payments,  
13 facility costs, license fees, various studies, transformer relocation costs, and other  
14 work.<sup>144</sup> PG&E developed its TY forecast for System Funded project by taking a 3-  
15 year average (2009-2011) of recorded costs and adding \$0.900 million for  
16 incremental costs over 2011 recorded expenses. PG&E's forecast of \$2.500 million  
17 for system funded projects is 89.97% over 2011 recorded costs of \$1.316 million.

18 PG&E forecasts an incremental increase of \$0.500 million for the relocation of  
19 two transformers (\$0.250 million per transformer) as part of TY expenses for System  
20 Funded Projects. PG&E currently has approximately 18 transformers in storage and  
21 plans to relocate two transformers per year starting in 2012.<sup>145</sup> DRA asked PG&E  
22 to explain why PG&E needs additional funding for transformer relocations starting in  
23 2012 and continuing into the TY.

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<sup>142</sup> Exhibit (PG&E-4) WP 13-7

<sup>143</sup> Exhibit (PG&E-4) WP 13-7

<sup>144</sup> DRA-EJ1-191 question 5

<sup>145</sup> DRA-EJ1-016 question 10

1 DRA asked:<sup>146</sup>

2 “PG&E stated that it “currently has approximately 18 transformers in  
3 storage that the Company can use for future projects.” Why has PG&E  
4 waited until now to relocate its transformers at two relocations per  
5 year?”

6 PG&E's responded:

7 “PG&E believes it is not economical to maintain a large inventory of  
8 surplus transformers in storage. The condition of a used transformer  
9 may deteriorate over time if not in-service, due to factors such as the  
10 settling of oil. The level of surplus transformers has increased as  
11 transformers are replaced in order to increase capacity. PG&E  
12 anticipates relocating surplus transformers on an annual basis as a  
13 part of regular business practice.”

14 Historically, PG&E has not conducted transformer relocations at the rate  
15 being proposed in this GRC. PG&E only relocated one transformer in the 2009-  
16 2011 time period, a process which PG&E claims is not even complete. When DRA  
17 asked PG&E for information about this relocation, PG&E stated: “The total cost,  
18 including 2013 year-to-date, is \$85,592. The reassembly, refilling of oil and dress  
19 and testing of the transformer have not yet been performed. This relocation is not  
20 representative of transformer relocation costs because the “relocation” is not yet  
21 complete. Aside from the aforementioned costs, there were no other costs recorded  
22 or reallocated.”<sup>147</sup>

23 Transformer relocations are low priority work for PG&E and PG&E did not  
24 provide sufficient supporting documentation or cost benefit analyses to substantiate  
25 its request. DRA opposes additional funding for transformer relocations based on  
26 the fact that PG&E has only performed one relocation over a three-year period.  
27

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<sup>146</sup> DRA-EJ1-191 question 7c

<sup>147</sup> DRA-EJ1-191 question 7b

1 DRA asked PG&E about other incremental funding forecasted in TY  
2 expenses for system funded projects.

3 DRA asked:<sup>148</sup>

4 “Identify, explain, and justify all costs, other than transformer relocation  
5 costs that were added to the 3-year average.”

6 PG&E’s responded:

7 “In addition to the transformer relocations, PG&E included \$400,000 in  
8 the forecast to support programmatic substation reliability improvement  
9 activities. The amount is based on PG&E’s engineering judgment.  
10 There is no specific calculation associated with the value. PG&E  
11 anticipates it will use this portion of the funding forecast for emergent  
12 work such as supplemental circuit breaker maintenance to reduce  
13 breaker failure rates, seismic studies for critical substation facilities  
14 and, to develop restoration plans for critical substation facilities.”

15 PG&E did not provide sufficient documentation or analyses to support its  
16 request for \$0.400 million, nor did it provide a breakdown of costs. The request for  
17 system funded projects is excessive and the Commission should deny this request.

18 DRA developed its corresponding TY estimate of \$1.647 million for system  
19 funded projects by taking a 3-year average (2009-2011) of recorded expenses  
20 expressed in 2011 dollars,<sup>149</sup> and recommends that the Commission adopt it.

21

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<sup>148</sup> DRA-EJ1-016 question 10b

<sup>149</sup> 2009 recorded expenses = \$1,847; 2010 recorded expenses = \$1,777, 2011 recorded expenses = \$1,316. The 3-year average is \$1,647. Recorded expenses in 2011 dollars from DRA-255-EJ1 question 1.

1 **XI. DISCUSSION / ANALYSIS OF ELECTRIC ENGINEERING –**  
 2 **DISTRIBUTION PLANNING, OPERATIONS, and POWER**  
 3 **QUALITY**

4 PG&E’s Electric Engineering program consists primarily of electric distribution  
 5 engineers who support a variety of asset management and operating activities.  
 6 PG&E forecasts \$24.147 million for Electric Engineering – Distribution Planning,  
 7 Operations, and Power Quality expenses for TY2014, which is an increase of \$4.544  
 8 million or 23% over 2011 expenses of \$19.603 million.<sup>150</sup> The corresponding DRA  
 9 estimate for Electric Engineering expenses is \$21.427 million, which is \$2.720  
 10 million less than PG&E’s forecast of \$24.147 million, and \$1.824 million over 2011  
 11 recorded expenses.<sup>151</sup>

12 The following table summarizes PG&E’s request and DRA’s recommendation  
 13 for Electric Engineering – Distribution Planning, Operations, and Power Quality.

14 **Table 5-30**  
 15 **Electric Distribution Expenses for TY2014**  
 16 **Electric Engineering – Distribution Planning, Operations, and Power Quality**  
 17 **(In Thousands of Dollars)**

Description (a)	DRA Recommended (b)	PG&E Proposed <sup>152</sup> (c)
FZ – Opr Distribution Sys -EI Eng	\$21,427	\$24,147

18 **A. MWC FZ**

19 PG&E records expenses for Electric Engineering in MWC FZ under MAT  
 20 FZA, FZB, FZC, FZD, and FZE. PG&E’s forecast for the Electric Engineering

<sup>150</sup> Exhibit (PG&E-4) WP 14-1

<sup>151</sup> DRA totaled its forecasted 2014 expenses for MAT FZA, FZB, FZC, FZD, and FZE and then escalated. DRA did not escalate its forecasts for individual MATs

<sup>152</sup> Exhibit (PG&E-4) WP 14-1

1 Program was developed using 2011 actual expenditures and making upward  
 2 adjustments for incremental expected future program costs.<sup>153</sup>

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 4  
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**Table 5-31**  
**2007-2011 Recorded Data for MWC FZ**  
**(In Thousands of Dollars)**

<b>Description</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>
MAT FZA	\$15,291	\$17,605	\$18,829	\$18,460	\$17,173
MAT FZB	\$1,653	\$1,966	\$2,084	\$1,146	\$1,177
MAT FZC	\$11	\$44	\$52	\$18	\$8
MAT FZD	\$455	\$298	\$300	\$257	\$239
MAT FZE	-	-	-	-	\$572
FZ – Opr Dist. Sys - El Eng	\$17,579	\$20,307	\$21,277	\$19,789	\$19,603

6 Source: Exhibit (PG&E-4) WP 14-2

7 DRA developed its TY estimate of \$21.427 million by using 2011 actual  
 8 expenditures and making adjustments to PG&E's expected future program costs for  
 9 each MAT.

**1. MAT FZA: Distribution Engineering - Distribution  
 Planning Operation and Power Quality**

10 FZA records the expense-related costs of the Electric Distribution Engineers  
 11 who work on electric distribution system planning and operations, as well as costs  
 12 related to training and any special technical studies.<sup>154</sup> PG&E's TY estimate for  
 13 MAT FZA expenses is \$18.793 million. The corresponding DRA estimate is \$18.093  
 14 million.  
 15  
 16  
 17

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<sup>153</sup> Exhibit (PG&E-4) page 14-5

<sup>154</sup> DRA-025-EJ1 question 1

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**Table 5-32**  
**PG&E's and DRA's forecast for MAT FZA expenses**  
**(In Thousands of Dollars)**

	<b>PG&amp;E's<sup>155</sup></b> <b>TY2014</b>	<b>DRA's</b> <b>TY2014</b>
Normal Operating Activities	\$17,173	\$17,173
2 Additional Entry Engineers	\$200	\$200
3 Power Quality Engineers and 1 Supervisor Realignment to MWC FZA	\$720	\$720
Increase in Operations Related Activities	\$700	\$0
<b>Total FZA</b>	<b>\$18,793</b>	<b>\$18,093</b>

4 PG&E requested funding for 2 additional entry engineers, the realignment of 3  
5 Power Quality Engineers and 1 Supervisor to MWC FZA, and an increase in  
6 operations related activities. DRA does not object to PG&E's request for 2 additional  
7 entry engineers or the realignment of the 3 engineers and 1 supervisor.

8 PG&E requested an additional \$700,000 over 2011 recorded costs to fund an  
9 increase in operations related activities.<sup>156</sup> DRA asked PG&E to provide a more  
10 detailed breakdown of the activities and associated costs.

11 DRA asked:<sup>157</sup>

12 "On Line 20 of WP 14-13, PG&E stated: 'Recent initiatives such as  
13 investigation of downed power lines will drive an increase in expense  
14 related activities for planning engineers.'" Please provide a detailed  
15 explanation of all the initiatives and driving factors leading to an  
16 increase in TY2014 forecasted expenses for operations related  
17 activities (Line 10, WP 14-13). Provide a detailed breakdown of the  
18 additional costs that PG&E forecasted and include all supporting  
19 calculations and documentation."  
20

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<sup>155</sup> Exhibit (PG&E-4) WP 14-13

<sup>156</sup> Exhibit (PG&E-4) WP 14-13

<sup>157</sup> DRA-025-EJ1 question 6

1 PG&E responded:

2  
3 “Wires Down Initiative – As part of PG&E’s efforts to reduce the  
4 number of wire-down events (which pose a potential public safety  
5 hazard, see Exhibit (PG&E-4), Chapter 1, p. 1-6, lines 13-25), the  
6 Company’s Electric Distribution Engineers are investigating outages  
7 involving an overhead wire coming down to identify the contributing  
8 causes, pre-existing conditions, and probable root cause. The field  
9 investigation information is captured in a data base, and potential  
10 mitigating actions are taken or identified.

11  
12 There are approximately 1,500 cases of wires down every year. PG&E  
13 estimates Electric Distribution Engineer field investigation costs per  
14 occurrence at \$300 per investigation (which represents approximately  
15 two-to-three hours of time). The product of these two values is  
16 \$450,000 per year. PG&E has not incurred significant costs for this  
17 initiative in 2012, but will begin to incur significant costs in 2013 that  
18 will continue through 2014.

19  
20 The remainder of PG&E’s forecast, which increases by \$200,000 in  
21 2014, was based on engineering judgment for other initiatives PG&E is  
22 likely to pursue. There were no further detailed calculations or  
23 breakdown of costs or supporting documentation used to develop this  
24 forecast.”

25 DRA asked PG&E to clarify its response because costs associated with the  
26 increase in operations related activities did not total the forecasted \$700,000.

27 DRA asked:<sup>158</sup>

28  
29 “In Answer 6 of DR-025-EJ1, PG&E forecasts \$700,000 for an  
30 “increase in operations related activities.” PG&E identifies \$450,000 for  
31 the ‘Wires Down Initiative’ and \$200,000 for “other initiatives PG&E is  
32 likely to pursue.” Please identify for what purpose PG&E is forecasting  
33 the extra \$50,000 in operations related activities.”

34 PG&E’s responded:

35 “In investigating its response to this question, PG&E discovered that  
36 the \$50,000 discrepancy noted by DRA was for work that had been  
37 considered but not included in the forecast. The \$50,000 was

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<sup>158</sup> DRA-202-EJ1 question 11

1 erroneously included in PG&E's response to Question 6 of DR-025.  
2 PG&E filed an errata correcting its forecast to \$650,000 on March 19,  
3 2013."

4 DRA opposes additional funding of \$200,000 for "other initiatives PG&E is  
5 likely to pursue." Ratepayer funding should not be forecast for unidentified initiatives  
6 with no breakdown of costs or analyses. PG&E has embedded costs from ongoing  
7 or completed initiatives that it can reallocate if necessary. This reallocation of costs  
8 would more realistically reflect PG&E's relatively flat spending history in MAT FZA.

9 DRA asked PG&E further questions about the \$450,000<sup>159</sup> for the Wires  
10 Down initiative.

11 DRA asked:<sup>160</sup>

12 "Does PG&E routinely investigate outages involving down wires? If  
13 yes, identify the costs incurred per each occurrence in 2011 and  
14 explain why PG&E needs additional funding for routine investigations.  
15 If no, explain in detail how long PG&E has been aware of the problem  
16 and why PG&E has waited until 2013 to implement the "Wires Down  
17 Initiative." Provide all supporting documentation, calculations, and  
18 analyses."

19 PG&E's responded:

20 "PG&E instituted a formal wires down investigation process using  
21 distribution planning engineers in 2012; these formal investigations  
22 were not routinely performed in 2011. Although it did not have a formal  
23 investigation process in place before 2012, PG&E has always  
24 responded to wires down incidents by isolating the down wires, and  
25 making repairs quickly.

26 By contrast, the wires down initiative launched in 2012 is directed at  
27 proactively identifying problems associated with either the conductor,  
28 connectors, or specific design issues that may be a contributing factor  
29 to the causes of downed wires, and is a new initiative to address public  
30 and system safety as part of the Electric Operations Improvement  
31 Plan. These assessments will enable PG&E to address specific issues  
32 discovered to mitigate any future occurrences. More details regarding

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<sup>159</sup> Corrected from \$500,000 in DRA-202-EJ1 question 11

<sup>160</sup> DRA-202-EJ1 question 10

1 the wires down initiative can be found in Exhibit (PG&E-4), Chapter 1,  
2 page 1-6, lines 15-27, Exhibit (PG&E-4), Chapter 5, page 5-22, lines  
3 10-23, and Exhibit (PG&E-4), Chapter 15, page 15-12, lines 17-23.”

4 PG&E did not provide sufficient documentation, calculations, or analyses to  
5 support its request. According to PG&E, there are approximately 1,500 cases of  
6 wires down each year, which signifies that the activity is not new. PG&E can  
7 reallocate embedded funds from current wire down maintenance to wire down  
8 investigations.

9 DRA opposes PG&E’s request for an incremental \$700,000 to fund its  
10 proposed increase in operations related activities.

11 **2. MAT FZB: Voltage Problem and Electro-Magnet**  
12 **Field (EMF)**

13 MAT FZB records the expense-related costs associated with field personal  
14 that trouble-shoot and investigate customer voltage complaints, SmartMeter voltage  
15 investigations.<sup>161</sup> PG&E’s TY estimate for MAT FZB expenses is \$1.800 million.  
16 PG&E is requesting additional funds for “recording volt meter installation and  
17 removals cost realignment” and “smart meter high/low voltage investigations.” The  
18 corresponding DRA estimate for MAT FZB expenses is \$1.221 million.

19 **Table 5-33**  
20 **PG&E’s and DRA’s forecast for MAT FZB expenses**  
21 **(In Thousands of Dollars)**

	<b>PG&amp;E's TY2014<sup>162</sup></b>	<b>DRA's TY2014</b>
Normal Operating Activities	\$1,177	\$1,177
Recording Volt Meter Installation and Removals Cost Realignment	\$375	\$0
Smart Meter High/Low Voltage Investigations	\$248	\$44
<b>Total FZB</b>	<b>\$1,800</b>	<b>\$1,221</b>

22  

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<sup>161</sup> DRA-025-EJ1 question 7

<sup>162</sup> Exhibit (PG&E-4) WP 14-14

1 DRA asked PG&E to track the cost realignment for recording volt meter  
2 installation and removals.

3 DRA asked:<sup>163</sup>

4 "Line 2, WP 14-14 "Recording Volt Meter Installation and Removals  
5 Cost Realignment" – Describe the need to realign these expenses to  
6 MWC FZB. Reference the specific location in the work papers from  
7 where the costs are removed for realignment."

8 PG&E responded:

9 "There is no specific reference in the workpapers showing the removal  
10 of these costs from MWC BH. PG&E will adjust its expense forecast  
11 though an errata at an appropriate point in the proceeding to reflect  
12 this shift of \$375k."

13 DRA opposes PG&E's request for \$375,000 in additional funding for the  
14 realignment because PG&E cannot identify the removal of costs for recording of volt  
15 meter installations from MWC BH where it was previously charged. PG&E's  
16 response indicates that the historical expenses for this activity are still embedded  
17 within MWC BH and were not adjusted out. In order to prevent the duplication of  
18 costs, DRA rejects realignments that cannot be tracked by PG&E.

19 DRA conducted discovery to assess the progress of voltage investigations  
20 conducted as a result of increasing SmartMeter data. PG&E states, "due to the  
21 implementation of SmartMeters, more data regarding customer service voltage is  
22 available and allows for greater detail of high or low voltage situations that previously  
23 may have gone undetected."<sup>164</sup> PG&E forecasted \$113,000 for the increase in  
24 high/low voltage investigations in 2012 and an additional \$135,000 in 2013. These  
25 numbers are used as the basis for the 2014 forecast.

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<sup>163</sup> DRA-025-EJ1 question 9

<sup>164</sup> Exhibit (PG&E-4) WP 14-14

1 DRA asked:<sup>165</sup>

2 “Identify the number of voltage investigations that occurred in 2012, the  
3 cost per investigation, and the overall 2012 recorded costs for Smart  
4 Meter High/Low Voltage Investigations (in nominal and base year 2011  
5 dollars).”

6 PG&E responded:

7  
8 “PG&E conducted 748 voltage investigations in 2012 for a total cost of  
9 \$1,277,000, or an average of \$1,707 per investigation. The 2012  
10 recorded cost for Smart Meter High/Low Voltage Investigation was  
11 \$22,080. Costs in base year 2011 dollars are \$1,661 per investigation,  
12 and \$21,488 for Smart Meter High/Low Voltage Investigations.”

13 PG&E only spent an additional \$22,080 in 2012 as a result of Smart Meter  
14 data in contrast to its forecast of \$135,000. PG&E overstated its 2012 forecast by  
15 \$157,080. DRA believes that PG&E’s TY forecast is also overstated.

16 DRA recommends that the Commission adopt its TY forecast of \$44,160 for  
17 Smart Meter High/Low Voltage Investigation. DRA relies on the 2012 recorded  
18 expenses of \$22,080 and then doubles it to account for increases in investigations in  
19 2013 and 2014.

20 **3. MAT FZC: Overload and Idle Transformer**  
21 **Investigations**

22 MAT FZC records the expense-related costs of Electric Estimators and  
23 Mapping personnel who perform over loaded and idle transformer investigations.<sup>166</sup>  
24 PG&E’s TY estimate for MAT FZC is \$0.200 million. DRA’s corresponding TY  
25 estimate is \$0.080 million.

26

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<sup>165</sup> DRA-202-EJ1 question 15

<sup>166</sup> DRA-025-EJ1 question 1

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**Table 5-34**  
**PG&E's and DRA's forecast for MAT FZC expenses**  
**(In Thousands of Dollars)**

	<b>PG&amp;E's TY2014<sup>167</sup></b>	<b>DRA's TY2014</b>
Normal Operating Activities	\$8	\$8
Overloaded Transformer Replacement Reviews	\$192	\$0
<b>Total FZC</b>	<b>\$200</b>	<b>\$8</b>

4 PG&E is forecasting an additional \$0.192 million over 2011 recorded  
5 expenses for overloaded transformer replacement reviews. DRA asked PG&E to  
6 provide additional information for its request.

7 DRA asked:<sup>168</sup>

8 "In Answer 13 of DR-025-EJ1, PG&E stated: 'With SmartMeter  
9 devices, a more accurate result of transformer loading can be  
10 obtained. Therefore, transformers with SmartMeter customers  
11 connected that indicate overload are being much more aggressively  
12 reviewed and prioritized for replacement.' Please provide the  
13 documentation, calculations, or studies that show an increase in  
14 overloaded transformer reviews due to SmartMeter data."

15 PG&E's responded:

16 "PG&E did not proactively perform transformer reviews based on  
17 SmartMeter<sup>TM</sup> data in 2012, and therefore has no such documentation,  
18 calculations or studies. However, PG&E maintains its policy of more  
19 aggressive review and replacement (if necessary) of such  
20 transformers, and therefore expects the number of reviews in  
21 2013/2014 to increase consistent with PG&E's GRC forecast."

22 As was the case for smart meter voltage investigations in MAT FZB, PG&E  
23 overestimated its ability to and the speed at which it will integrate Smart Data into its  
24 electric distribution operations and maintenance. In addition, PG&E did not provide

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<sup>167</sup> Exhibit (PG&E-4) WP 14-15

<sup>168</sup> DRA-202-EJ1 question 19

1 any documentation or analyses to support its request. DRA opposes additional  
2 funding for MAT FZC, and therefore recommends that the Commission adopt a  
3 forecast of \$0.080 million, which is PG&E's 2011 recorded adjusted expenses.

4 **4. MAT FZD: Phase Balancing and Crew Required**  
5 **Fuse Replacements**

6 MAT FZD records the expense-related costs of field personnel who perform  
7 phase balancing work and fuse replacement work.<sup>169</sup> PG&E's TY estimate for MAT  
8 FZD is \$1.515 million. DRA's corresponding TY estimate is \$0.337 million.

9 **Table 5-35**  
10 **PG&E's and DRA's forecast for MAT FZD expenses**  
11 **(In Thousands of Dollars)**

	<b>PG&amp;E's TY2014<sup>170</sup></b>	<b>DRA's TY2014</b>
Normal Operating Activities	\$239	\$239
Overloaded Transformer Replacement Reviews	\$1,276	\$98
<b>Total FZD</b>	<b>\$1,515</b>	<b>\$337</b>

12 PG&E's requested an additional \$1.276 million over 2011 recorded expenses  
13 of \$0.239 million for identified phase balancing. For the initial phase of the project,  
14 PG&E forecasted conducting 43 phase balancing projects in 2012 for a cost of  
15 \$1.076 million. DRA conducted discovery to identify the number of phase balancing  
16 projects completed in 2012.

17 DRA asked:<sup>171</sup>

18 "Identify the number of phase balancing projects occurring in 2012, the  
19 cost per phase balancing project, and the overall 2012 recorded costs  
20 for identified phase balancing (in nominal and base year 2011 dollars)."

21

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<sup>169</sup> DRA-025-EJ1 question 1

<sup>170</sup> Exhibit (PG&E-4) WP 14-16

<sup>171</sup> DRA-202-EJ1 question 15

1 PG&E responded:

2

3 "In 2012, PG&E initiated five phase balancing projects, of which four  
4 were completed. Costs were \$97,500. Costs in 2011 base year dollars  
5 were \$94,886."

6 There is not sufficient documentation or cost-benefit analyses to justify an  
7 increase of \$1.276 million over 2011 expenses for identified phase balancing.

8 PG&E significantly overstated the number of phase balancing projects it would  
9 complete in 2012. It is more likely that PG&E annually completes four to five phase  
10 balancing projects. DRA proposes an additional \$0.098 million over 2011 expenses  
11 for identified phase balancing. DRA recommends that the Commission adopt a  
12 forecast of \$0.337 million.

13 **5. MAT FZE: Device Setting Changes/Downloads;**  
14 **Seasonal and Emergency Load Transfers;**  
15 **Troublemens Required Fuse Replacements; Back**  
16 **to Normal Switching**

17 MAT FZE records the expense-related costs of field personnel who support a  
18 variety of critical field tasks.<sup>172</sup> PG&E's TY estimate for MAT FZE expenses is  
19 \$1.207 million. After reviewing PG&E's testimony, workpapers, and discovery  
20 responses, DRA agrees with PG&E's request.

21

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<sup>172</sup> DRA-025-EJ1 question 1

1 **XII. DISCUSSION / ANALYSIS OF DISTRIBUTION AUTOMATION and**  
2 **SYSTEM PROTECTION**

3 The Distribution Automation and System Protection program covers the  
4 installation, upgrade, and replacement of remotely controlled automation and  
5 protection equipment in substations and feeder circuits.<sup>173</sup> PG&E records expenses  
6 for Distribution Automation and System Protection in MWC HX. The following table  
7 summarizes PG&E's request and DRA's recommendation for MWC HX.

8 **Table 5-36**  
9 **Electric Distribution Expenses for TY2014**  
10 **Distribution Automation and System Protection**  
11 **(In Thousands of Dollars)**

<b>Description (a)</b>	<b>DRA Recommended (b)</b>	<b>PG&amp;E Proposed<sup>174</sup> (c)</b>
HX – T&D System Automation	\$2,027	\$2,027

12 PG&E forecasts \$2.027 million for TY2014 expenses.<sup>175</sup> After reviewing  
13 PG&E's testimony, workpapers, and discovery responses, DRA agrees with PG&E's  
14 TY forecast.

15 **XIII. DISCUSSION / ANALYSIS OF ELECTRIC DISTRIBUTION**  
16 **SUPPORT ACTIVITIES**

17 Electric Distribution Support Activities include training curriculum creation and  
18 revision and other distribution support expenses. PG&E forecasts \$(6.056) million  
19 for TY2014 expenses. The program is recorded in two Major Work Categories  
20 (MWCs): DN for Technical Training Curriculum with a forecast of \$4.135 million and  
21 MWC AB with a forecast of \$(10.191) million. The corresponding DRA estimate for

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<sup>173</sup> Exhibit (PG&E-4) page 17-1

<sup>174</sup> Exhibit (PG&E-4) WP 17-1

<sup>175</sup> Exhibit (PG&E-4) WP 17-1

1 Electric Distribution Support Activities is \$(10.191) million, which is (\$4.135) million  
 2 greater than PG&E's TY forecast of \$(6.056) million.

3 The following table summarizes PG&E's request and DRA's recommendation  
 4 for the MWCs within Electric Distribution Support Activities.

5 **Table 5-37**  
 6 **Electric Distribution Expenses for TY2014**  
 7 **Electric Distribution Support Activities**  
 8 **(In Thousands of Dollars)**

<b>Description (a)</b>	<b>DRA Recommended (b)</b>	<b>PG&amp;E Proposed<sup>176</sup> (c)</b>
DN – Develop & Provide Training	\$0	\$4,135
AB - Support	\$(10,191)	\$(10,191)
Total	\$(10,191)	\$(6,056)

9 **A. MWC DN**

10 PG&E records expenses for the Technical Training Curriculum in Major Work  
 11 Category (MWC) DN. The expenses cover new training materials and course  
 12 curriculums provided to PG&E employees.<sup>177</sup> PG&E developed its forecast by  
 13 multiplying the estimated course length by the estimated contract rate for each  
 14 course.<sup>178</sup>

15 There are no recorded historical expenses for MWC DN. DRA asked PG&E  
 16 to provide historical annual expenses for PG&E's training curriculum.

17 DRA asked:<sup>179</sup>

18 "There are no recorded historical costs for MWC DN: Technical  
 19 Training Curriculum. Please explain where PG&E currently records

<sup>176</sup> Exhibit (PG&E-4) WP 20-8

<sup>177</sup> Exhibit (PG&E-4) page 20-2

<sup>178</sup> Exhibit (PG&E-4) WP 20-8

<sup>179</sup> DRA-150-EJ1 Question 1

1 costs for training materials and course curriculums. List the annual  
2 costs incurred from 2007-2011 (provide 2012 when available).”

3 PG&E responded:

4 “PG&E has not recorded historical costs for developing training  
5 materials and course curriculums in MWC DN. Expenditures have  
6 been recorded to both Provider Cost Centers (PCCs) and order  
7 numbers in either the Electric Operations and/or Human Resources  
8 organization. This is why there are no recorded costs for MWC DN in  
9 the workpapers for MWC DN. This is still currently the practice, with  
10 Human Resources providing curriculum oversight and some training  
11 development and training maintenance. Each Line of Business  
12 supported by PG&E Academy, including Electric Operations, funds all  
13 other training development.

14 With respect to the annual costs incurred from 2007-2012 PG&E has  
15 identified the courses and estimated the costs. The courses and values  
16 for 2007-2011 were provided in response to data request DRA 84,  
17 question 5(g), Supplement 01. Attachment GRC2014-Ph-  
18 I\_DR\_DRA\_150-Q01Atch01 provides the same information from DRA  
19 84, question 5(g) plus 2012 data. Note that the Development tab from  
20 this attachment provides the requested information.”

21 Although PG&E is requesting \$4.135 million by Major Work Category, PG&E  
22 provides training curriculum expenses in a different format than by MWC. This  
23 makes it unnecessarily difficult to track expenses associated with training. With no  
24 reliable historical data to evaluate, there is no way to ensure that a duplication of  
25 efforts and expenses does not occur or assess why PG&E is requesting additional  
26 funding for a routine, ongoing expense.

27 DRA considers training curriculum expenses to be routine and ongoing  
28 because PG&E is constantly updating and revising old courses, as well as  
29 implementing new courses. PG&E provided a list of PG&E’s training courses from  
30 2007-2012 and the dates that each course was last delivered.<sup>180</sup> Several courses  
31 were last delivered prior to 2012 while many are still continuing, thereby illustrating  
32 that there are embedded costs from ongoing, obsolete, and completed courses.

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<sup>180</sup> DRA-150-EJ1 question 1

1 PG&E provided no evidence or explanation as to why current embedded costs for  
2 these programs are not sufficient to cover training of PG&E's work force. PG&E is  
3 responsible for reallocating ratepayer funds from outdated and ongoing courses into  
4 the newly proposed course programs and making appropriate downward  
5 adjustments to the MWCs. PG&E made no adjustments to existing MWCs where  
6 historical training expenses are recorded. Therefore, DRA recommends that the  
7 Commission reject PG&E's request for \$4.135 million.

8 **B. MWC AB**

9 PG&E records expenses for miscellaneous support activities in Major Work  
10 Category (MWC) AB such as membership to the Edison Electric Institute (EEI).  
11 PG&E also uses MWC AB to record a credit representing PG&E productivity  
12 improvements. DRA recommends in Exhibit DRA-2 (Summary of Earnings) that  
13 PG&E's forecast of \$(10.191) million for productivity improvements be accepted.