Docket:	:	A.12-11-009
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Commissioner	:	Florio
ALJ	:	Pulsifer
Witness	:	Wilson

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 Capital Expenditures
Part 1 of 2

San Francisco, California
May 3, 2013

TABLE OF CONTENTS

ELECTRIC DISTRIBUTION CAPITAL EXPENDITURES

I. INTRODUCTION

This exhibit presents the analyses and recommendations of the Division of Ratepayer Advocates (DRA) regarding Pacific Gas and Electric Company's (PG&E) General Rate Case (GRC) forecasts of Electric Distribution capital expenditures for 2012 through Test Year 2014. This exhibit corresponds to various chapters in Exhibit PG&E-4.

Electric distribution capital expenditures include plant investment in electric meters, distribution substations, underground cables, and replacing/reinforcing poles. Electric distribution capital includes projects to construct or modify facilities for the distribution of electricity, projects to construct or modify substations to transform transmission voltage to a lower distribution voltage, and projects to improve distribution system capacity and reliability (including aging infrastructure issues).

PG&E's electric distribution system serves approximately 5.4 million customers.[1] Its service territory stretches from Eureka to Bakersfield, and from the Pacific Coast to the Sierras. To provide electric service to this large geographic area, PG&E maintains approximately 2.2 million poles,[2] over 720 distribution substations,[3] and 140,000 miles of overhead and underground distribution lines.[4]

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[1] Exhibit PG&E-4, page 11-3, line 13.

[2] Exhibit PG&E-4, page 6-2, line 29.

[3] Exhibit PG&E-4, page 11-3, line 12.

[4] Exhibit PG&E-4, page 11-3, line 12.

The dollar amounts presented in this exhibit reflect capital expenditures. As will be discussed later, this exhibit does not specifically address PG&E's capital additions, which are automatically calculated by the Results of Operations (RO) computer model based on the capital expenditures and completion dates that are loaded into it.

Section II of this exhibit presents a summary of DRA's recommended adjustments. Section III provides background on how Decision (D.)10-06-048, the Cornerstone Improvement Project decision, impacts this current rate case. Section IV discusses Unbundled Cost Categories (UCCs) and Major Work Categories (MWCs), and provides some background on how capital expenditures are organized. Section V discusses DRA's concerns regarding PG&E's deferral of previously authorized capital expenditures. Section VI provides detailed discussions of the investigations and analyses that form the basis of the applicable DRA recommendations.

This exhibit specifically addresses PG&E's forecasts associated with MWCs 6, 7, 8, 10, 16, 30, 46, 48, 49, 54, and 56. All other Electric Distribution capital expenditure forecasts are addressed in Exhibit DRA-8 (Electric Distribution Capital Expenditures, Part 2 of 2).

II. SUMMARY OF RECOMMENDATIONS

The following bullets summarize DRA's recommended adjustments to PG&E's request for 2012 through 2014 Electric Distribution capital expenditures. (Adjustments due solely to differing capital escalation rates are not listed.)

- Recorded 2012 capital expenditures should be utilized in lieu of PG&E's 2012 estimated forecasts.
- Expenditures for MWC 07 (Install / Replace Overhead Poles) should be reduced by $83.617 million in 2013.
- Expenditures for MWC 10 (WRO-Work at the Request of Others) should be reduced by $1.794 million in 2013 and by $7.647 million in 2014.

- Expenditures for MWC 16 (New Business) should be reduced by $12.109 million in 2013 and by $22.197 million in 2014.
- Expenditures for MWC 06 (Line Capacity) should be reduced by $0.963 million in 2013 and by $5.819 million in 2014.
- Expenditures for MWC 46 (Substation Capacity) should be reduced by $1.034 million in 2014.
- Expenditures for MWC 48 (Substation Replacement of Other Equipment) should be reduced by $9.628 million in 2014.
- Expenditures for MWC 54 (Substation Replacement of Transformers) should be reduced by $9.803 million in 2014.
- Expenditures for MWC 08 (Reliability Base) should be reduced by $23.694 million in 2014.
- Expenditures for MWC 49 (Reliability Circuit / Zone) should be reduced by $30.791 million in 2014.
- Expenditures for MWC 56 (Replace Underground Assets) should be reduced by $50.264 million in 2014.
- Expenditures for MWC 30 (Rule 20A) should be reduced by $34.555 million in 2013 and by $34.466 million in 2014.

Table 7-1 (see next page) shows recorded and estimated Electric Distribution capital expenditures for those MWCs addressed in this report, and compares DRA's recommendations for 2012 through 2014 with PG&E's proposed forecasts. As indicated by Footnote 1 on that table, Column 6 provides recorded 2012 data at the MWC level. As will be discussed later, PG&E did not have access to recorded 2012 data at the time it prepared its testimony. Therefore, PG&E's testimony in this GRC regarding 2012 capital expenditures is based on forecasts.

TABLE 7-1
ELECTRIC DISTRIBUTION CAPITAL EXPENDITURES -- UCC 301 (Functional Only)
Recorded and PG&E's Estimated Data From Workpapers For Exhibit PG&E-4
Nominal Dollars ($000)

				1	2	3	4	5	6	7	8		9	10	11
				Recorded						**Estimated**					
										2013			**2014**		
Line #	**Exhibit PG&E-4**	**MWC**	**MWC Description**	**2007**	**2008**	**2009**	**2010**	**2011**	**2012 1/**	**PG&E**	**DRA 2/**	**PG&E ≥ DRA**	**PG&E**	**DRA 2/**	**PG&E ≥ DRA**
1	Chapter 7	7	E Distribution Install/Replace Overhead Poles	$28,775	$33,272	$34,319	$44,540	$89,113	$119,316	$159,798	$76,181	$83,617	$69,578	$69,541	$37
2	Chapter 9	10	E Distribution WRO General	$50,353	$50,910	$65,853	$64,974	$84,500	$110,725	$83,290	$81,496	$1,794	$96,465	$88,818	$7,647
3		16	E Distribution New Business Customer Connects	$298,343	$278,908	$263,648	$180,960	$211,699	$234,589	$272,545	$260,436	$12,109	$339,566	$317,369	$22,197
4	Chapter 12	6	E Distribution Line Capacity	$75,102	$88,685	$83,230	$81,363	$90,258	$89,408	$85,148	$84,185	$963	$107,913	$102,094	$5,819
5		6	E Distribution Line Capacity - Cornerstone	$0	$0	$0	$15	$11,095	$12,987	$2,000	$2,000	$0	$0	$0	$0
6		46	E Distribution Substation Capacity	$73,271	$106,567	$95,239	$63,092	$63,009	$51,507	$52,616	$52,610	$6	$74,892	$73,858	$1,034
7		46	E Distribution Substation Capacity - Cornerstone	$0	$0	$0	$270	$34,077	$41,951	$4,000	$4,000	$0	$0	$0	$0
8	Chapter 13	48	E Distribution Substation Replace Other Equip	$16,993	$28,579	$29,767	$26,303	$49,178	$40,319	$54,906	$54,892	$14	$66,021	$56,393	$9,628
9		54	E Distribution Substation Replace Transformer	$33,039	$46,724	$52,335	$38,336	$46,138	$52,462	$41,151	$41,143	$8	$64,854	$55,051	$9,803
10	Chapter 15	8	E Distribution Reliability Base	$11,054	$9,845	$9,294	$17,234	$20,666	$18,547	$25,205	$25,200	$5	$68,186	$44,492	$23,694
11		8	E Distribution Reliability Base - Cornerstone	$0	$0	$16	$4,256	$65,668	$68,136	$106,050	$106,050	$0	$0	$0	$0
12		49	E Distribution Reliability Circuit/Zone	$21,896	$29,910	$31,732	$81,776	$71,067	$61,923	$61,719	$61,700	$19	$103,840	$73,049	$30,791
13	Chapter 16	56	E Distribution Replace Underground Asset-Gen	$30,055	$22,084	$17,437	$37,430	$55,821	$72,018	$68,918	$68,895	$23	$140,078	$89,814	$50,264
14	Chapter 18	30	E Distribution WRO Rule 20A	$45,385	$39,916	$41,142	$36,610	$33,628	$52,426	$88,451	$53,896	$34,555	$88,222	$53,756	$34,466
			TOTAL	$684,266	$735,400	$724,013	$677,160	$925,918	$1,026,314	$1,105,796	$972,683	$133,113	$1,219,615	$1,024,235	$195,380

1/ NOTE: PG&E's original forecast for 2012 totaled $1,036,992.

2/ NOTE: DRA's forecasts for 2013 and 2014 include escalation amounts adjusted for forecast levels and 2.61% labor escalation rates.

III. CORNERSTONE

A careful inspection of Table 7-1 reveals that there are three lines (Lines 5, 7, and 11) that refer to "Cornerstone" project categories. In Application (A.) 08-05-023, filed May 15, 2008, PG&E applied to the California Public Utilities Commission (Commission) to increase its revenue requirement in order to recover costs to implement a reliability program for its Electric Distribution System. The Application was referred to as the Cornerstone Improvement Project (Cornerstone). The Cornerstone project was eventually authorized by the Commission, in a reduced form, in D.10-06-048, dated June 24, 2010. The Cornerstone decision authorized PG&E to undertake various capital projects, over the four-year period 2010 through 2013, in order to improve the reliability of its electrical system. This current PG&E GRC does not re-analyze or re-litigate any of the Cornerstone projects. PG&E's forecasts do not include expenditures to complete work previously approved in the Cornerstone decision; that work was handled separately in accordance with the Cornerstone decision.[5] For all intents and purposes, Cornerstone is outside the scope of this proceeding. However, in order to properly derive the correct test year 2014 plant balance, which should include Cornerstone expenditures, the three Cornerstone lines are included in Table 7-1.

While Cornerstone capital expenditures will not be re-litigated in this proceeding, it should be noted that DRA has reflected 2012 recorded data in Column 6 of Table 7-1, including the three Cornerstone lines. In order to develop the most accurate forecast for the test year 2014 plant balance, recorded data should be used whenever possible, thereby eliminating the expenditure uncertainties associated with forecasted estimates.

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[5] Exhibit PG&E-4, page 1-29, lines 16 through 18.

IV. GENERAL DISCUSSION

A. Background for Capital Expenditures

Capital expenditures are cumulative in nature. Expenditures made during one year are added to expenditures that were made in previous years. Therefore, DRA must analyze all of the proposed capital expenditures occurring from the end of the last recorded year (2011) that was provided by PG&E in its application up through the end of the test year (2014). Proposed capital expenditures or additions for the attrition years (2015 and 2016) are also addressed by DRA, but are discussed in Exhibit DRA-22 (Post-Test Year Ratemaking).

DRA tries to obtain an additional recorded year of plant data (in this case 2012) in order to eliminate one year of estimating uncertainty. For this GRC, DRA was able to obtain recorded 2012 capital expenditure data from PG&E. These data were available at the MWC level of detail and are shown in Column 6 of Table 7-1. Many of the tables shown in this exhibit present capital expenditures in finer detail than the MWC level. In those instances, those tables are usually shown with the sub-MWC forecasts for the year 2012 shown as an estimate, as the recorded details for the sub-MWC projects were not typically provided.

It is important to note the difference between capital expenditures and capital additions. As mentioned previously, PG&E's capital forecasts are presented as expenditures, not additions. Capital expenditures reflect the dollars that are being spent in a given year. Contrast this with capital additions, which reflect the amount of completed capital projects that are booked to plant in a given year. Capital expenditures may or may not equal additions for any year; more often than not, they will not agree. The reason for this difference is that capital projects that are started in a given year, but not completed until the next, will show up as expenditures in that first year, but will not be included as an addition until the second. (Since it is not "used and useful," it cannot be considered a plant addition until the second year.) The main reason for making this distinction is to alert the reader that the revenue requirement impact of DRA's proposed capital adjustments may not show up in the years in which they were made.

PG&E’s capital exhibits and supporting workpapers (as well as its Results of Operation (RO) computer model) are organized around capital expenditures. PG&E’s capital witnesses provide testimony regarding the magnitude of the capital dollars that are estimated to be spent each year, not how much is actually being booked to plant. PG&E relies on its RO computer model to manipulate these capital expenditures. Based on when the capital projects are scheduled to be completed, the RO model calculates the corresponding capital additions. Therefore, DRA’s analyses and recommended capital adjustments are also stated in terms of capital expenditures.

B. 2013 and 2014 Escalation

In its exhibits and workpapers, PG&E has presented its recorded capital expenditures in nominal dollars. “Nominal” dollars refers to the fact that PG&E’s forecasts are presented with estimates keyed to the year in which they occurred. Put another way, inflation is included in PG&E’s numbers. For example, a 2011 capital expenditure presented in nominal dollars will use 2011 expenditures that already include escalation, rather than presenting the estimate in constant dollars from a prior year (with inflation added later).

For its 2013 and 2014 forecasts, PG&E has offset escalation for those years by implementing productivity improvements and other initiatives.[6] As discussed in Exhibit DRA-2 (Summary of Earnings), DRA accepts PG&E’s estimates for productivity. However, DRA’s 2013 and 2014 escalation amounts are adjusted to reflect forecasts that differ from PG&E’s; they are also adjusted to reflect DRA’s recommended labor escalation rate of 2.61%[7] (versus PG&E’s estimate of 2.75%).

[6] Exhibit PG&E-4, page 1-13, lines 1 through 11.

[7] See Exhibit DRA-4, Cost Escalation.

C. Functional Dollars

PG&E separates its Electric Distribution plant into three categories: Direct Functional plant, Direct-Assigned Common plant, and Residual Common plant.[8] In this testimony, we are only concerned with functional plant. PG&E uses the term "Functional" to refer to capital costs recorded in the Federal Energy Regulatory Commission (FERC) system of accounts.[9] This category is distinct from other types of capital expenditures, such as Direct-Assigned Common plant. These other categories of capital expenditures are analyzed and discussed in other DRA exhibits. Unless stated otherwise, all capital amounts shown in this exhibit only contain "Functional" dollars; note the use of that term in the second line of the heading for Table 7-1.

D. UCCs and MWCs

Consistent with previous Commission decisions, PG&E separates its utility business into numerous Unbundled Cost Categories (UCCs). Each of the 51 UCCs listed in PG&E's testimony represents a distinct aspect of PG&E's operations.[10] Many of these UCCs represent facets of PG&E's business that are outside the review of this testimony, including UCCs for Electric Transmission, Gas Storage, etc. As initially received from PG&E, the RO model lists 23 UCCs that are actually included in this GRC. Of those, only eight UCCs actually pertain to Electric Distribution:[11]

- UCC 301 – Wires and Services
- UCC 302 – Transmission-Level Direct Connects
- UCC 303 – Public Purpose Program Administration

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[8] Exhibit PG&E-2, page 9-6, lines 3 through 5.

[9] Exhibit PG&E-2, page 9-6, footnote 2.

[10] Exhibit PG&E-2, page 1-7 and 1-8, Table 1-1.

[11] Exhibit PG&E-2, page 9-5, Table 9-2, lines 8 through 15.

- UCC 306 – Cornerstone
- UCC 307 – SmartMeter – Electric
- UCC 309 – SmartMeter Opt Out – Electric
- UCC 320 – Streetlights – LED
- UCC 330 – MRTU – Demand Response

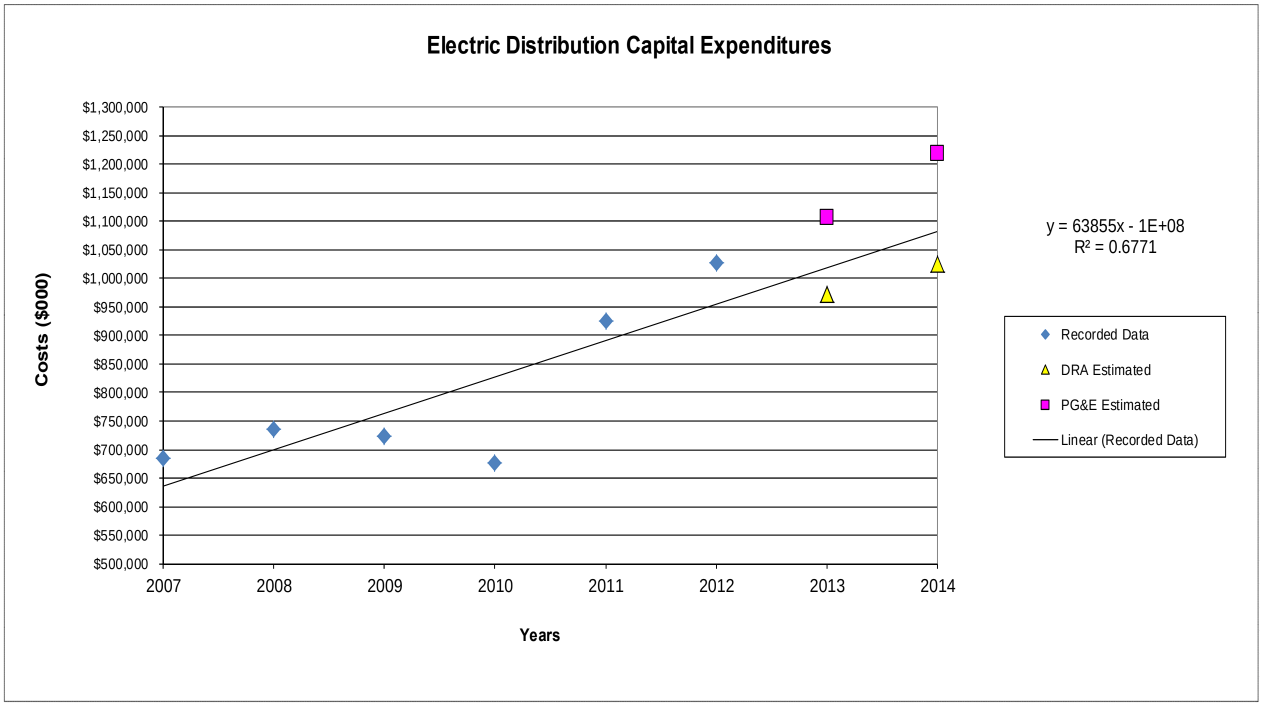
This DRA exhibit analyzes capital projects associated with UCC 301 –Wires and Services for Electric Distribution (although DRA has reflected recorded 2012 data for UCC 306 – Cornerstone). Any capital costs contained in the other UCCs are discussed in other DRA exhibits.

PG&E divides its capital projects into Major Work Categories (MWCs). MWCs are descriptive categories into which are placed the numerous capital projects being proposed by PG&E. Table 7-1 lists the 14 capital MWCs that are being analyzed in this exhibit. As discussed previously, of these 14, three are associated with Cornerstone projects, and are only analyzed to the extent that recorded 2012 data are incorporated. These 14 MWCs do not constitute all of the capital MWCs contained in UCC 301. The remaining MWCs contained in UCC 301 are analyzed in Exhibit DRA-8.

E. Overview of Electric Distribution Capital Adjustments

Earlier in this exhibit, Table 7-1 presented a detailed look at the capital expenditures being forecasted by PG&E and DRA for the years 2012, 2013, and 2014. Given the level of detail contained in that table, it may be difficult to visualize how the proposed expenditures compare to the recorded data. The following graph trends six years of total recorded data for the MWCs being analyzed in this report. The graph then compares the overall forecasts for 2013 and 2014 with that trend of past recorded expenditures:

Graph 7-1
Electric Distribution Capital
Historical and Forecast Capital Expenditures
Nominal Dollars ($000)



As Graph 7-1 shows, PG&E is forecasting 2013 and 2014 expenditures that are higher than the historical trend, while DRA is forecasting expenditures that are slightly lower. PG&E gives various reasons for this projected increase in 2013 and 2014 expenditures, including catching up on previously deferred capital expenditures, replacing aging infrastructure, and strengthening the distribution system to accommodate increased loads. DRA has analyzed these issues and concluded that in some instances, PG&E's capital forecasts are reasonable. However, as Table 7-1 indicates, DRA does not agree with all of PG&E's forecasts. Section VI of this exhibit discusses and analyzes each of DRA's recommended adjustments.

It should be noted that Cornerstone expenditures end in 2013. Since there are no Cornerstone capital expenditures in 2014, PG&E's forecast of higher 2014 expenditures represents a significant increase over prior years. The absence of

Cornerstone expenditures in 2014 is one reason why DRA's 2014 forecast is lower than the historical trend.

It is important to point out that neither PG&E nor DRA utilized Graph 7-1 to derive its estimates. However, this graph does provide a visual "reasonableness check" to judge whether or not the proposed expenditures comport with what may be expected given recent historical experience.

V. DEFERRED CAPITAL EXPENDITURES

One of the fundamental principles of utility regulation in California is that revenue requirements resulting from General Rate Cases are not developed using recorded data, but are instead calculated using forecasts of expenses and capital additions for future years. These so-called future test years provide an incentive for utilities to develop new, more efficient ways to run their companies. If a utility can devise more cost-effective ways to do business, it can generally retain the difference between what it was authorized in the future test year and what it actually spends. Of course, with test year rate making, utilities also run the risk of spending more than what they were authorized if unexpected expenses or capital additions are necessary.

Another fundamental principle of utility regulation is that the Commission typically does not micromanage utility spending. The Commission presumes that utility managers are in the best position to make the numerous decisions that are required to run a utility efficiently and reliably. If expenditures in one area are less than expected, managers may decide to shift those unexpended funds to areas where expenditures may be higher.

Taken together, these two principles provide a framework for how utilities are expected to operate in California. Since it is never possible to forecast test year expenses and capital expenditures with 100% accuracy, utilities can earn more than authorized in some years (when actual expenses/additions are less than forecasted, or if the utility develops a more cost-effective way of doing business), and can earn less than authorized in other years (when actual expenses/additions are greater than forecasted, or the utility is not run efficiently). Utility managers are expected, and even encouraged, to make the decisions necessary to run their utilities in as efficient a manner as possible, consistent with safe and reliable service.

DRA expects that PG&E management will use its judgment to spend capital dollars in the most effective manner possible. DRA would not likely take negative notice of PG&E spending more or less than authorized for a given MWC if these over- and under-expenditures occurred randomly. In regard to this current GRC, DRA has observed a trend wherein, for certain MWCs, PG&E repeatedly spends less than the Commission authorizes. This under-spending is not due to new efficiencies, but to continued deferrals of the authorized expenditures. DRA has observed that for these specific MWCs, PG&E fails to spend the authorized dollars on the projects for which they were requested, and subsequently requests expenditures for the same capital projects in succeeding GRCs.

One example of this is MWC 07 – Pole Replacements. In the 2011 GRC (A.09-12-020), PG&E stated the following:

> The primary driver for the higher level of capital expenditures is the need to address poles rescheduled for replacement due to a reallocation of funds to higher priority work.[12]

In the current GRC, PG&E notes that its 2014 request for pole replacement expenditures is lower than previous years, stating:

> PG&E's capital expenditure forecast is lower because the Company plans to eliminate the current backlog of pole replacement work by the end of 2013.[13]

The above quote indicates that, at least through 2013, PG&E is requesting elevated capital expenditures for MWC 07 in order to eliminate a backlog of work. DRA will discuss MWC 07 in greater detail later in this exhibit. However, an examination of PG&E's spending history shows that it has been spending less than

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[12] PG&E 2011 GRC (A.09-12-020), Exhibit PG&E-3, page 3-1, lines 26 through 29.

[13] Exhibit PG&E-4, page 7-1, lines 21 through 23.

was authorized for pole replacements. This has been observed over the last two rate case cycles. This under-spending has been taking place despite PG&E's ongoing stated goal of trying to eliminate the backlog of deferred pole replacements.

A second example of PG&E deferring capital forecast occurs with MWC 56 – Underground Cable Replacement. In its last GRC, PG&E stated the following in explaining why underground cable capital expenditures were lower in 2007 through 2010:

> This is because the Company redirected resources originally targeted for underground assets to other higher priority areas. Reallocating resources from underground assets to other higher priority areas is also planned for 2009 and 2010.[14]

In the current GRC, PG&E states the following concerning tie-cable replacement expenditures, an MWC 56 capital category:

> Earlier forecasts reflected that the tie-cable replacement work in the East Bay would be completed in 2013; however, rescheduling and reprioritization of work was required to address the replacement of TGRAM/TGRAL switches, considered a higher priority.[15]

MWC 56 capital expenditures are discussed in more detail later. However, an examination of PG&E's spending history for this MWC shows that it has spent much less than what was authorized for underground cable replacement over the last two rate case cycles.

What concerns DRA about the above quotations is the repeated nature of the deferrals; these are not one-time occurrences. They are also not cases of a utility manager shifting authorized expenditures from an area that does not require them to an area that does; these appear to be cases of PG&E not spending authorized expenditures for needed projects so as to fund other projects deemed to be a higher

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[14] PG&E 2011 GRC (A.09-12-020), Exhibit PG&E-3, page 12-5, lines 15 through 18.

[15] Exhibit PG&E-4, page 16-16, lines 11 through 14.

priority. DRA understands that deferrals may happen occasionally, but in these cases the deferrals have been ongoing.

While utility managers are allowed to transfer/spend company funds as they see fit, that does not equate to an automatic acceptance by the regulatory agency of every managerial decision that is made. As recent Commission decisions have ruled, utilities are usually not allowed a second opportunity to recover expenses that were previously authorized but were subsequently deferred. The same should hold true for deferred capital expenditures. It is inappropriate to continually defer the same authorized capital expenditures away from capital projects deemed necessary by the utility, and then seek recovery of the same projects in a later proceeding.

When necessary authorized expenditures are deferred, PG&E appears to be circumventing the fundamental principle of test year ratemaking stated above (i.e., that utilities run the risk of spending more than what they were authorized if unexpected and/or higher than expected expenses or capital additions occur). Taken to an extreme, it is hypothetically possible for a utility to never earn less than what it was authorized; if expenses or capital costs are higher than forecasted, it could theoretically simply defer sufficient expenditures, no matter how essential they may be, to offset the higher expenses/additions. This type of ratemaking philosophy skews the GRC process in the utility's favor (i.e., a utility is free to retain unspent revenues when actual costs are less than authorized, but never spends more than authorized because it is able to defer expense/plant expenditures that exceed what was forecasted). This practice should not be condoned by the Commission.

PG&E states that from 2007 to 2012, it spent more on capital than the imputed GRC amount for the Electric Operations line of business.[16] PG&E does not state whether the over-spending occurred every year of that period, or whether it is adding together the recorded expenditures for all of the years, and comparing that total to the sum of what was authorized. Whichever methodology PG&E used is of little consequence. As the quotations presented earlier in this section clearly show,

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[16] Exhibit PG&E-4, page 1-23, lines 3 and 4.

PG&E has, in several instances, repeatedly deferred capital expenditures that had previously been authorized. In the 2011 GRC, PG&E was forthcoming in stating:

> In an effort to remain within the capital and expense expenditure levels imputed from the 2007 GRC Settlement Agreement, PG&E adjusted work where possible by focusing on work in higher priority categories.[17]

The fact that PG&E claims that it actually spent more than was authorized does not diminish the fact that it engaged in a practice that was designed to ameliorate its higher than expected capital expenditures. As stated previously, expenditures that are higher than authorized are simply the naturally occurring result of test year ratemaking, and the utility will ultimately earn a return on those investments in subsequent rate cases.

Historically, Commission decisions have frequently ruled that utilities should not be permitted to recover expenses that have previously been authorized but were deferred. Recent Commission decisions are starting to take the same position regarding deferred capital expenditures, echoing DRA's concerns expressed above. In the decision for Southern California Edison's (SCE) Test Year 2003 GRC (D.04-07-022), the Commission discussed the need to consider SCE's deferral of pole inspections and stated that:

> This is necessary to ensure that ratepayers are not required to pay a second time for activities explicitly authorized by the Commission in the past …[18]

Later, in the same decision, the Commission stated:

> Based on the foregoing, we will reduce SCE's capital forecast for pole replacements by $3.447 million (68,934 intrusive inspections that were

[17] PG&E 2011 GRC (A.09-12-020), Exhibit PG&E-3, page 1-35, lines 10 through 13.

[18] Decision 04-07-022, page 106.

> funded by ratepayers but not performed by SCE times $50 per missed inspection).[19]

In the Test Year 2007 PG&E GRC decision (D.07-03-044), the Commission stated:

> More recently, the Commission disallowed $1.4 million in annual expenses and $3.4 million in capital costs that SCE requested for deferred pole maintenance, stating that "ratepayers should not be required to pay twice for the same authorized expense."[20]

Later, in the same decision, the Commission stated:

> The Commission has repeatedly held that it is unjust and unreasonable to make ratepayers pay a second time for activities explicitly authorized by the Commission in the past. Here, there is no dispute that PG&E received funding for lead paint and PCB abatement in its prior GRC proceeding, and that PG&E seeks funding for these activities a second time in the current proceeding. … In order to find that the Settlement Agreement is consistent with the law, which includes adherence to long-established Commission precedent, we must be satisfied that all of PG&E's lead paint and PCB abatement costs are excluded from the O&M expenses adopted by the Settlement.[21]

In D.09-03-025, SCE's Test Year 2009 GRC, the Commission states the following:

> In this proceeding, SCE seeks additional funds for activities explicitly authorized by the Commission in the past. SCE seeks funds to redress maintenance postponed due to unanticipated load and customer growth in 2006-2007. To address this unforeseen customer and load growth, SCE diverted millions of dollars in capital replacements away from its Infrastructure Replacement project … In the past, we have found circumstances, such as the unanticipated scope of Year 2000 (Y2K) projects, to justify deferral of certain maintenance work. The circumstances surrounding Y2K and the related Y2K projects were one-time events and, as such, unique. In contrast, we do not find customer and load growth, even when unanticipated, to create unique circumstances. Load growth and customer growth are routine aspects

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[19] Decision 04-07-022, page 110.

[20] Decision 07-03-044, page 93.

[21] Decision 07-03-044, pages 94 and 95.

> of any rate case. If the adopted forecast overestimates expenses we do not ask a utility to return funds to ratepayers. Similarly, if an adopted forecast underestimates expenses, we do not go back and give the utility funds to complete projects that should have been addressed in the prior GRC cycle. In short, errors in forecasting occur and we do not go back and fix these errors. Consistent with our policy regarding deferred maintenance, in certain instances in this decision, we adopt reductions to SCE's forecast for operation & maintenance and capital expenditures to reflect our finding that unanticipated load and customer growth does not justify SCE's decision to, among other things, defer maintenance.[22]

Lastly, in the most recent SCE GRC decision (D.12-11-051 for Test Year 2012), the Commission makes the following statement regarding SCE's repeated attempts to obtain authorization for capital projects that had been previously deferred:

> SCE was authorized $3.9 million in its 2006 GRC to fund a new administration building, but said it diverted these funds to meet unforeseen load growth during that time period. In 2009, SCE's request for $4.92 million for the administration building project was denied because of the previously approved funding. SCE points out that, on the merits of the project, TURN admits that the current offices are not sufficient to house even what TURN deems electric-only employees.
>
> When the Commission rejected the predecessor project in 2009, it was because it viewed deferred funds for unexpected load growth and customer growth as routine, within SCE's discretion, and not subject to re-funding in the next GRC. The facts are essentially the same, despite SCE's repackaging of the project. Moreover, approximately $2.3 million was added to the Main Building project as a result of the rejection of the Administration building in the 2009 GRC. Thus, the overall request by SCE for its re-configured Administration construction is almost $7.8 million.

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[22] Decision 09-03-025, pages 3 through 5.

> We agree with TURN that these costs appear to be excessive and growing as a result of SCE's management making discretionary choices to not use authorized funds for the identified projects and to keep coming back to ratepayers for more. Accordingly, the Commission finds it reasonable to exclude the entire capital request.[23]

The Commission should continue its policy of not allowing utilities to seek funds for previously authorized capital expenditures that are necessary but have been deferred. In Section VI, DRA discusses and analyzes the differences it has with PG&E's capital forecasts. In several of those analyses, DRA observes that PG&E is seeking Commission approval for projects that have previously been authorized, but have been deferred. In some instances, the deferrals have occurred over several rate case cycles. The ratemaking concerns raised here play a factor in DRA's recommended adjustments.

VI. DISCUSSION / ANALYSIS OF DRA'S ADJUSTMENTS

DRA is recommending adjustments to 11 of the 14 MWCs analyzed in this exhibit. DRA has issued numerous data requests in order to get additional information and clarify issues. All of PG&E's proposed expenditures were carefully analyzed. The following 11 sections (some with multiple sub-sections) discuss each of the capital MWCs shown in Table 7-1 for which DRA has recommended adjustments. As previously discussed in Section IV B, whenever DRA's 2013 and 2014 forecasts differ from PG&E's, DRA has calculated new escalation amounts.[24] DRA is using a revised labor escalation rate forecast of 2.61%, as recommended in Exhibit DRA-4 (Cost Escalation), which impacts the escalation of all the capital forecasts, even if those forecasts agree with PG&E's estimates. In the sections that

[23] Decision 12-11-051, pages 89 and 90.

[24] In the workpapers for Exhibit PG&E-4, Workpaper Table 20-18 (page WP 20-18) shows a spreadsheet that uses un-escalated forecasts and labor/non-labor escalation rates to derive revised escalation amounts. DRA utilized that table to derive its escalation forecasts.

follow, DRA has not discussed forecast differences that are due solely to escalation amounts that differ because of the use of the revised labor escalation rates.

A. MWC 07 – Install/Replace Overhead Poles

PG&E has full or joint ownership of approximately 2.2 million wood distribution poles.[25] These poles are inspected, and when necessary, restored or replaced. The numbers of poles replaced each year, as well as the unit cost to make the replacements, varies from year to year as well as from division to division within PG&E's service territory.

Table 7-2, shown on the next page, provides recorded data as well as forecasted estimates for each of the capital categories that constitute MWC 07. Line 4 of that table summarizes PG&E's and DRA's forecasts (including escalation) for the years 2012, 2013, and 2014. The first line of Table 7-2 shows expenditures for replacing poles, the capital category that traditionally constitutes the majority of the MWC 07 capital expenditures. Line 2 shows that beginning in 2012, PG&E proposes to begin replacing center bore streetlights. Footnote 1 in Column 7 indicates that the total expenditure for that column ($119.316 million) is a recorded number. DRA was able to obtain a recorded figure for the 2012 total, but did not have access to recorded data for Lines 1 and 2 of Column 7. Therefore, in order to equal the recorded total for the column, DRA arbitrarily chose the Line 1 forecast and mathematically adjusted it (to $99.318 million) so that the sum of both lines equaled the recorded amount.

[25] Exhibit PG&E-4, page 6-2, line 29.

TABLE 7-2
MWC 07 -- Pole Replacements and Center Bore Streetlights
Recorded and PG&E's Estimated Data From Workpaper Tables 7-1 and Table 7-5
Nominal Dollars ($000)

		1	2	3	4	5	6	7	8	9	10	11	12
Line #	**MWC Description**	**Recorded**					**Estimated**						
		2007	**2008**	**2009**	**2010**	**2011**	**2012**		**2013**		**2014**		
							PG&E	**DRA 1/**	**PG&E**	**DRA**	**PG&E**	**DRA**	**PG&E ≥ DRA**
1	Pole Replacements	$28,775	$33,272	$34,319	$44,540	$89,113	$135,706	$99,318	$149,083	$67,816	$67,816	$67,816	$0
2	Center Bore Streetlight Replacements	--	--	--	--	--	$19,998	$19,998	$6,300	$6,300	--	--	--
3	Escalation	--	--	--	--	--	--	--	$4,415	$2,065	$1,762	$1,725	$37
4	Total	$28,775	$33,272	$34,319	$44,540	$89,113	$155,704	$119,316	$159,798	$76,181	$69,578	$69,541	$37
5	Total Excluding 2013 & 2014 Escalation	$28,775	$33,272	$34,319	$44,540	$89,113	$155,704	$119,316	$155,383	$74,116	$67,816	$67,816	$0

1/ NOTE: DRA's 2012 Total of $119,316 is a recorded amount. It was obtained from PG&E in an e-mail dated 3/1/13.

TABLE 7-3
MWC 07 -- POLE REPLACEMENT
Recorded Versus Authorized Capital Expenditures (Thousands of Nominal Dollars)

	1	2	3	4	5	6	7	8	9	10	11	12	13
	2004	2005	2006	2007		2008		2009		2010		2011	
Category	Recorded 1/	Recorded 1/	Recorded 1/	TY 2007 Settlement Amount 3/	Recorded 2/	TY 2007 Settlement Amount (Attrition) 3/	Recorded 2/	TY 2007 Settlement Amount (Attrition) 3/	Recorded 2/	TY 2007 Settlement Amount (Attrition) 3/	Recorded 2/	TY 2011 Settlement Amount 4/	Recorded 2/
MWC 7 -- Pole Replacement (Historical)	$59,446	$40,134	$37,772	$94,137	$28,775	$94,137	$33,272	$94,137	$34,319	$94,137	$44,540	$60,000	$89,113

1/ NOTE: 2004 through 2006 recorded data come from the PG&E Test Year 2011 GRC, specifically Table 3-2 of the Workpapers (page 3-2).

2/ NOTE: 2007 through 2011 recorded data come from workpaper page WP 7-4 in the current GRC.

3/ NOTE: 2007 Settlement adopted PG&E's 2007 forecast. (See page 62 of D.07-03-044 which states that the Settlement adopts PG&E's request.) Attrition years (08, 09, and 10) are assumed to equal TY 2007.

4/ NOTE: 2011 Settlement adopted PG&E's MWC 07 request of $60,000. (Page 1-15 of Attachment 1 of D.11-05-018, PG&E's 2011 GRC decision, does not show any adjustments for MWC 07.)

	∑ 07 -11 Authorized	∑ 07 -11 Spent	Δ
2007	$94,137	$28,775	$65,362
2008	$94,137	$33,272	$60,865
2009	$94,137	$34,319	$59,818
2010	$94,137	$44,540	$49,597
2011	$60,000	$89,113	($29,113)
Total	**$436,548**	**$230,019**	**$206,529**

Table 7-3, shown on the previous page, breaks down the years 2007 through 2011 to show how the authorized MWC 07 capital expenditures for each year compare to what PG&E actually spent. As indicated at the bottom of the table, DRA has calculated that over that five-year period, PG&E has spent $206.529 million less than it was authorized for pole replacements.

In discussing the number of poles that it proposes to replace each year, PG&E states the following:

> The forecasted numbers of units for 2012 and 2013 reflect PG&E's effort to eliminate the current backlog of pole replacement work. By 2014, PG&E plans to reach a consistent level of pole replacement work.[26]

The above quotation explicitly states that there is currently a backlog of poles that need to be replaced. As discussed in Section V of this exhibit, PG&E stated in its last GRC that it sought higher MWC 07 expenditures in order to address pole replacements that had previously been rescheduled (i.e., deferred) due to a reallocation of funds to higher priority work. In spite of the fact that a deferral of pole replacement expenditures has resulted in a backlog of replacements over two rate case cycles, Table 7-3 indicates that PG&E has consistently spent less than the amount the Commission has authorized.

PG&E's pattern of under spending has continued into 2012. When DRA analyzed PG&E's RO computer model, DRA noted that PG&E was forecasting that it would spend $87.393 million in 2012 to help eliminate the pole replacement backlog. In Data Request 086-GAW, DRA requested that PG&E provide the recorded amount that was actually spent to reduce the backlog. In its response, PG&E stated that its actual 2012 expenditures for backlog elimination amounted to $56.328 million, over $30 million less than it had forecasted.[27]

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[26] Exhibit PG&E-4, page 7-5, lines 12 through 14.

[27] PG&E's response to DR DRA-086-GAW, Question 2c. $87.393 million requested in 2012 for backlog elimination minus $56.328 million actually spent equals $31.065 million underspent.

The relevant question that must now be answered is whether or not it is reasonable, for this rate case, to authorize increased MWC 07 expenditures so as to eliminate the backlog by the end of 2013. In DRA's judgment, the answer to that question is "no." There should not have been a backlog in the first place. As shown in Table 7-3, PG&E has historically spent far less than it was authorized for pole replacements. If PG&E had not deferred the pole replacements initially, and had not compounded the backlog problem by spending less than was authorized, the need to address this backlog problem would have likely never occurred. Since PG&E caused the backlog problem, and exacerbated the issue by spending less than what it was authorized, it should not be allowed to once again ask ratepayers to foot the bill.

As discussed in Section V, the Commission has increasingly been reluctant to allow utilities to seek ratepayer funding for previously authorized projects that have been deferred. This same approach should be applied to MWC 07. Furthermore, PG&E has provided no assurance that pole replacement deferrals will not continue in the future. Indeed, recorded 2012 total expenditures for MWC 07 are considerably lower than what PG&E had forecasted. (See Table 7-2, Row 5, Columns 6 and 7.) Based on PG&E's expenditure history, it is uncertain whether the pole replacement backlog problem would be addressed even if PG&E was authorized to increase its MWC 07 spending to its requested levels.

PG&E states that by 2014, it plans to reach a "steady state" of pole replacement work (i.e., additional capital dollars are no longer needed to eliminate the pole replacement backlog).[28] If PG&E's 2014 forecast of $67.816 million is the steady state level, then no more than that amount should be spent for 2013. DRA is recommending that the steady state amount of $67.816 million be adopted for 2013 and 2014.

DRA's recommended total 2013 expenditure level is $83.617 million less than PG&E's forecast; this difference also reflects escalation changes. This lower level

[28] Exhibit PG&E-4, page 7-1, line 24.

does not indicate that the pole replacement backlog problem should be ignored, or delayed to a future GRC. DRA's lower forecast should only be construed to mean that it is recommending that ratepayers not be required to once again foot the bill for eliminating the pole replacement backlog during this GRC cycle.

B. MWC 10 – Work at the Request of Others

Under its obligation to serve requirements, its tariff rules, and its franchise agreements with local governments, PG&E is required to perform various capital projects as part of its Work at the Request of Others (WRO) program. Typical WRO projects include relocating electric distribution and service facilities at the request of a governmental agency or other third party, and overhead electric facility underground conversions covered by Tariff Rules 20B and 20C.[29]

MWC 10 is actually comprised of various sub-MWCs. Table 7-4 (see next page) provides a more detailed breakdown of the projects that constitute MWC 10. Line 11 of that table summarizes PG&E's and DRA's total MWC 10 forecasts (including escalation) for the years 2012, 2013, and 2014. Footnote 1 in Column 7 of that table indicates that the total expenditure for that column ($110.725 million) is a recorded number. DRA was able to obtain a recorded figure for the 2012 total, but did not have access to recorded data for the sub-MWCs. Therefore, in order to equal the recorded total for the column, DRA arbitrarily chose the Line 1 forecast and mathematically adjusted it (to $33.725 million) so that the sum of the 2012 sub-MWCs equaled the recorded amount. The following sections discuss each of the sub-MWCs for which DRA has recommended forecasts that differ from PG&E's estimates.

[29] Exhibit PG&E-4, page 9-28, lines 3 through 7.

TABLE 7-4
MWC 10 -- Distribution Work Requested By Others (WRO)
Recorded and PG&E's Estimated Data From Workpaper Table 9-35
Nominal Dollars ($000)

		1	2	3	4	5	6	7	8	9	10	11	12
Line #	MWC Description	Recorded					Estimated						
		2007	2008	2009	2010	2011	2012		2013		2014		
							PG&E	DRA 1/	PG&E	DRA	PG&E	DRA	PG&E ≥ DRA
1	New Business-Related WRO Expenditures	$24,530	$13,663	$5,739	$8,921	$16,495	$17,000	$33,725	$22,000	$20,309	$28,000	$25,606	$2,394
2	Governmental-Related WRO Expenditures	$24,607	$36,971	$60,162	$52,880	$59,953	$56,000	$56,000	$51,000	$51,000	$53,000	$53,000	$0
3	Large Specific Projects:												
4	Transbay Center	--	--	--	$2,708	$6,215	$6,000	$6,000	$5,000	$5,000	$3,000	$3,000	$0
5	Central Subway	--	--	--	$161	$2,197	$15,000	$15,000	$2,000	$2,000	--	--	--
6	High-Speed Rail	--	--	--	--	--	--	--	$1,000	$1,000	$10,000	$5,000	$5,000
7	Subtotal: Large Specific Projects	--	--	--	$2,869	$8,412	$21,000	$21,000	$8,000	$8,000	$13,000	$8,000	$5,000
8	Other	$1,216	$276	($48)	$304	($360)	--	--	--	--	--	--	--
9	2012 Budget Adjustment	--	--	--	--	--	($24,300)	--	--	--	--	--	--
10	Escalation	--	--	--	--	--	--	--	$2,290	$2,188	$2,465	$2,212	$253
11	Total	$50,353	$50,910	$65,853	$64,974	$84,500	$69,700	$110,725	$83,290	$81,496	$96,465	$88,818	$7,647
12	Total Excluding 2013 & 2014 Escalation	$50,353	$50,910	$65,853	$64,974	$84,500	$69,700	$110,725	$81,000	$79,309	$94,000	$86,606	$7,394

1/ NOTE: DRA's 2012 Total of $110,725 is a recorded amount. It was obtained from PG&E in an e-mail dated 3/1/13.

1. New Business Related WRO Expenditures

Line 1 of Table 7-4 is actually linked to MWC 16 – Customer Connections. Both DRA and PG&E agree that Line 1 costs should be calculated as a percentage of the Residential, Non-Residential, and Electric Vehicle expenditures that are calculated in MWC 16. Since DRA and PG&E are using the same methodology to develop their Line 1 forecasts, differences between the forecasts are due solely to different estimates being calculated in MWC 16. DRA discusses MWC 16 in greater detail later in this exhibit.

2. High-Speed Rail

As shown on Lines 4, 5, and 6 of Table 7-4, MWC 10 also reflects costs PG&E feels it will likely incur during the construction of three large infrastructure projects: the Transbay Center, the Central Subway, and the California High-Speed Rail project. DRA has not proposed any adjustments for MWC 10 costs associated with the Transbay Center or the Central Subway, but proposes that costs related to the High-Speed Rail project be reduced by $5.000 million in 2014.

Construction on California's proposed High-Speed Rail system was originally scheduled to begin in late 2012. It has since been pushed back to July of this year, which is a delay of at least six months. However, even the July date may be pushed back according to news articles reviewed by DRA. The LA Times reports that offers to purchase property from land owners will only be "the first step in a convoluted legal process that will give farmers, businesses, and homeowners leverage to delay the project by weeks, if not months, and drive up sales prices."[30] The San Jose Mercury News reports that Quentin Kopp "has submitted a lengthy critique of the current project's legality in support of a lawsuit filed by Kings County and local farmers."[31] At the time that this exhibit is being written (April 2013), DRA is not

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[30] LA Times, January 27, 2013.

[31] San Jose Mercury News, March 19, 2013.

aware of whether all of the 400 land parcels that are necessary for the first phase of the project have yet been purchased.

DRA is not attempting to critique or judge the reasonableness of the High-Speed Rail project. DRA is stating that the start of the project has already been delayed by half a year, and seems likely to be delayed significantly longer. Given these delays, it is DRA's judgment that PG&E will spend considerably less than it originally forecasted in 2014 for MWC 10 costs associated with the High-Speed Rail project. PG&E's 2014 forecast of $10.000 million should be reduced by half, corresponding to the six-month delay in the start of construction. Accordingly, DRA is recommending a $5.000 million forecast for 2014.[32]

3. Conclusions

As shown in Table 7-4, there are several sub-MWCs for this capital work category. As discussed above, DRA has made adjustments to various components of these calculations, including the use of 2012 recorded data. The net result of DRA's adjustments is that DRA is recommending that MWC 10 capital expenditures be $41.025 million <u>higher</u> than PG&E's forecast in 2012, $1.794 million lower in 2013 (which includes DRA's revised calculations for escalation), and $7.647 million lower in 2014 (which also includes revised escalation). PG&E's and DRA's estimates for MWC 10 are summarized on Line 2 of Table 7-1

C. MWC 16 – New Business

Similar to the mandates mentioned in MWC 10, PG&E is required under its obligation to serve requirements, its tariff rules, and its franchise agreements with local governments, to undertake various capital projects as part of its New Business Customer Connections program. The capital projects included in MWC 16 include installing electric infrastructure required to connect new customers to PG&E's

[32] DRA is not proposing a similar reduction in 2013. PG&E is forecasting $1.000 million for 2013. DRA has concluded that PG&E is likely to spend somewhere near that amount simply by continually monitoring the progress of the High-Speed Rail project and conducting periodic meetings.

electric distribution system, and upgrading its system to accommodate increased loads from existing customers.[33]

New Business capital expenditures are linked to overall economic growth and the resulting increase in new customers and electrical loads. If economic conditions are poor, fewer new houses tend to be built, resulting in fewer new connections. Similarly, existing customers will tend to postpone new purchases, resulting in lower load growth. PG&E's New Business costs decreased significantly during the recession, but have recently begun to increase. The difficulty in deriving forecasts for MWC 16 capital expenditures stems from the number of variables that can potentially impact the final estimate. Not only must estimates be made for the number of new connections each year, but estimates must also be made regarding how those new connections will impact subdivision backbone costs, subdivision costs, residential costs, and non-residential costs.

The next three pages contain tables that detail the calculations needed to develop forecasts for MWC 16 expenditures. Table 7-5 is a summary table that provides PG&E's and DRA's forecasts for each of the sub-MWC categories that make up MWC 16. Line 9 of that table summarizes PG&E's and DRA's forecasts (including escalation) for the years 2012, 2013, and 2014. Table 7-6 shows the derivation of the New Business costs associated with the growth of various classes of customers. Table 7-7 shows the calculations whereby the estimates for numbers of new connections are divided amongst the various customer categories.

The tables are being presented in the order described above so that the summary is seen first, and each succeeding table provides greater detail as to how the forecasts in the summary were derived. In discussing the development of these estimates, it makes more sense to start with Table 7-7, which shows the forecasts of new connections for the various categories of customers, as well as how those forecasts are developed. This is the first step in calculating MWC 16 forecasts, so it is the first table that will be discussed.

[33] Exhibit PG&E-4, page 9-1, lines 13 through 15.

TABLE 7-5
MWC 16 -- Distribution New Business Customer Connects
Recorded and PG&E's Estimated Data From Workpaper Table 9-20
Nominal Dollars ($000)

		1	2	3	4	5	6	7	8	9	10	11	12
Line #	**MWC Description**	**Recorded**					**Estimated**						
		2007	**2008**	**2009**	**2010**	**2011**	**2012**		**2013**		**2014**		
							PG&E	**DRA 1/**	**PG&E**	**DRA**	**PG&E**	**DRA**	**PG&E ≥ DRA**
1	Residential Expenditures	$135,769	$94,455	$73,928	$48,378	$55,277	$64,000	$56,173	$94,000	$86,108	$142,000	$127,379	$14,621
2	Non-Residential Expenditures	$95,110	$131,160	$125,908	$81,711	$100,172	$94,000	$111,057	$105,000	$104,702	$113,000	$113,292	($292)
3	PEV Related Expenditures	--	--	--	--	$1,440	$4,000	$3,489	$6,000	$2,352	$8,000	$2,880	$5,120
4	Transformer Purchases	$67,523	$53,564	$60,802	$47,628	$51,521	$54,000	$60,139	$57,000	$57,184	$65,000	$62,961	$2,039
5	Transformer Scrapping	$2,094	$2,656	$5,374	$3,207	$2,881	$3,000	$3,731	$3,000	$3,000	$3,000	$3,000	$0
6	Other	($2,153)	($2,927)	($2,364)	$36	$408	--	--	--	--	--	--	--
7	2012 Correction	--	--	--	--	--	($9,000)	--	--	--	--	--	--
8	Escalation	--	--	--	--	--	--	--	$7,545	$7,089	$8,566	$7,858	$708
9	Total	$298,343	$278,908	$263,648	$180,960	$211,699	$210,000	$234,589	$272,545	$260,436	$339,566	$317,369	$22,197
10	Total Excluding 2013 & 2014 Escalation	$298,343	$278,908	$263,648	$180,960	$211,699	$210,000	$234,589	$265,000	$253,347	$331,000	$309,511	$21,489

1/ NOTE: All of DRA's numbers in the 2012 column are recorded. (Obtained from PG&E in response to Data Request 211-GAW on 3/19/13.)

TABLE 7-6
MWC 16 -- Derivation of Residential and Non-Residential Expenditures from Unit and Unit Costs Forecasts
Recorded and PG&E's Estimated Data From Workpaper Table 9-21
Nominal Dollars ($000)

		1	2	3	4	5	6	7	8	9	10	11	12
		Recorded					Estimated						
Line #	MWC Description	2007	2008	2009	2010	2011	2012		2013		2014		
							PG&E	DRA 1/	PG&E	DRA	PG&E	DRA	PG&E ≥ DRA
1	Residential - Subdivision Backbone Units	33,274	11,130	2,993	2,795	3,577	4,786	3,224	9,074	5,671	17,321	10,585	6,736
2	Unit Costs	$1,528	$1,964	$2,283	$504	$3,447	$2,153	$3,720	$2,153	$2,153	$2,153	$2,153	$0
3	Residential - Subdivision Backbone Expenditures	$50,843	$21,859	$6,833	$1,409	$12,330	$10,304	$11,993	$19,536	$12,210	$37,292	$22,789	$14,503
4	Residential - Subdivision Services Units	21,704	11,024	8,259	8,018	5,836	6,837	7,102	11,342	11,342	19,245	19,245	0
5	Unit Costs	$884	$1,141	$1,249	$1,191	$1,258	$1,313	$1,262	$1,252	$1,252	$1,146	$1,146	$0
6	Residential - Subdivision Services Expenditures	$19,186	$12,578	$10,315	$9,549	$7,342	$8,977	$8,963	$14,200	$14,200	$22,055	$22,055	$0
7	Residential - Other Units	28,695	23,741	16,434	10,658	11,372	12,697	13,514	17,013	17,013	23,521	23,521	0
8	Unit Costs	$2,291	$2,528	$3,455	$3,511	$3,131	$3,509	$2,606	$3,509	$3,509	$3,509	$3,509	$0
9	Residential - Other Expenditures	$65,740	$60,017	$56,779	$37,420	$35,606	$44,554	$35,217	$59,699	$59,699	$82,535	$82,535	$0
10	Non-Residential Units	15,579	15,000	11,989	9,144	8,487	8,647	8,931	9,666	9,666	10,459	10,459	0
11	Unit Costs	$6,105	$8,744	$10,502	$8,936	$11,803	$10,832	$12,435	$10,832	$10,832	$10,832	$10,832	$0
12	Non-Residential Expenditures	$95,110	$131,160	$125,908	$81,711	$100,172	$93,664	$111,057	$104,702	$104,702	$113,292	$113,292	$0
13	Total Expenditures	$230,879	$225,615	$199,836	$130,089	$155,449	$157,499	$167,230	$198,137	$190,811	$255,174	$240,671	$14,503

1/ NOTE: All of DRA's numbers in the 2012 column are recorded. (Obtained from PG&E in response to Data Request 211 on 3/19/13.)

TABLE 7-7
MWC 16 -- Historic and Forecasted Residential and Non-Residential New Business Units
Recorded and PG&E's Estimated Data From Workpaper Table 9-28

		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Line #	Description	Recorded									Estimated					
		2003	2004	2005	2006	2007	2008	2009	2010	2011	2012		2013		2014	
											PG&E	DRA 1/	PG&E	DRA	PG&E	DRA
1	Overall New Residential Connections	70,652	75,559	70,997	63,166	50,399	34,765	24,693	18,676	17,208	19,534	20,616	28,355	28,355	42,766	42,766
2	Subdivisions as a % of Residential Connections	46.53%	50.48%	57.29%	50.56%	43.06%	31.71%	33.45%	42.93%	33.91%	35.00%	34.45%	40.00%	40.00%	45.00%	45.00%
3	New Subdivision Connections	32,873	38,142	40,674	31,936	21,704	11,024	8,259	8,018	5,836	6,837	7,102	11,342	11,342	19,245	19,245
4	Total New Residential Connections Less Subdivisions	37,779	37,417	30,323	31,230	28,695	23,741	16,434	10,658	11,372	12,697	13,514	17,013	17,013	23,521	23,521
5	Backbone Connections as a % of Subdivisions	114.73%	109.29%	120.84%	132.30%	153.31%	100.96%	36.24%	34.86%	61.29%	70.00%	45.40%	80.00%	50.00%	90.00%	55.00%
6	New Backbone Connections	37,715	41,685	49,151	42,250	33,274	11,130	2,993	2,795	3,577	4,786	3,224	9,074	5,671	17,321	10,585
7	Overall New Non-Residential Connections	--	--	14,064	16,087	15,579	15,000	11,989	9,144	8,487	8,647	8,931	9,666	9,666	10,459	10,459

1/ NOTE: All of DRA's numbers in the 2012 column are recorded. (Obtained from PG&E in response to Data Request 211-GAW on 3/19/13.)

To begin the MWC 16 calculations, estimates for New Business connections must be determined for Residential customers (Line 1 of Table 7-7) and New Non-Residential customers (Line 7). As shown on those two lines, DRA and PG&E are in agreement for those forecasts for 2013 and 2014. As Footnote 1 in Table 7-7 indicates, DRA was able to obtain recorded 2012 data for all of the items in Column 11. Recorded Residential and Non-Residential connections are both slightly higher than PG&E had forecasted.

New Subdivision connections (Line 3 of Table 7-7) are calculated as a percentage of the Residential connections. As Line 2 indicates, DRA has accepted the 2013 and 2014 allocation percentages used by PG&E. For 2012, DRA utilized recorded data, which resulted in an allocation percentage slightly lower than PG&E's estimate.

Line 4 of Table 7-7 is calculated by subtracting Line 3 from Line 1. Because of DRA's access to recorded 2012 data, PG&E's and DRA's numbers for that year differ slightly, but are in agreement for 2013 and 2014.

New Residential Backbone connections (Line 6 of Table 7-7) are calculated as a percentage of the Subdivision connections. Line 5 shows the allocation percentages that were used to derive the Backbone connections. As can be seen on Line 5, the allocation percentages have varied widely, from a high of 153.31% in 2007 to a low of 34.86% in 2010. PG&E forecasted an allocation of 70% for 2012, and because of increased growth, increased that allocation by an additional 10 percentage points for 2013 as well as for 2014 (i.e., 2013 equals 80% and 2014 equals 90%). Based on recorded 2012 data, DRA has calculated that the allocation percentage for 2012 is 45.40%, much lower than PG&E's forecast of 70%. DRA agrees with PG&E that the Backbone allocation percentage will increase for 2013 and 2014, but in DRA's judgment, the 10 percentage point increases forecasted by PG&E are too high, especially considering that the 2012 recorded allocation of 45.40% is actually a <u>decrease</u> from the 2011 percentage (61.29% in Column 9). In DRA's judgment, increases of five percentage points each year are reasonable. DRA is forecasting that the Backbone allocation percentages will be 50.00% in 2013 (versus PG&E's forecast of 80%) and 55.00% in 2014 (versus PG&E's estimate of

90%). Because DRA's Backbone allocation percentages for 2012, 2013, and 2014 are lower than PG&E's forecasts, DRA's forecasts of New Backbone connections (Line 6) are also lower than PG&E's for all three years.

The last line on Table 7-7 shows the forecasts for New Non-Residential connections. Because of DRA's access to recorded 2012 data, PG&E's and DRA's numbers for that year differ slightly, but are in agreement for 2013 and 2014.

Once the numbers of new connections have been established, the next step in the MWC 16 chain of calculations is to derive the costs to serve these new connections, which is shown on Table 7-6. As shown on Lines 2, 5, 8, and 11 of Table 7-6, PG&E has developed unit costs for each of the different categories of connections. DRA has examined the 2013 and 2014 unit costs and has agreed with PG&E's estimates. As Footnote 1 on that table indicates, DRA was able to obtain recorded 2012 data for all of the items in Column 7. The recorded 2012 unit cost data differ from PG&E's estimates – two of the recorded unit costs are higher than forecasted, and two are lower.

Lines 1, 4, 7, and 10 on Table 7-6 contain the forecasts for the numbers of connections. These data are simply transferred from Table 7-7. The actual calculations for the costs are derived on Lines 3, 6, 9, and 12. For each class of customer connection, the number of new units is multiplied by the unit costs, resulting in the forecasted expenditures.

The last stage of the MWC 16 calculations is to incorporate these forecasts into Table 7-5, which summarizes all of the sub-MWCs. As Footnote 1 in that table indicates, DRA had access to recorded 2012 data. All of the information contained in Column 7 of Table 7-5 is recorded. The following sections discuss each of the lines in Table 7-5 for which DRA has made adjustments to PG&E's forecasts.

1. Residential Expenditures

Line 1 of Table 7-5 shows the forecasted capital expenditures that PG&E and DRA have calculated are necessary to provide electric service to New Residential customers. The components of that calculation come from Table 7-6. More specifically, Line 1 of Table 7-5 equals the sum of Lines 3, 6, and 9 (Residential Backbone, Residential Subdivisions, and Residential Other expenditures) on Table

7-6. The differences between PG&E's and DRA's forecasts on Line 1 of Table 7-5 are completely due to the differences that occurred in Tables 7-6 and 7-7, which have been discussed previously. Since DRA used recorded 2012 data in Tables 7-6 and 7-7, the resulting 2012 DRA forecast for Line 1 of Table 7-5 is also recorded. The net result of these changes is that DRA is recommending expenditures of $56.173 million for 2012 (versus $64.000 million for PG&E), $86.108 million for 2013 (versus $94.000 million for PG&E), and $127.379 million for 2014 (versus $142.000 million for PG&E).

2. Non-Residential Expenditures

MWC 16 costs for Non-Residential connections are shown on Line 2 of Table 7-5. The numbers shown on Line 2 come from Table 7-6, and are simply copied from Line 12 of that table. (It should be noted that for its 2012, 2013, and 2014 estimates for Line 2 of Table 7-5, PG&E has chosen to round, to the nearest million, the Table 7-6 forecasts.) As mentioned in the previous section, the differences between PG&E's and DRA's forecasts on Line 2 of Table 7-5 are entirely due to the differences that occurred in Tables 7-6 and 7-7, which have been discussed previously. Since DRA used recorded 2012 data in Tables 7-6 and 7-7, the resulting 2012 DRA forecast for Line 2 of Table 7-5 is also recorded. The net result of these changes is that DRA is recommending expenditures of $111.057 million for 2012 (versus $94.000 million for PG&E), $104.702 million for 2013 (versus $105.000 million for PG&E), and $113.292 million for 2014 (versus $113.000 million for PG&E).

3. PEV Related Expenditures

Line 3 of Table 7-5 shows MWC 16 costs associated with strengthening PG&E's electrical system to handle additional load caused by Plug-In Vehicles (PEV). PG&E has estimated that approximately 16% of the applications it receives for PEV-related load checks results in some type of capital improvement to address load or voltage issues.[34] PG&E has also estimated that it has to spend $7,500 in capital costs each time it makes a PEV-related system upgrade. DRA has examined these assumptions and agrees with them.

As indicated by Footnote 1 in Column 7, DRA had access to recorded 2012 data. DRA's 2012 PEV Expenditure amount of $3.489 million is a recorded figure that was provided by PG&E. DRA's Line 3 forecasts for 2013 and 2014 are based on PEV estimates developed in MWC EV. DRA's expense witness for MWC EV has developed PEV application estimates that differ from PG&E's estimates. DRA's 2013 and 2014 forecasts for Line 3 of Table 7-5 reflect the decreased PEV application estimates that are developed for MWC EV.[35] The net result of these changes is that DRA is recommending expenditures of $3.489 million for 2012 (versus $4.000 million for PG&E), $2.352 million for 2013 (versus $6.000 million for PG&E), and $2.880 million for 2014 (versus $8.000 million for PG&E).

4. Transformer Purchases

Line 4 of Table 7-5 details the costs associated with purchasing transformers to accommodate load growth caused by new connections. Transformer expenditures are separated into three categories: purchases to support Residential New Business (including PEV) growth, purchases to support Non-Residential New Business growth, and purchases to support Other growth. These three categories are indexed to the forecasted increases in capital expenditures for Residential New Business connections, Non-Residential New Business connections, and Other connections.[36]

Footnote 1 in Column 7 of Table 7-5 states that DRA was able to obtain recorded 2012 data for all of the sub-MWCs, including Transformer Purchases. The use of this recorded data accounts for the difference between PG&E's and DRA's

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[34] Exhibit PG&E 4, page 9-18, lines 7 through 9.

[35] See Exhibit DRA-5 (Electrical Distribution Expenses, Part 1 of 2).

[36] Exhibit PG&E-4, page 9-26, lines 7 through 14.

2012 forecasts. For both 2013 and 2014, PG&E and DRA utilized a complex spreadsheet to calculate forecasts for Line 4. This spreadsheet has not been included in this exhibit as it is fairly complicated. However, its basic concept is relatively straight forward. First, year to year percentage increases are calculated for Residential, Non-Residential, and Other capital expenditures. Second, those percentages are applied to the last recorded transformer purchases for those same categories. As an example, suppose that Residential New Business expenditures for 2012 are 10% higher than the expenditures in 2011. Let's further suppose that the cost of purchasing new transformers to support Residential New Business was $1.000 million in 2011. Then the calculated cost to purchase new Residential-related transformers in 2012 would be $1.100 million.[37] The same type of calculation is made each year for each of the three categories of transformer expenditures. The last part of the Line 4 calculations is simply to add together the three categories of transformer purchases for each year. (It should be noted that PG&E rounds its forecast to the nearest million.) Those totals constitute the forecasts for Line 4 of Table 7-5. The net result of these changes is that DRA is recommending expenditures of $60.139 million for 2012 (versus $54.000 million for PG&E), $57.184 million for 2013 (versus $57.000 million for PG&E), and $62.961 million for 2014 (versus $65.000 million for PG&E).

5. Transformer Scrapping

When old transformers are retired, PG&E incurs a cost to remove them, as shown on Line 5 of Table 7-5. For 2013 and 2014, PG&E has estimated that transformer scrapping costs will be $3.000 million each year. DRA does not oppose PG&E's forecasts. For 2012, DRA used the recorded amount of $3.731 million.

[37] $1.000 million for 2011 Residential New Business transformer expenditures times the 10% increase in 2012 for Residential New Business costs equals a calculated 2012 Residential New Business transformer cost of $1.100 million, 10% higher than the 2011 amount.

6. Conclusions

As shown in Table 7-5, not only are there many sub-MWCs for this capital work category, but some of the sub-MWCs are fairly complex to calculate. PG&E and DRA are in agreement on the procedures for how these various forecasts should be calculated. As discussed above, DRA has made adjustments to various components of these calculations, including the use of 2012 recorded data. The net result of DRA's adjustments is that DRA is recommending that MWC 16 capital expenditures be $24.590 million <u>higher</u> than PG&E's forecast in 2012, $12.109 million lower in 2013 (which includes DRA's revised calculations for escalation), and $22.197 million lower in 2014 (which again includes revised escalation calculations). PG&E's and DRA's estimates for MWC 16 are summarized on Line 3 of Table 7-1.

D. MWC 06 – Distribution Line Capacity

MWC 06 reflects capital expenditures for expansion work that takes place outside of substations, and includes projects to correct capacity and overload problems on PG&E's distribution system. Line 4 of Table 7-1 summarizes PG&E's and DRA's forecasts for MWC 06. Table 7-8 (on the following page) provides a more detailed breakdown of the various sub-MWC capital categories that constitute MWC 06.

As Table 7-8 clearly shows, there are a number work categories contained in MWC 06. As indicated by Footnote 1 in Column 7 of that table, DRA had access to the recorded total expenditures for 2012. To be clear, the only recorded number available to DRA was the total figure of $89.408 million. DRA did <u>not</u> have access to recorded 2012 data for the sub-categories that constitute MWC 06. In order for the forecasts in Column 7 to total $89.408 million, DRA arbitrarily chose the Line 1 forecast and mathematically adjusted it (to $40.749 million) so that the total for Column 7 equaled the recorded amount.

TABLE 7-8
MWC 06 -- Distribution Line Capacity
Recorded and PG&E's Estimated Data From Workpaper Table 12-5
Nominal Dollars ($000)

		1	2	3	4	5	6	7	8	9	10	11	12
Line #	**MWC Description**	**Recorded**					**Estimated**						
		2007	**2008**	**2009**	**2010**	**2011**	**2012**		**2013**		**2014**		
							PG&E	**DRA 1/**	**PG&E**	**DRA**	**PG&E**	**DRA**	**PG&E ≥ DRA**
1	06A-Feeder Projects Assoc. with Substations	$39,230	$47,004	$38,347	$41,044	$33,214	$34,398	$40,749	$26,787	$26,787	$36,797	$36,797	$0
2	06B-Overhead Transformers	$622	$1,727	$845	$2,145	$3,107	$2,110	$2,110	$4,500	$3,600	$5,000	$3,600	$1,400
3	06D-Circuits Reinforcements (DE Managed)	$8,291	$8,344	$6,238	$8,836	$11,075	$3,808	$3,808	$6,000	$6,000	$9,034	$9,034	$0
4	06E-Circuits Reinforcements (PS Managed)	$21,489	$27,080	$29,102	$23,105	$33,337	$34,471	$34,471	$37,000	$37,000	$39,043	$39,043	$0
5	06E-Reinforce Circuits > 6000 Customers	--	--	--	--	--	--	--	--	--	--	--	--
6	06E-Complete Mainline Loops	--	--	--	--	$2,705	$2,470	$2,470	$2,000	$2,000	$7,500	$3,271	$4,229
7	06G-Voltage Complaints (Includes PEV)	$2,187	$2,147	$2,840	$2,328	$2,463	$2,800	$2,800	$2,700	$2,700	$3,500	$3,500	$0
8	Line Voltage Regulator Revolving Stock	$3,283	$2,383	$5,858	$3,905	$4,357	$3,000	$3,000	$3,800	$3,800	$4,324	$4,324	$0
9	Escalation	--	--	--	--	--	--	--	$2,361	$2,298	$2,715	$2,525	$190
10	Total	$75,102	$88,685	$83,230	$81,363	$90,258	$83,057	$89,408	$85,148	$84,185	$107,913	$102,094	$5,819
11	Total Excluding 2013 & 2014 Escalation	$75,102	$88,685	$83,230	$81,363	$90,258	$83,057	$89,408	$82,787	$81,887	$105,198	$99,569	$5,629

1/ NOTE: DRA's 2012 Total of $89,408 is a recorded amount. It was obtained from PG&E in an e-mail dated 3/8/13.

A closer examination of Table 7-8 shows that PG&E and DRA are in agreement with most of the forecasts. DRA has made adjustments to only two of the sub-categories: Line 2 (Overhead Transformers) and Line 6 (Complete Mainline Loops). The next two sections will discuss DRA's adjustments for each of those sub-MWCs.

1. MWC 06B – Overhead Transformers

Projects in this sub-category correct capacity deficient line transformers in PG&E's electrical distribution system. To correct these deficiencies, PG&E will either replace the existing transformer with one of a higher capacity, or add a new transformer and transfer load. As stated in its testimony, PG&E plans to increase the replacement of confirmed overloaded distribution line transformers beginning in 2014.[38]

In its workpapers, PG&E provides a table that shows that each transformer replacement is estimated to cost $12,000; that amount is assumed to remain constant through 2016.[39] DRA has examined this cost and concludes that it is reasonable. In this same table, PG&E shows that it replaced 259 transformers in 2011, and forecasts replacing 176 in 2012. PG&E proposes replacing 375 in 2013 and 417 in 2014.

PG&E's has failed to justify its proposed transformer replacements for 2013 and 2014. For 2012, PG&E's forecast of 176 transformer replacements represents a decrease of 83 replacements over the prior year. Clearly, PG&E has given low priority to this matter. If there was some necessity to accelerate transformer replacements, PG&E would have begun doing so in 2012, rather than decreasing the replacements. In DRA's judgment, replacing 300 transformers in both 2013 and 2014 is a more reasonable estimate. DRA's 2013 and 2014 forecasts represent an increase of 124 over the forecasted 2012 level, and are over 15% greater than the

[38] Exhibit PG&E-4, page 12-15, lines 16 and 17.

[39] Workpapers for Exhibit PG&E-4, page WP 12-35, line 26.

recorded 2011 level of 259. As shown in Line 2 of Table 7-8, DRA's recommendation of 300 transformer replacements each year for 2013 and 2014 results in a forecast that is $0.900 million lower than PG&E's 2013 estimate, and is $1.400 million lower than PG&E's 2014 estimate.

2. MWC 06E – Complete Mainline Loops

PG&E's primary mainline system is designed so that each section is connected to the mainline at both ends. However, not all of PG&E's mainline sections currently meet this design standard. PG&E is proposing to complete the mainline loops on those sections that are not connected at both ends.

In its workpapers, PG&E shows that it wants to complete 115 mainline loop projects over the six-year period 2011 through 2016.[40] In the first three years of the completion period (2011 through 2013), PG&E is undertaking 16 mainline loop projects. DRA has examined the capital expenditures for that period and has concluded that PG&E's 2012 and 2013 forecasts are reasonable.

The remaining 99 projects are being forecasted for the last three years of the completion period (2014 through 2016). DRA understands why PG&E wants to undertake these projects. However, no justification has been provided to explain why the number of mainline loop projects proposed for this rate case is over six times greater than the previous three-year period. It is also important to note that Line 6 of Table 7-8 shows that no projects of this type were done prior to 2011. That fact, coupled with the fact that PG&E is only proposing to undertake 16 mainline loop projects over the period 2011 through 2013, indicates that there is no urgency to complete all 115 projects by 2016. DRA is recommending that 32 mainline loop projects be undertaken in this second three-year period (2014 through 2016), which is twice as many as were completed in the 2011 through 2013 period. DRA is recommending that the 32 projects be equally divided over the three-year rate case

[40] Workpapers for Exhibit PG&E-4, Workpaper Table 12-12, pages WP 12-37 through WP 12-41.

cycle (2014 through 2016). At an average cost of $306,700 per project,[41] DRA's 2014 recommendation for this sub-MWC is $3.271 million,[42] as compared to PG&E's forecast of $7.500 million.

3. Conclusions

As shown in Table 7-8, there are quite a few sub-MWCs for this capital work category. PG&E and DRA are in agreement on the basic procedures for how these various forecasts should be calculated. As discussed above, DRA has made adjustments to several components of these calculations, and is using the recorded total of $89.408 million for 2012. The net result of DRA's adjustments is that DRA is recommending that MWC 06 capital expenditures be $6.351 million <u>higher</u> than PG&E's forecast in 2012, $0.963 million lower in 2013 (which includes DRA's revised calculations for escalation), and $5.819 million lower in 2014 (which again includes revised escalation). PG&E's and DRA's estimates for MWC 06 are summarized on Line 4 of Table 7-1.

E. MWC 46 – Distribution Substation Capacity

Whereas MWC 06 (see previous section) reflects capital expenditures for capacity expansion work that takes place outside of substations, MWC 46 examines capacity work within substations. Typical projects consist of upgrading existing substation banks, installing additional banks, or installing other equipment in new substations. Line 6 of Table 7-1 summarizes PG&E's and DRA's forecasts for MWC 46. Table 7-9 (on the following page) provides a more detailed breakdown of the various sub-MWC capital categories that constitute MWC 46.

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[41] Workpapers for Exhibit PG&E-4, page WP 12-41, line 117. Total capital expenditures for the 99 loop completion projects forecasted by PG&E during the 2014 through 2016 period are $30,364,960. This equates to roughly $306,700 for each of the 99 projects.

[42] (32 total projects)÷(3 years)x($306,700 per project)=$3.271 million for 2014.

TABLE 7-9
MWC 46 -- Distribution Substation Capacity
Recorded and PG&E's Estimated Data From Workpaper Table 12-5
Nominal Dollars ($000)

		1	2	3	4	5	6	7	8	9	10	11	12
Line #	**MWC Description**	**Recorded**					**Estimated**						
		2007	**2008**	**2009**	**2010**	**2011**	**2012**		**2013**		**2014**		
							PG&E	**DRA 1/**	**PG&E**	**DRA**	**PG&E**	**DRA**	**PG&E ≥ DRA**
1	Projects > $1 Million	$64,617	$102,240	$92,235	$61,157	$59,394	$53,599	$46,776	$49,020	$49,020	$67,800	$66,800	$1,000
2	Projects < $1 Million	$8,654	$4,327	$3,004	$1,935	$3,615	$4,731	$4,731	$2,120	$2,120	$5,250	$5,250	$0
3	Escalation	--	--	--	--	--	--	--	$1,476	$1,470	$1,842	$1,808	$34
4	Total	$73,271	$106,567	$95,239	$63,092	$63,009	$58,330	$51,507	$52,616	$52,610	$74,892	$73,858	$1,034
5	Total Excluding 2013 & 2014 Escalation	$73,271	$106,567	$95,239	$63,092	$63,009	$58,330	$51,507	$51,140	$51,140	$73,050	$72,050	$1,000

1/ NOTE: DRA's 2012 Total of $51,507 is a recorded amount. It was obtained from PG&E in an e-mail dated 3/8/13.

As Table 7-9 shows, there are only a couple of work categories contained in MWC 46. As indicated by Footnote 1 in Column 7 of that table, DRA had access to the recorded total expenditures for 2012. The only recorded number available to DRA was the total figure of $51.507 million. DRA did <u>not</u> have access to recorded 2012 data for the sub-categories that constitute MWC 46. In order for the forecasts in Column 7 to total $51.507 million, DRA chose the Line 1 forecast and mathematically adjusted it (to $46.776 million) so that the total for Column 7 equaled the recorded amount.

A closer examination of Table 7-9 shows that, other than the use of recorded data for 2012, DRA made only one adjustment to PG&E's forecasts. This single adjustment to Line 1 of Table 7-9, amounting to $1.000 million in 2014, reflects DRA's conclusion that one of PG&E's proposed capital projects will not be undertaken until after 2014.

During the capital review process of a GRC, DRA seeks to determine whether the requesting utility has adequately justified the need for each of its proposed capital projects. DRA then seeks to determine that the estimated cost of each project is reasonable. For substation projects, utilities have an additional regulatory requirement that must be met. General Order (GO) 131-D states, in part, the following in Section III.B:

> "No electric public utility shall begin construction in this state of any electric power line facilities or <u>substations</u> which are designed for immediate or eventual operation at any voltage between 50 kV or 200 kV or new or upgraded substations with high side voltage exceeding 50 kV without this Commission's having first authorized the construction of said facilities by issuance of a permit to construct in accordance with the provisions of Sections IX.B, X, and XI.B of this General Order." (Emphasis added.)

As part of its regulatory burden, for each Substation project with high side voltage exceeding 50 kV, PG&E must either obtain a Permit To Construct (PTC) or a Certificate of Public Convenience and Necessity (CPCN) from the Commission, or it must determine that the project falls under one of the exempt categories, which excludes the project from compliance with the PTC portions of the Order.

To investigate this matter further, DRA issued Data Request DRA-160-GAW. The thrust of this data request was to obtain an explanation of what authority PG&E was operating under in order to proceed with these MWC 46 capital projects. In its response, PG&E stated that it would be seeking a PTC for its proposal to construct the Gosford Substation project, but had not yet done so. PG&E further stated that the final permitting would be determined at a later date when the project was more thoroughly defined.

In DRA's experience, PTCs are often lengthy proceedings that can take years to resolve. The Gosford Substation project has apparently not yet been sufficiently defined to begin the PTC process. PG&E has forecasted spending $1.000 million for this project in 2014.[43] In DRA's judgment, it is likely that this project will not begin until after 2014. At this stage, it is not even known whether or not the PTC will be approved. DRA has therefore reduced PG&E's 2014 capital forecast by $1.000 million ($1.034 million when revisions for escalation are included). The adjustments included in Table 7-9 are summarized on Line 6 of Table 7-1.

F. MWC 48 – Substation Replacement of Other Equipment

MWC 48 addresses PG&E's request to replace substation equipment (other than transformers, which are discussed in MWC 54). Table 7-10 (on the following page) provides a more detailed breakdown of the various sub-MWC capital categories that constitute MWC 48. Line 12 of that table totals the sub-MWCs and summarizes PG&E's and DRA's forecasts for 2012, 2013, and 2014 (including forecasts for escalation).

[43] The Gosford Substation is a multi-year project that is not scheduled to be completed until 6/1/16. Workpaper Table 12-8 (page WP 12-19) shows on line 39 that $1.000 million is scheduled to be spent in 2014, with additional expenditures in 2015 and 2016. DRA is not currently recommending that the project be cancelled, only that the 2014 expenditures be pushed back an additional year.

TABLE 7-10
MWC 48 -- Distribution Substation Replacement of Other Equipment
Recorded and PG&E's Estimated Data From Workpaper Table 13-12
Nominal Dollars ($000)

		1	2	3	4	5	6	7	8	9	10	11	12
Line #	**MWC Description**	**Recorded**					**Estimated**						
		2007	**2008**	**2009**	**2010**	**2011**	**2012**		**2013**		**2014**		
							PG&E	**DRA 1/**	**PG&E**	**DRA**	**PG&E**	**DRA**	**PG&E ≥ DRA**
1	Switchgear Replacement	$5,566	$23,949	$25,261	$17,682	$28,125	$34,377	$26,541	$33,588	$33,588	$42,962	$33,588	$9,374
2	Breaker Replacement	$5,171	$1,837	$1,943	$2,540	$10,165	$6,994	$6,994	$7,500	$7,500	$9,000	$9,000	$0
3	Animal Abatement	--	--	--	$1,146	$3,735	$550	$550	$3,600	$3,600	$3,600	$3,600	$0
4	Battery Replacement	$1,602	$315	$155	$1,169	$1,605	$800	$800	$1,800	$1,800	$1,800	$1,800	$0
5	Ancillary Equipment Replacement	$1,999	$1,299	$1,010	$421	$1,376	$200	$200	$1,200	$1,200	$1,200	$1,200	$0
6	Switch Replacement	$957	$421	$347	$1,075	$961	$1,841	$1,841	$1,800	$1,800	$1,800	$1,800	$0
7	Civil Structures	$3	--	--	$25	$1,100	$2,812	$2,812	$1,800	$1,800	$2,050	$2,050	$0
8	MWC 48 Replace Substation Equipment Funding	--	--	--	--	--	$2,246	$0	--	--	--	--	--
9	Subprograms < $1 Million	$1,695	$808	$1,030	$2,448	$2,025	$581	$581	$2,086	$2,086	$1,968	$1,968	$0
10	Standard Cost Variation	--	($50)	$21	($203)	$86	$0	$0	--	--	--	--	--
11	Escalation	--	--	--	--	--	--	--	$1,532	$1,518	$1,641	$1,387	$254
12	Total	$16,993	$28,579	$29,767	$26,303	$49,178	$50,401	$40,319	$54,906	$54,892	$66,021	$56,393	$9,628
13	Total Excluding 2013 & 2014 Escalation	$16,993	$28,579	$29,767	$26,303	$49,178	$50,401	$40,319	$53,374	$53,374	$64,380	$55,006	$9,374

1/ NOTE: DRA's 2012 Total of $40,319 is a recorded amount. It was obtained from PG&E in an e-mail dated 3/1/13.

As Table 7-10 clearly shows, there are quite a few work categories contained in MWC 48. As indicated by Footnote 1 in Column 7 of that table, DRA had access to the recorded total expenditures for 2012. The only recorded number available to DRA was the total figure of $40.319 million. DRA did not have access to recorded 2012 data for the sub-categories that constitute MWC 48. In order for the forecasts in Column 7 to total $40.319 million, DRA arbitrarily chose the Line 1 forecast and mathematically adjusted it (to $26.541 million) so that the total for Column 7 equaled the recorded amount.

A closer examination of Table 7-10 shows that, other than the use of recorded data for 2012, DRA made only one adjustment to PG&E's forecasts. This single adjustment to Line 1 of Table 7-10 only impacts 2014.

In the 2011 GRC, PG&E sought to undertake 14 switchgear replacement projects over the period 2009 through 2013. In the current 2014 GRC, PG&E states in its testimony that only two of the switchgear projects proposed during the last GRC were actually completed.[44] Indeed, a close inspection of the projects proposed (and authorized) in the 2011 GRC shows that 11 of the replacement projects are being requested again in the current GRC. In its testimony, PG&E states that it decided to reschedule the original 2011 switchgear projects so that it could apply lessons learned from the two projects that it did complete.[45] More specifically, PG&E states that rather than pursuing multiple switchgear projects simultaneously as originally planned in the 2011 GRC, it decided to wait to complete and learn from the Mission Substation project, and then leverage lessons learned from that project to the other switchgear projects.[46]

In this current GRC, PG&E is proposing to work on 10 switchgear projects simultaneously in 2013. Since PG&E was only able to complete two switchgear projects during the last GRC cycle, undertaking 10 projects in one year may be

[44] Exhibit PG&E-4, page 13-9, lines 23 through 25.

[45] Exhibit PG&E-4, page 13-9, lines 26-28.

[46] Exhibit PG&E-4, page 13-9, lines 29 through 33.

ambitious. DRA assumes that PG&E has gained experience from working on the Mission Substation project, and is now better equipped to work on multiple replacement projects. Therefore, even though PG&E's 2013 request of $33.588 million is larger than any previous recorded year since at least 2007, DRA is accepting PG&E's forecast.

For 2014, PG&E is proposing to work on 13 switchgear projects simultaneously. This request is ambitious. PG&E's 2014 forecast of $42.962 million is more than 50% higher than the previous largest recorded expenditure ($28.125 million in 2011). In DRA's judgment, a more reasonable forecast for 2014 is the $33.588 million forecast proposed by PG&E (and accepted by DRA) for 2013. As previously mentioned, the use of the $33.588 million forecast will provide PG&E with a higher level of expenditures than any previously recorded year since at least 2007. It will also enable PG&E to work on multiple projects simultaneously, allowing for the replacement of the most unreliable switchgears.

DRA has only made adjustments to one sub-MWC, and is using the recorded total of $40.319 million for 2012. The net result of DRA's adjustments is that MWC 48 capital expenditures are $40.319 million in 2012, which is $10.082 million lower than PG&E's forecast. For 2014, DRA is recommending $56.393 million (which includes DRA's revised escalation calculations), which is $9.628 million lower than PG&E's estimate. PG&E's and DRA's estimates for MWC 48 are summarized on Line 8 of Table 7-1.

G. MWC 54 – Distribution Transformer Replacements

In MWC 54, PG&E identifies, prioritizes, and replaces transformers (within substations) that have the highest risk of failing. This program also maintains an adequate supply of mobile and emergency transformers.[47] Table 7-11 (on the following page) provides a more detailed breakdown of the various sub-MWC capital categories that constitute MWC 54.

[47] Exhibit PG&E-4, page 13-14, lines 2 through 6.

TABLE 7-11
MWC 54 -- Distribution Substation Replacement of Transformers
Recorded and PG&E's Estimated Data From Workpaper Table 13-12
Nominal Dollars ($000)

		1	2	3	4	5	6	7	8	9	10	11	12
Line #	MWC Description	Recorded					Estimated						
		2007	2008	2009	2010	2011	2012		2013		2014		
							PG&E	DRA 1/	PG&E	DRA	PG&E	DRA	PG&E ≥ DRA
1	Transformer Replacement	$30,101	$40,376	$44,366	$36,174	$41,470	$57,241	$47,374	$36,700	$36,700	$53,950	$44,400	$9,550
2	Mobilize/Capitalize Emergency Material	$1,237	$5,857	$2,968	$423	$3,198	--	--	$1,200	$1,200	$3,000	$3,000	$0
3	4-kV Banks Replacement	$1,701	$520	$5,060	$1,915	$1,240	$1,267	$1,267	$2,100	$2,100	$6,300	$6,300	$0
4	MWC 54 Repl. Substation Transformer Funding	--	--	--	--	--	$3,764	$3,764	--	--	--	--	--
5	Standard Cost Variance	--	($29)	($59)	($176)	$230	$57	$57	--	--	--	--	--
6	Escalation	--	--	--	--	--	--	--	$1,151	$1,143	$1,604	$1,351	$253
7	Total	$33,039	$46,724	$52,335	$38,336	$46,138	$62,329	$52,462	$41,151	$41,143	$64,854	$55,051	$9,803
8	Total Excluding 2013 & 2014 Escalation	$33,039	$46,724	$52,335	$38,336	$46,138	$62,329	$52,462	$40,000	$40,000	$63,250	$53,700	$9,550

1/ NOTE: DRA's 2012 Total of $52,462 is a recorded amount. It was obtained from PG&E in an e-mail dated 3/1/13.

As Table 7-11 shows, there are several work categories contained in MWC 54. As indicated by Footnote 1 in Column 7 of that table, DRA had access to the recorded total expenditures for 2012. The only recorded number available to DRA was the total figure of $52.462 million. DRA did <u>not</u> have access to recorded 2012 data for the sub-categories that constitute MWC 54. In order for the forecasts to total $52.462 million, DRA arbitrarily chose the Line 1 forecast and mathematically adjusted it (to $47.374 million) so that the total for Column 7 equaled the recorded amount.

A closer examination of Table 7-11 shows that, other than the use of recorded data for 2012, DRA made only one adjustment to PG&E's forecasts. This single adjustment to Line 1 of Table 7-11 only impacts 2014.

In its testimony, PG&E states that its 2014 forecast for Transformer Replacements is based on replacing 11 transformers. PG&E states that the number of targeted transformer replacements is consistent with historical trends.[48] In its workpapers, PG&E shows a chart of historical transformer replacements for the period 2007 through 2011.[49] That table shows that the yearly replacement rate varies between 6 and 14, with an historical average of less than 10. When the table is expanded to include PG&E's forecasts for 2012 and 2013, the average drops to just above 9. Because of the variability in the number of replacements, DRA is recommending that the average of 9 replacements be used in 2014. DRA therefore reduced PG&E's 2014 forecast of 11 replacements by two. In its workpapers, PG&E states that the average unit cost for a transformer greater than 70 kV is $4.775 million.[50] Since DRA is recommending a reduction of two transformers, DRA reduced PG&E's forecast by $9.550 million, which is two times the unit cost for this equipment.

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[48] Exhibit PG&E-4, page 13-14, lines 17 through 21.

[49] Workpapers for Exhibit PG&E-4, page WP 13-15, Table 13-13.

[50] Workpapers for Exhibit PG&E-4, page WP 13-16, line 54.

As discussed in the previous paragraphs, DRA has only made one adjustment to one sub-MWC, and is using the recorded total of $52.462 million for 2012. The net result of DRA's adjustments is that DRA is recommending that MWC 54 capital expenditures be $52.462 million for 2012, $9.867 million lower than PG&E's forecast. For 2014, DRA's forecast is $55.051 million (which includes DRA's revised escalation calculation), $9.803 million lower than PG&E's estimate. It should be noted that even though DRA's 2014 forecast is lower than PG&E's, DRA's estimate is over 30% higher than PG&E's 2013 forecast (which DRA accepts as reasonable). PG&E's and DRA's estimates for MWC 54 are summarized on Line 9 of Table 7-1.

H. MWC 08 – Distribution Reliability Base

Capital projects included in MWC 08 address local reliability issues that occur routinely throughout PG&E's service territory. Typical projects include: installing fused cutouts, line reclosers, sectionalizers, switches, fault indicators, fused switches and interrupters; rebuilding and reframing overhead distribution lines; and performing other reliability and system protection improvement work.[51] Table 7-12, shown on the next page, provides a more detailed breakdown of the capital categories that constitute MWC 08.

As Table 7-12 shows, there are several sub-MWCs contained in MWC 08. As indicated by Footnote 1 in Column 7 of that table, DRA had access to the recorded total expenditures for 2012. The only recorded number made available to DRA was the total figure of $18.547 million. DRA did not have access to recorded 2012 data for the sub-categories that constitute MWC 08. In order for the forecasts in Column 7 to total $18.547 million, DRA arbitrarily chose the Line 2 forecast and mathematically adjusted it (to $6.172 million) so that the total for Column 7 equaled the recorded amount.

[51] Exhibit PG&E-4, page 15-15, lines 5 through10.

TABLE 7-12
MWC 08 -- Distribution Reliability Base
Recorded and PG&E's Estimated Data From Workpaper Table 15-5
Nominal Dollars ($000)

		1	2	3	4	5	6	7	8	9	10	11	12
Line #	MWC Description	Recorded					Estimated						
		2007	2008	2009	2010	2011	2012		2013		2014		
							PG&E	DRA 1/	PG&E	DRA	PG&E	DRA	PG&E ≥ DRA
1	Base Reliability Program	$4,642	$6,036	$5,061	$4,402	$4,001	$3,500	$3,500	$4,500	$4,500	$9,580	$9,580	$0
2	Overhead Conductor Replacement Program	$3,527	$2,620	$3,021	$3,392	$5,929	$9,190	$6,172	$8,000	$8,000	$32,500	$16,000	$16,500
3	Line Recloser Revolving Stock	$2,885	$1,189	$1,213	$9,440	$10,736	$8,875	$8,875	$12,000	$12,000	$24,420	$17,820	$6,600
4	Escalation	--	--	--	--	--	--	--	$705	$700	$1,686	$1,092	$594
5	Total	$11,054	$9,845	$9,294	$17,234	$20,666	$21,565	$18,547	$25,205	$25,200	$68,186	$44,492	$23,694
6	Total Excluding 2013 & 2014 Escalation	$11,054	$9,845	$9,294	$17,234	$20,666	$21,565	$18,547	$24,500	$24,500	$66,500	$43,400	$23,100

1/ NOTE: DRA's 2012 Total of $18,547 is a recorded amount. It was obtained from PG&E in an e-mail dated 3/8/13.

A closer examination of Table 7-12 shows that, other than the use of recorded data for 2012, DRA made two adjustments to PG&E's proposed forecasts, both of which only impact 2014. Each of those adjustments will be discussed in the following two sections.

1. Overhead Conductor Replacement Program

PG&E's electric distribution system includes over 113,500 miles of overhead conductor.[52] To improve system safety and integrity, PG&E is forecasting an increase for overhead conductor replacement work that will address annealed or deteriorated conductors. To calculate this sub-MWC (Line 2 of Table 7-12), PG&E takes a straightforward approach: it develops a cost (per foot) to replace overhead conductors, and multiplies that cost by the amount of replacement footage it forecasts it will replace each year

DRA examined PG&E's forecasted costs to replace a circuit foot of distribution line, and agrees that those costs are reasonable. DRA also agrees with PG&E's proposal to replace 80,000 circuit feet in 2013. However, PG&E is proposing to replace 325,000 circuit feet in 2014, over four times the quantity estimated in 2013.[53] Not only is this over four times greater than its 2013 forecast, but it is also four times greater than the highest previously recorded replacement amount (81,312 circuit feet in 2008) since at least 2008.

PG&E states that a Value of Service (VOS) study shows a benefit to cost ratio for this project of 2.0.[54] However, even if the VOS study is positive, judgment must be exercised in determining the quantity of replacements carried out each year. As an extreme example, no one would seriously suggest that all 113,500 miles of overhead conductor be replaced in one year, even assuming the benefit to cost ratio is positive. In DRA's judgment, an increase in the quantity of overhead conductor

[52] Exhibit PG&E-4, page 15-16, lines 14 and 15.

[53] Workpapers for Exhibit PG&E-4, page WP 15-7, line 2.

[54] Exhibit PG&E-4, page 15-17, lines 8 and 9.

replacements is warranted in 2014, but not at the increased amount suggested by PG&E. DRA recommends that 160,000 circuit feet of overhead conductor be replaced in 2014, which is a more moderate increase than proposed by PG&E. That quantity represents a 100% increase over PG&E's request for the prior year, and is nearly double the previously highest recorded amount replaced (81,312 circuit feet in 2008). Using a replacement cost of $100 per circuit foot,[55] DRA's 2014 forecast of replacing 160,000 circuit feet results in a recommended capital expenditure of $16.000 million. Using the same replacement cost, PG&E's forecast of replacing 325,000 circuit feet results in a 2014 cost of $32.500 million.

2. Line Recloser Revolving Stock

Due to PG&E's increased usage of line reclosers, it has determined that it is more cost effective to purchase and stock all of its reclosers through a centralized process. Similar to the previous section, PG&E forecasts its expenditures for this sub-MWC (Line 3 of Table 7-12) using a simple process: PG&E determines a reasonable cost for each recloser that it purchases, and multiplies this cost by the number of units it proposes to buy in a given year.

DRA examined PG&E's forecasted unit cost to replace a single line recloser, and agrees that those costs are reasonable. DRA also agrees with PG&E's proposal to replace 545 reclosers in 2013. In 2014, PG&E is proposing to replace 1,110 reclosers in 2014, more than double the previous year.

As will be discussed in MWC 49 (see Section I, to follow), DRA is recommending reductions to the number of Fault Location, Isolation and Service Restoration (FLISR) systems PG&E is proposing to install in 2014. DRA recommends that 100 systems be installed, half of PG&E's forecast of 200. As shown in PG&E's workpapers, there are three reclosers per FLISR system.[56] Therefore, a decrease of 100 FLISR system installations in 2014 will result in a

[55] Workpapers for Exhibit PG&E-4, page WP 15-7, line 3. On that table, PG&E estimates a replacement cost (per circuit foot) of $100 for 2013 and 2014.

[56] Workpaper for Exhibit PG&E-4, page WP 15-9, line 21.

decrease of 300 recloser purchases in that year. Consequently, in calculating its estimate for Line 3 of Table 7-12, DRA reduced PG&E's 2014 forecast of 1,110 reclosers by 300, resulting in a forecast of 810. Using a replacement cost of $22,000 per line recloser,[57] DRA's 2014 forecast of replacing 810 reclosers results in a recommended capital expenditure of $17.820 million. Using the same replacement cost, PG&E's forecast of replacing 1,110 reclosers results in a 2014 cost of $24.420 million.

3. Conclusions

As discussed in the previous two sections, DRA has made two adjustments to MWC 08, and is using the recorded total of $18.547 million for 2012. The net result of these adjustments is that DRA is recommending that total MWC 08 capital expenditures be $18.547 million in 2012, $3.018 million lower than PG&E's forecast. For 2014, DRA's forecast is $44.492 million (which includes DRA's revised escalation calculation), $23.694 million lower than PG&E's estimate. It should be noted that even though DRA's 2014 forecast is lower than PG&E's, DRA's estimate is over 76% higher than PG&E's 2013 forecast (which DRA has found reasonable). PG&E's and DRA's estimates for MWC 08 are summarized on Line 10 of Table 7-1.

I. MWC 49 – Reliability Circuit / Zone

Capital projects contained within MWC 49 include reliability improvements beyond those addressed in MWC 08. Those projects include the installation of Fault Location, Isolation and Service Restoration (FLISR) systems, improvement of poor performing circuits, installation of overhead fuses, installation of overhead line reclosers and underground protective devices, installation of fault indicators, replacement of recloser controls, and work in communities to resolve high-impact reliability issues.[58]

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[57] Workpapers for Exhibit PG&E-4, page WP 15-8, line 13. On that table, PG&E estimates a unit cost of $22,000 for 2012, 2013, and 2014.

[58] Exhibit PG&E-4, page 15-14, lines 12 through 15, and page 15-15, lines 1 and 2.

Table 7-13, shown on the next page, provides a more detailed breakdown of the capital categories that constitute MWC 49. As that table clearly shows, there are numerous sub-MWCs contained in MWC 49. As indicated by Footnote 1 in Column 7 of that table, DRA had access to the recorded total expenditures for 2012. The only recorded number available to DRA was the total figure of $61.923 million. DRA did not have access to recorded 2012 data for the sub-categories that constitute MWC 49. In order for the forecasts in Column 7 to total $61.923 million, DRA arbitrarily chose the Line 2 forecast and mathematically adjusted it (to $54.144 million) so that the total for Column 7 equaled the recorded amount.

A closer examination of Table 7-13 shows that, other than the use of recorded data for 2012, DRA made only one adjustment to PG&E's proposed forecasts. That adjustment impacts the 2014 forecast for FLISR system expenditures (Line 1 of Table 7-13).

The FLISR program was authorized by the Commission in the Cornerstone decision (D.10-06-048). Attachment A to that decision specifies the capitalized expenditures that were authorized. Attachment A states that over the four-year period 2010 through 2013, PG&E was authorized to install FLISR systems, totaling $136.341 million, on the 400 worst performing circuits, with appropriate prioritization of projects based on the severity of the problem and cost effectiveness analysis.

The Cornerstone program ends in 2013, and expenditures associated with Cornerstone are excluded from this GRC (with the exception of using 2012 recorded data). However, as discussed in its testimony, PG&E is proposing to continue the FLISR program.[59] PG&E proposes shifting this program to MWC 49 beginning in 2014, and forecasts expenditures of $60.000 million per year in order to install 200 FLISR systems per year.

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[59] Exhibit PG&E-4, page 15-12, lines 3 and 4.

TABLE 7-13
MWC 49 -- Distribution Reliability Circuit / Zone
Recorded and PG&E's Estimated Data From Workpaper Table 15-5
Nominal Dollars ($000)

		1	2	3	4	5	6	7	8	9	10	11	12
Line #	MWC Description	Recorded					Estimated						
		2007	2008	2009	2010	2011	2012		2013		2014		
							PG&E	DRA 1/	PG&E	DRA	PG&E	DRA	PG&E ≥ DRA
1	FLISR Systems	--	--	--	--	--	--	--	--	--	$60,000	$30,000	$30,000
2	Targeted Circuit Initiative	$4,702	$5,047	$14,143	$54,422	$57,259	$52,128	$54,144	$52,000	$52,000	$26,000	$26,000	$0
3	Recloser Control Upgrades	$3,690	$5,228	$2,307	$7,582	$2,363	$2,024	$2,024	$800	$800	$1,600	$1,600	$0
4	Overhead Protection	$8,295	$13,654	$11,039	$12,244	$6,204	$1,796	$1,796	$3,100	$3,100	$6,000	$6,000	$0
5	Underground Protection	$1,157	$2,750	$1,512	$4,650	$2,298	$2,015	$2,015	$1,600	$1,600	$2,400	$2,400	$0
6	Fault Indicators, Overhead and Underground	$4,054	$3,232	$2,731	$2,879	$2,944	$1,944	$1,944	$2,500	$2,500	$5,250	$5,250	$0
7	Escalation	--	--	--	--	--	--	--	$1,719	$1,700	$2,590	$1,799	$791
8	Total	$21,896	$29,910	$31,732	$81,776	$71,067	$59,907	$61,923	$61,719	$61,700	$103,840	$73,049	$30,791
9	Total Excluding 2013 & 2014 Escalation	$21,896	$29,910	$31,732	$81,776	$71,067	$59,907	$61,923	$60,000	$60,000	$101,250	$71,250	$30,000

1/ NOTE: DRA's 2012 Total of $61,923 is a recorded amount. It was obtained from PG&E in an e-mail dated 3/1/13.

PG&E claims that the reliability of its electric distribution system has been improving.[60] DRA agrees with PG&E's request to continue making these reliability improvements if they can be accomplished in a cost-effective manner. However, in DRA's judgment, PG&E's 2014 FLISR installation request is excessive. As noted in the Cornerstone decision, the 400 worst performing circuits are being addressed in that program over the 2010 through 2013 period. The 400 worst circuits are "low hanging fruit" in the sense that installing FLISR systems on those circuits will garner the most improvements in reliability.

PG&E's FLISR proposal for MWC 49 would entail spending $180.000 million to install 600 FLISR systems over the period 2014 through 2016, far more than the $136.341 million that was found reasonable over the four-year period covered by Cornerstone. PG&E's test year 2014 forecast will result in PG&E spending more money to gain fewer benefits. Rather than installing 200 FLISR systems in 2014, as proposed by PG&E, DRA has concluded that 100 installations are more reasonable. DRA's recommendation of 100 installations equals the average number of installations undertaken during the Cornerstone period (i.e., 400 installations over the four-year period 2010 through 2013 equals 100 per year). DRA estimates that 100 FLISR installations in 2014 will allow PG&E to continue its reliability improvement program. At $300,000 per system, DRA's 2014 FLISR system forecast is $30.000 million.[61]

PG&E states that a Value of Service (VOS) study shows a benefit to cost ratio for this project of 31.2.[62] However, even if the VOS study is positive, judgment must be exercised in determining the quantity of FLISR system installations carried out each year. As an extreme example, no one would recommend that all 600 FLISR systems that PG&E proposes to install during the 2014 through 2016 period should

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[60] Exhibit PG&E-4, pages 15-4 through 15-11.

[61] Workpapers for Exhibit PG&E-4, page WP 15-9, line 42. ($300,000 per system)x(DRA's 2014 forecast of 100 systems)=($30.000 million).

[62] Exhibit PG&E-4, page 15-21, lines 24 and 25.

be immediately installed even assuming the benefit to cost ratio is positive. In DRA's judgment, installing 100 FLISR systems in 2014 continues the average replacement rate found reasonable in the Cornerstone decision, and will allow PG&E to continue its reliability improvements. The net result of DRA's adjustments is that DRA is recommending that total MWC 49 capital expenditures be $61.923 million in 2012, $2.016 million higher than PG&E's forecast. For 2014, DRA's forecast is $73.049 million (which includes DRA's revised escalation calculation), $30.791 million lower than PG&E's estimate. PG&E's and DRA's estimates for MWC 49 are summarized on Line 12 of Table 7-1.

J. MWC 56 – Replacement of Underground Assets

PG&E's electric underground distribution system consists of primary distribution cables and associated switches, vaults, enclosures, conduits, splices, cable connectors, and other equipment.[63] Capital projects for MWC 56 primarily consist of replacing cables and switches in order to provide safe and reliable service. When underground cables fail, and the nature of the failure requires the immediate replacement (or repair) of the cable, that work is charged to MWC 17. MWC 56 only includes capital costs for failed cables that do not require immediate repair. Table 7-14, shown on the next page, provides a more detailed breakdown of the capital categories that constitute MWC 56.

As Table 7-14 clearly shows, there are several sub-MWCs contained in MWC 56. As indicated by Footnote 1 in Column 7 of that table, DRA had access to the recorded total expenditures for 2012. The only recorded number available to DRA was the total figure of $72.018 million. DRA did not have access to recorded 2012 data for the sub-categories that constitute MWC 56. In order for the forecasts in Column 7 to total $72.018 million, DRA arbitrarily chose the Line 1 forecast and mathematically adjusted it (to $37.018 million) so that the total for Column 7 equaled the recorded amount.

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[63] Exhibit PG&E-4, page 16-1, lines 11 through 13.

TABLE 7-14
MWC 56 -- Underground Cable Replacement
Recorded and PG&E's Estimated Data From Workpaper Table 16-5
Nominal Dollars ($000)

		1	2	3	4	5	6	7	8	9	10	11	12
		Recorded					Estimated						
Line #	MWC Description	2007	2008	2009	2010	2011	2012		2013		2014		
							PG&E	DRA 1/	PG&E	DRA	PG&E	DRA	PG&E ≥ DRA
1	Traditional MWC 56 Expenditures	$30,055	$22,084	$17,348	$31,503	$34,142	$39,200	$37,018	$38,600	$38,600	$76,400	$38,600	$37,800
2	Network Cable Replacement	--	--	--	$16	$798	$7,000	$7,000	$6,000	$6,000	$21,000	$21,000	$0
3	TGRAM / TGRAL Switch Replacements	--	--	$89	$5,911	$20,881	$28,000	$28,000	$22,400	$22,400	$39,200	$28,000	$11,200
4	Escalation	--	--	--	--	--	--	--	$1,918	$1,895	$3,478	$2,214	$1,264
5	Total	$30,055	$22,084	$17,437	$37,430	$55,821	$74,200	$72,018	$68,918	$68,895	$140,078	$89,814	$50,264
6	Total Excluding 2013 & 2014 Escalation	$30,055	$22,084	$17,437	$37,430	$55,821	$74,200	$72,018	$67,000	$67,000	$136,600	$87,600	$49,000

1/ NOTE: DRA's 2012 Total of $72,018 is a recorded amount. It was obtained from PG&E in an e-mail dated 3/1/13.

Line 1 of Table 14 contains the recorded and forecasted estimates for the types of projects that have been traditionally included in MWC 56. Such capital categories as Tie-Cable Replacement, Critical Operating Equipment (COE) Cable Replacement, and Reliability-Related Cable Replacement are all included in Line 1. Lines 2 and 3 of Table 7-14 represent new work initiatives that PG&E is including in this GRC for the first time: Network Cable Replacement and TGRAM/TGRAL Switch Replacements.

A closer examination of Table 7-14 shows that, other than the use of recorded data for 2012, DRA made two adjustments to PG&E's proposed forecasts. Both adjustments (one for Line I and one for Line 3) only impact 2014. Each of these proposed DRA adjustments will be discussed in the following two sections.

1. Traditional MWC 56 Expenditures

Tie-Cable Replacement, Critical Operating Equipment (COE) Cable Replacement, and Reliability-Related Cable Replacement are the traditional capital categories found in MWC 56. DRA examined PG&E's proposed 2013 capital forecasts for these three categories and accepts them. However, PG&E is forecasting large increases for two of these three categories starting in 2014. For the area of Reliability-Related Cable Replacements, PG&E's 2014 forecast is slightly higher than in previous years, and DRA has concluded that the forecast is reasonable. However, for the other two project categories, PG&E's rationale for the large 2014 increases appears to be to catch-up with project backlogs.

In its testimony, PG&E states that it rescheduled and reprioritized the Tie-Cable Replacement work it had scheduled to do in the last GRC.[64] PG&E also notes that it wants to reduce the backlog of existing COE Cable Replacement projects.[65] In DRA's judgment, there should not have been any backlogs in the first place.

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[64] Exhibit PG&E-4, page 16-16, lines 12 through 14.

[65] Workpapers for Exhibit PG&E-4, page WP 16-29, footnote 1.

TABLE 7-15
MWC 56 -- CABLE REPLACEMENT (Excluding Network and TGRAM / TGRAL Replacements)
Recorded Versus Authorized Capital Expenditures (Thousands of Nominal Dollars)

	1	2	3	4	5	6	7	8	9	10	11	12	13
	2004	2005	2006	2007		2008		2009		2010		2011	
Category	Recorded 1/	Recorded 1/	Recorded 1/	TY 2007 Settlement Amount 4/	Recorded 2/	TY 2007 Settlement Amount (Attrition) 4/	Recorded 2/	TY 2007 Settlement Amount (Attrition) 4/	Recorded 3/	TY 2007 Settlement Amount (Attrition) 4/	Recorded 3/	TY 2011 Settlement Amount 5/	Recorded 3/
MWC 56 -- Cable Replacement (Historical)	$16,447	$35,102	$33,209	$64,150	$30,055	$64,150	$22,084	$64,150	$17,348	$64,150	$31,503	$51,354	$34,142

1/ NOTE: 2004 through 2006 recorded data come from the PG&E Test Year 2011 GRC, specifically Table 12-1 of the Workpapers (page 12-1).

2/ NOTE: 2007 and 2008 recorded data come from workpaper page WP 16-6 in the current GRC.

3/ NOTE: 2009 through 2011 recorded data come from workpaper page WP 16-6 in the current GRC. However, expenditures associated with the Network Cable Replacement program and the TGRAM/TGRAL Switch Replacement program are excluded as they are new programs that would not have been included in the authorized amounts.

4/ NOTE: 2007 Settlement adopted PG&E's 2007 forecast. (See page 62 of D.07-03-044 which states that the Settlement adopts PG&E's request.) Attrition years (08, 09, and 10) are assumed to equal TY 2007.

5/ NOTE: 2011 Settlement adopted PG&E's MWC 56 request of $51,354. (Page 1-15 of Attachment 1 of D.11-05-018, PG&E's 2011 GRC decision, does not show any adjustments for MWC 56.)

	∑ 07 -11 Authorized	∑ 07 -11 Spent	Δ
2007	$64,150	$30,055	$34,095
2008	$64,150	$22,084	$42,066
2009	$64,150	$17,348	$46,802
2010	$64,150	$31,503	$32,647
2011	$51,354	$34,142	$17,212
Total	**$307,954**	**$135,132**	**$172,822**

As shown in Table 7-15 on the previous page, PG&E has historically spent much less than it was authorized for cable replacements. By the end of 2011, PG&E had cumulatively, over the period 2007 through 2011, spent nearly $173 million less than it had been authorized. In DRA's judgment, any forecasted expenditure that is significantly larger than the $30+ million that was expended in 2010 and 2011 is being proposed so as to catch-up with projects that were previously deferred and to eliminate backlogs. DRA has concluded that the 2013 forecast of $38.600 million (used by both PG&E and DRA) is also reasonable for 2014.

As discussed in Section V, the Commission has increasingly been reluctant to allow utilities to seek ratepayer funding for previously authorized projects that have been deferred. This same reluctance should be applied to MWC 56. Furthermore, PG&E has provided no assurance that underground replacement deferrals will not continue in the future. Based on PG&E's expenditure history, DRA is uncertain that the deferral/backlog problems would be addressed even if PG&E was authorized to increase its 2014 MWC 56 spending to its requested levels.

DRA's recommended 2014 expenditure level of $38.600 million is $37.800 million less than PG&E's forecast. However, this lower level does not indicate that the backlog/deferral of traditional MWC 56 capital expenditures should be ignored, or delayed to a future GRC. DRA's lower forecast reflects DRA's recommendation that ratepayers not be required to once again foot the bill for capital projects that have been deferred for many years.

2. TGRAM/TGRAL Switch Replacements

The second adjustment recommended by DRA involves Line 3 of Table 7-14; this is one of the new work initiatives that PG&E is including in this GRC for the first time. Transfer Ground Rocker Arm Main / Transfer Ground Rocker Arm Line (TGRM/TGRAL) switches consist of an operating assembly contained in a welded steel tank filled with nearly 100 gallons of insulating oil.[66] These switches were developed for use in underground vaults in order to operate the underground electric

[66] Exhibit PG&E-4, page 16-6, lines 5 through 8.

distribution system. PG&E plans to replace 100 switches in 2012, 80 in 2013, and 140 each year in 2014 through 2016.

PG&E states that it has determined that the TGRAM/TGRAL switches need to be retired due to reliability and safety concerns. PG&E inspected each of these switches, and ranked them based on their condition. Appendix A at the end of this exhibit contains a copy of this condition-based ranking. As shown in Appendix A, as of the end of 2011, 155 of the 771 switches have already been replaced, with 616 switches remaining to be replaced. PG&E states that it plans to replace an additional 100 switches in 2012, resulting in 516 remaining.

As mentioned previously, PG&E is forecasting the replacement of 80 TGRAM/TGRAL switches in 2013. Although this is lower than the projected 100 replacements for 2012, DRA concludes that this 2013 replacement level is reasonable. However, DRA has concluded that the 140 replacements forecasted by PG&E in 2014 are excessive.

DRA is recommending that 100 TGRAM/TGRAL switches be replaced each year beginning in 2014. This equates to all of the remaining switches being replaced in slightly more than four years (roughly one year longer than PG&E's proposed schedule), as there are 436 switches that are scheduled for replacement as of the beginning of 2014.[67] In its testimony, PG&E indicates that it would like to replace all of the switches by the end of 2016, although it should be noted that even PG&E's proposed replacement rate of 140 switches per year will not accomplish that goal.[68] In DRA's judgment, extending the replacement schedule by an additional year beyond what PG&E is requesting poses no significant risk and is reasonable.

As shown in Appendix A of this report, 441 of the 661 total switches that will ultimately be replaced fall into the lowest (Tier 8) category, meaning that these

[67] As of the end of 2011, there were 616 TGRAM/TGRAL switches remaining to be replaced. Subtracting the 100 that are scheduled for replacement in 2012 and the 80 scheduled for replacement in 2013 leaves 436.

[68] Replacing 140 switches per year over the 3-year period 2014 through 2016 equates to 420 replacements, less than the 436 switches that remain.

switches have no significant visible oil leaks or corrosion. Stated another way, as of the end of 2011, the total combined number of switches falling into Tiers 1 through 7 equals 175 switches, and should be addressed by the 180 switches replaced in 2012 and 2013.[69] Therefore, extending the replacement period by an additional year (from 2016 to 2017) will not compromise safety or reliability. Since PG&E forecasted that it would replace 100 switches in 2012 at a cost of $28.000 million, DRA is using that same figure for the 100 switches that it recommends be replaced in 2014.

3. Conclusions

As discussed in the previous two sections, DRA has made two adjustments to MWC 56, and is using the recorded total of $72.018 million for 2012. The net result of its adjustments is that DRA is recommending that MWC 56 capital expenditures be $2.182 million lower than PG&E's forecast in 2012. For 2014, DRA is forecasting total MWC 56 expenditures of $89.814 million (which includes DRA's revised escalation calculation), $50.264 million lower than PG&E's estimate. It should be noted that even though DRA's 2014 forecast is lower than PG&E's, DRA's estimate still represents a 30% increase over PG&E's 2013 forecast (which DRA has found reasonable). PG&E's and DRA's estimates for MWC 56 are summarized on Line 13 of Table 7-1.

K. MWC 30 – Rule 20A

Rule 20A provides that utilities will convert existing overhead electric distribution lines, telecommunication lines, cable lines, etc. to underground facilities when such undergrounding has been determined to be in the public interest. To make this determination, a city or county government reviews a potential Rule 20A project to ensure it meets the criteria described in the tariffs. In addition, the local

[69] As of the end of 2011, Appendix A shows that 616 switches need to be replaced. Subtracting the 441 switches in Tier 8, there remain 175 switches in Tier 1 through Tier 7 combined. Since 100 switches are scheduled to be replaced in 2012, with 80 more replaced in 2013 (for a total of 180), the Tier 1 through Tier 7 switches should be largely replaced by 2014.

government must create an underground district and meet with the public and utility representatives.[70]

Table 7-16, on the next page, sets forth the recorded expenditures and the 2012 through 2014 forecasts for MWC 30. As that table shows, there are no sub-MWCs to analyze. As indicated by Footnote 1 in Column 7 of that table, DRA had access to the recorded total expenditures for 2012. The recorded 2012 expenditures for MWC 30 were $52.426 million, $9.373 million less than PG&E had forecasted for that year.

PG&E calculates and allocates what it terms “work credits” in accordance with Section 2.b of the Rule 20A tariff. These work credits are allocated annually to the city or county. Because the cost for undergrounding overhead distribution facilities is usually quite expensive, it can take a number of years for a city or county to accumulate sufficient work credits to fund a Rule 20A project. These annual credits (as well as the accumulated credits) are not actual cash dollars; there is no bank account maintained by the cities or by PG&E that contains these credits or their dollar equivalent. To help explain this concept, PG&E uses the analogy of “frequent flyer miles” – an airline passenger accumulates sufficient mileage credits until they can be redeemed for a seat upgrade or a free flight. Rule 20A work credits operate in a similar manner; a city or county government accumulates sufficient credits until they are “redeemed” for a Rule 20A project.

[70] Exhibit PG&E-4, page 18-2, lines 21 through 28.

TABLE 7-16
MWC 30 -- Rule 20A
Recorded and PG&E's Estimated Data From Workpaper Table 18-5
Nominal Dollars ($000)

<table>
<tr><th></th><th></th><th>1</th><th>2</th><th>3</th><th>4</th><th>5</th><th>6</th><th>7</th><th>8</th><th>9</th><th>10</th><th>11</th><th>12</th></tr>
<tr><th rowspan="3">Line #</th><th rowspan="3">MWC Description</th><th colspan="5">Recorded</th><th colspan="7">Estimated</th></tr>
<tr><th rowspan="2">2007</th><th rowspan="2">2008</th><th rowspan="2">2009</th><th rowspan="2">2010</th><th rowspan="2">2011</th><th colspan="2">2012</th><th colspan="2">2013</th><th colspan="3">2014</th></tr>
<tr><th>PG&E</th><th>DRA 1/</th><th>PG&E</th><th>DRA</th><th>PG&E</th><th>DRA</th><th>PG&E ≥ DRA</th></tr>
<tr><td>1</td><td>WRO Rule 20A</td><td>$45,385</td><td>$39,916</td><td>$41,142</td><td>$36,610</td><td>$33,628</td><td>$61,799</td><td>$52,426</td><td>$86,000</td><td>$52,426</td><td>$86,000</td><td>$52,426</td><td>$33,574</td></tr>
<tr><td>2</td><td>Escalation</td><td>--</td><td>--</td><td>--</td><td>--</td><td>--</td><td>--</td><td>--</td><td>$2,451</td><td>$1,470</td><td>$2,222</td><td>$1,330</td><td>$892</td></tr>
<tr><td>3</td><td>Total</td><td>$45,385</td><td>$39,916</td><td>$41,142</td><td>$36,610</td><td>$33,628</td><td>$61,799</td><td>$52,426</td><td>$88,451</td><td>$53,896</td><td>$88,222</td><td>$53,756</td><td>$34,466</td></tr>
<tr><td>4</td><td>Total Excluding 2013 & 2014 Escalation</td><td>$45,385</td><td>$39,916</td><td>$41,142</td><td>$36,610</td><td>$33,628</td><td>$61,799</td><td>$52,426</td><td>$86,000</td><td>$52,426</td><td>$86,000</td><td>$52,426</td><td>$33,574</td></tr>
</table>

1/ NOTE: DRA's 2012 Total of $52,426 is a recorded amount. It was obtained from PG&E in an e-mail dated 3/1/13.

Over the past several rate case cycles, it has been noted that the level of unspent work credits has been increasing. In its 2003 GRC, PG&E stated that the accumulated amount had reached $296 million (as of 2001) and that it therefore expected to perform a large amount of undergrounding in 2002 and 2003.[71] Similarly, in its 2007 GRC, PG&E stated:

> By 2005, the total accumulation of unspent allocations was approximately $355.6 million. This large accumulation has created an increased demand by the cities and counties for Rule 20A work. As a result, PG&E's forecast of Rule 20A capital expenditures anticipates the cities' and counties' demand for substantial undergrounding work in 2005-2009.[72]

In its 2011 GRC, PG&E stated:

> By the start of 2009, cities had approximately $818.4 million in total accumulated work credits, and in addition, because Rule 20A allows communities to borrow up to five years of work credit allocations at the "then-current levels," communities could borrow (and redeem) up to $404.9 million in allocated work credits in addition to their accumulated unspent balance.[73]

In its current GRC, PG&E states that it is implementing a plan to increase the rate at which requested Rule 20A projects are completed.[74] PG&E also states that it would like to eliminate the backlog of work by 2017, and proposes to greatly increase its forecast of MWC 30 expenditures in 2013 through 2016 by spending $86.000 million per year. (See Columns 8 and 10 in Table 7-16.) As can be seen in Line 1 of Table 7-16, $86.000 million is much higher than any recorded expenditure since at least 2007.

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[71] PG&E 2003 GRC (A.02-11-017), Exhibit PG&E-2, page 3-32.

[72] PG&E 2007 GRC (A.05-12-002), Exhibit PG&E-4, page 3-32, lines 17 through 22.

[73] PG&E 2011 GRC (A.09-12-020), Exhibit PG&E-3, page 7-7, lines 16 through 21.

[74] Exhibit PG&E-4, page 18-6, lines 2 and 3.

DRA analyzed several factors in order to evaluate the reasonableness of PG&E's proposal to increase spending. First, DRA examined the Rule 20A reports that are sent to the Commission. In accordance with Ordering Paragraph 7 of Decision 73078 in Case 8209, PG&E is required to submit an annual report to the Commission providing various financial information regarding the amounts of Rule 20A allocations and the amounts that have actually been spent. DRA has included the Rule 20A financial data for 2011 and 2012 in an appendix (Appendix B) to this testimony. On Line 10 of the 2011 report, the data show that PG&E has, cumulatively, spent $574,783,800 less than had been allocated over the years. The comparable figure for 2012 (on Line 11) shows $579,423,402. While neither figure definitively indicates how much PG&E will actually spend in a given year, those figures do indicate that it is spending less than is being allocated, and that the spending imbalance is growing.

DRA examined the total amounts for the category "Funds Committed" (Line 13 on the 2011 report and Line 14 on the 2012 report), which represents the sum of the dollars necessary to finish jobs that are not yet completed, plus the dollars allocated for projects where underground districts have already been formed. In 2011, the total for "Funds Committed" amounted to $521,430,773, while in 2012, the total was $442,126,301. These two figures do not definitively indicate how much will be spent in a given future year. However, since the "committed" amount is lower at the end of 2012 than it was at the end of 2011, it does suggest that the actual levels of capital expenditures in 2013 and 2014 are unlikely to be much higher than the 2012 amounts.

Next, DRA sought to examine how historical recorded MWC 30 capital expenditures compared to what PG&E had been authorized. Table 7-17, on the next page, presents authorized Rule 20A expenditures and recorded expenditures, and compares the two. As shown at the bottom of the table, from 2007 through 2012, PG&E has consistently spent less for MWC 30 than has been authorized. Based on PG&E's expenditure history, there is no certainty that the backlog of work would be addressed, even if PG&E was authorized to increase its 2013 and 2014 MWC 30 spending to its requested levels. Table 7-17 causes DRA to question

TABLE 7-17
MWC 30 -- RULE 20A UNDERGROUNDING
Recorded Versus Authorized Capital Expenditures (Thousands of Nominal Dollars)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
	2004	2005	2006	2007		2008		2009		2010		2011		2012	
Category	Recorded 1/	Recorded 1/	Recorded 1/	TY 2007 Settlement Amount 4/	Recorded 1/	TY 2007 Settlement Amount (Attrition) 4/	Recorded 1/	TY 2007 Settlement Amount (Attrition) 4/	Recorded 2/	TY 2007 Settlement Amount (Attrition) 4/	Recorded 2/	TY 2011 Settlement Amount 5/	Recorded 2/	TY 2011 Settlement Amount (Attrition) 5/	Recorded 3/
MWC 30 -- Rule 20A Undergrounding	$49,303	$41,998	$68,357	$55,000	$45,385	$55,000	$39,916	$55,000	$41,142	$55,000	$36,610	$80,000	$33,628	$80,000	$52,426

1/ NOTE: 2004 through 2008 recorded data come from the PG&E Test Year 2011 GRC, specifically Table 7-2 of the Workpapers (page WP 7-2) for Exhibit PG&E-3.

2/ NOTE: 2009 and 2011 recorded data come from workpaper page WP 18-1 in the current GRC.

3/ NOTE: 2012 recorded data come from PG&E's response to DR 211-GAW. E-mail response sent 3/1/13.

4/ NOTE: 2007 Settlement adopted PG&E's 2007 forecast. (See page 62 of D.07-03-044 which states that the Settlement adopts PG&E's request.) Attrition years (08, 09, and 10) are assumed to equal TY 2007. $55,000 forecast for 2007 comes from Exhibit PG&E-4, page 3-35, line4.

5/ NOTE: 2011 Settlement adopted PG&E's MWC 30 request of $80,000. (Page 1-15 of Attachment 1 of D.11-05-018, PG&E's 2011 GRC decision, does not show any adjustments for MWC 30.) The 2012 attrition year is assumed to equal TY 2011.

	∑ 07 -12 Authorized	∑ 07 -12 Spent	Δ
2007	$55,000	$45,385	$9,615
2008	$55,000	$39,916	$15,084
2009	$55,000	$41,142	$13,858
2010	$55,000	$36,610	$18,390
2011	$80,000	$33,628	$46,372
2012	$80,000	$52,426	$27,574
Total	**$300,000**	**$196,681**	**$103,319**

the likelihood that, even if PG&E's forecast was authorized, it would suddenly begin spending all of the $86.000 million it is requesting for 2013 and 2014, especially given the fact that the commencement of Rule 20A projects are not entirely within the control of PG&E.

The final piece of DRA's Rule 20A analysis was to examine how PG&E's forecast for 2012 comported with reality. As shown in Table 7-16 (Row 4, Column 6), PG&E forecasted $61.799 million for Rule 20A expenditures in 2012. PG&E's forecast presumably incorporated its recent proposals to eliminate the work backlog, as well as its most recent forecasts. However, as the saying goes, "the proof is in the pudding." In spite of the fact that 2012 was the first forecast year for PG&E in this GRC, and would involve the least amount of extrapolation of data trends, the actual 2012 recorded amount for MWC 30 was $52.426 million, $9.373 million less than PG&E's forecast.

Based on all of DRA's analyses, PG&E has failed to justify the reasonableness of its forecasts of $86.000 million per year for 2013 and 2014. The annual Rule 20A reports to the Commission indicate that future expenditures will not be greater than the 2012 recorded amount of $52.426 million. Based on the totality of the evidence, DRA is convinced that the 2012 recorded expenditure of $52.426 million is also a reasonable forecast for 2013 and 2014. When escalation is included, DRA's 2013 and 2014 forecasts are $53.896 million and $53.756 million, respectively. MWC 30 capital expenditures are included in Line 14 of Table 7-1.

APPENDIX A

Condition-Based Ranking of TGRAM / TGRAL Switches

Workpaper Table 16-9
Pacific Gas and Electric Company
Exhibit (PG&E-4), Chapter 16, Underground Asset Management
TGRAM/ TGRAL Tier Completion Summary

Line No.	Priority / Tier	Units Completed EOY 2011	Units Remaining as of YE 2011	Tier Description	Details
1	1	13	0	Tier 1 = Oil clarity, oil leak, corrosion, cracks in lead sheath, condition at cable entry	
2	2	3	1	Tier 2 = Oil clarity/leak and corrosion	
3	3	5	2	Tier 3 = Oil leak and corrosion/other condition	
4	4	21	39	Tier 4 = Oil clarity and/or oil leak	
5	5	10	8	Tier 5 = Oil clarity and corrosion	
6	6	1	5	Tier 6 = Oil clarity or oil leak (no corrosion)	
7	7	39	120	Tier 7 = Other conditions (no oil conditions)	
8	8	63	441	Tier 8 = No significant visible oil leaks or corrosion conditions identified. Continued inspection is required to monitor future conditions	
9	**Total**	**155**	**616**		(2)

10

11 **Forecast Assumptions and Details**

12 (1) Please refer to WP 16-27 "Forecasted TGRAM/TGRAL Switch Replacement Expenditures" for details on the forecasted amounts of units to be completed for 2012-2016.

13 (2) It is forecasted that a total of 16 units will be completed in conjunction with other program work from 2012 thru 2016

APPENDIX B

Rule 20A Conversions

Annual Report to the Commission on Rule 20A Conversions

REPORT OF RULE 20A CONVERSIONS

UTILITY: Pacific Gas and Electric Company — YEAR ENDING 2011

ALLOCATIONS FOR CONVERSION			
1	Total Allocations (1968-2010)		1,812,432,682
2	Report Year's Allocation (2011)	41,300,000	
3	Total Allocations Through Report Year 1968-2011 (1+2)		1,853,732,682
EXPENDITURES FOR CONVERSIONS			
4	Total Expended for Completed conversions (1968-2010)	1,055,766,142	
5	Total Report Year Expended for Completed Conversions (2011)	27,685,376	
6	Total Expended for Completed Conversions Through Report Year (1968-2011) (4+5)		1,083,451,518
7	Total Expended on Conversions Not Completed by Report Year-End (2011)	195,497,365	
8	Total Expended (6+7)		1,278,948,882
TOTAL UNEXPENDED FUNDS (3 - 8)			
9	If Expenditures are Greater than Allocations		0
10	If Allocations are Greater Than Expenditures (One of the above, 9 or 10 will always be "0")		574,783,800
FUNDS COMMITTED			
11	Total funds Authorized to Complete Partially completed Jobs Shown on Line 7	223,714,176 **	
12	Funds for Jobs Not Under Construction where U.G. districts have been formed Under enabling Legislation	297,716,597	
13	Total Committed (11 + 12)		521,430,773
ADDITIONAL FUNDS COMMITTED			
14	Funds Required for Identified Projects Under Study by Active U.G. communities as of Report Year Ending 12/31/2008	no longer used*	
MEMO INFORMATION			
15	Advance for Specific Communities Beyond Current Allocations		167,699,682
16	Reserve Funds Held for Specific Communities for Which No Specific Current Projects are Under Study as of Report Year-End		470,278,453
17	Expenditures to Case 9365 (Transmission Dollars Which are Included in the Total Cost above in Line 8)		no longer used*

* no longer used as of 12/31/2008

** PG&E recently discovered that some of the items that PG&E had been reporting on line 12 were also included in line 11. We have eliminated the duplication that we found in Line 11 of our numbers. If Line 11 was calculated the same as last year (including the duplication), the Line 11 amount would be $567,027,829.

REPORT OF RULE 20A CONVERSIONS

UTILITY: Pacific Gas and Electric Company YEAR ENDING 2012

ALLOCATIONS FOR CONVERSION		
1 Total Allocations (1968-2011)		1,853,732,682
2 Report Year's Allocation (2012)	41,300,000	
3 Total Allocations Through Report Year 1968-2012 (1+2)		1,895,032,682
EXPENDITURES FOR CONVERSIONS		
4 Total Expended for Completed conversions (1968-2011)	1,083,451,518	
5 Total Report Year Expended for Completed Conversions (2012)	82,130,401	
6 Total Expended for Completed Conversions Through Report Year (1968-2012) (4+5)		1,165,581,918
7 Total Expended on Conversions Not Completed by Report Year-End (2012)	150,027,362	
8 Total Expended (6+7)		1,315,609,280
TOTAL UNEXPENDED FUNDS (3 - 8)		
9 If Expenditures are Greater than Allocations		0
11 If Allocations are Greater Than Expenditures (One of the above, 9 or 10 will always be "0")		579,423,402
FUNDS COMMITTED		
12 Total funds Authorized to Complete Partially completed Jobs Shown on Line 7	150,027,362	
13 Funds for Jobs Not Under Construction where U.G. districts have been formed Under enabling Legislation	274,098,939	
14 Total Committed (11 + 12)		442,126,301
ADDITIONAL FUNDS COMMITTED		
14 Funds Required for Identified Projects Under Study by Active U.G. communities as of Report Year Ending 12/31/2008	no longer used*	
MEMO INFORMATION		
15 Advance for Specific Communities Beyond Current Allocations		170,662,388
16 Reserve Funds Held for Specific Communities for Which No Specific Current Projects are Under Study as of Report Year-End		485,428,053
17 Expenditures to Case 9365 (Transmission Dollars Which are Included in the Total Cost above in Line 8)		no longer used*

* no longer used as of 12/31/2008