BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA

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Application of Pacific Gas and Electric Company for Authority, Among Other Things, to Increase Rates and Charges for Electric and Gas Service Effective on January 1, 2014 (U39M).	Application 12-11-009 (Filed November, 15, 2012)
And Related Matter	Investigation 13-03-007

OPENING BRIEF OF THE COALITION OF CALIFORNIA UTILITY EMPLOYEES

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SUBJECT INDEX

SUMMARY OF RECOMMENDATIONS

Unlike prior GRCs, the Commission must primarily focus on safety and reliability. DRA and most other parties ignored the safety and reliability impacts of their proposals and instead argued for a lower revenue requirement. In contrast, CUE's recommendations focus on the most cost effective ways to improve safety and reliability. These recommendations should be adopted.

- The Commission should order PG&E to use the Picarro methodology, but to use it in addition to, not as a replacement for, existing leak detection methodology, at an additional cost of $3.0 million, and also approve PG&E's proposed two-way balancing account.

- The Commission should require PG&E to fix an additional 926 COE items per year, resulting in an expense increase of $2.9 million per year, a capital expenditure increase of $4.4 million, which would increase the 2014 PG&E revenue requirement by $3.3 million.

- The Commission should require PG&E to replace an additional 19,000 poles per year, which would require an additional $218.4 million annual capital investment. It would increase the 2014 PG&E revenue requirement by approximately $19.7 million.

- The Commission should require PG&E to double its proposed breaker replacement rate, which would require an additional $31.5 million in capital costs, or an average of $10.5 million per year. It would increase 2014 revenue requirement by roughly $0.9 million.

- The Commission should require PG&E to double its proposed overhead line replacement rate, which would require an additional $101.1 million in capital costs, or an average of $33.4 million per year. That would increase 2014 revenue requirement by roughly $3.0 million.

- The Commission should require PG&E to double its overhead fuse program which would require an additional capital investment of $3 million per year. That would increase 2014 revenue requirements by roughly $0.3 million.

- The Commission should require PG&E to double its recloser program which would require an additional capital investment of $9.8 million over the GRC period, or an average of $3.3 million per year. That would increase 2014 revenue requirements by roughly $0.3 million.

- The Commission should require PG&E to expand its FLISR program by 50 percent, to 300 circuits per year, which would require an additional capital investment of $36.6 million per year. That would increase 2014 revenue requirements by roughly $3.3 million.

- The Commission should require PG&E to expand its targeted circuit program by 50 percent, to 120 circuits per year, which would require an additional capital investment of $13 million per year. That would increase 2014 revenue requirements by roughly $1.2 million.

- The Commission should require PG&E to expand its underground protection program by 50 percent, to a total of 100 fuses and interrupters, which would require an additional capital investment of $4 million, or an average of $1.3 million per year. That would increase 2014 revenue requirements by roughly $0.1 million.

- The combined effect of the above recommendations would be an increase in PG&E's 2014 revenue requirement of approximately $32 million.

TABLE OF AUTHORITIES

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The Coalition of California Utility Employees (CUE) respectfully submits this Opening Brief pursuant to Rule 13.11 of the Rules of Practice and Procedure and the Assigned Commissioner's Ruling and Scoping Memo issued January 22, 2013. Sections are numbered based on the common briefing outline.

1. SUMMARY AND INTRODUCTION

In the March 5, 2012 letter issued by Paul Clanon to PG&E, the Commission explicitly addressed a long overdue commitment to focus on safety in GRCs. Mr. Clanon said, "GRCs address not only rates but also operations, and should focus not just on costs, but also on the safety and security of the utility's physical…systems."[1] Unfortunately, DRA and most of the other parties have by and large ignored this direction and proceeded with

[1] March 5, 2012 Letter from Paul Clanon to PG&E.

business as usual – thinking only of how they can argue for a lower revenue requirement, while completely ignoring the safety and reliability consequences of their recommendations. The Commission cannot proceed with business as usual; we think the Commission knows this. Safety and reliability must be the first concern, not the last.

Since CUE began participating in Commission proceedings, we have focused on the safety and reliability utilities provide to their customers and to California. In GRCs past, CUE has always advocated for safer utility systems, which often includes redirecting the utility's proposed spending and sometimes includes an increase in spending on particular activities that greatly affect safety and reliability.

This GRC is no different. CUE recommends changing some spending priorities and sometimes recommends an increase over what PG&E has requested. CUE's proposals will ultimately result in a safer, more reliable system. The Commission has stated its desire to refocus its attention on the safety and security of the utility's physical systems. The March 5 letter concluded with the hope that "intervenors will join [the Commission] in this effort to ensure that safety and security are the principle focus of ratesetting."[2] For DRA and other parties, safety has not been the principle focus; instead it has been mostly ignored. The Commission should follow its own call, adopt the necessary changes to the GRC process, and listen to parties who focus on safety first.

[2] March 5, 2012 Letter from Paul Clanon to PG&E.

2. LEGAL AND RATEMAKING PRINCIPLES AND OTHER GENERAL ISSUES

2.2 SAFETY AND RISK IN RATEMAKING

2.2.3 BALANCING SAFETY AND RISK WITH JUST AND REASONABLE RATES

The Commission can no longer decide GRCs while wearing just the green eye shade of an accountant, but must also wear the hat of a fire chief, responding to explosions, downed lines, or wildfires. Paul Clanon's March 5, 2012 letter to PG&E stated that, "the GRC should be founded on explicit safety and security risk assessment."[3] It then ordered PG&E to hire consultants who would assess PG&E's safety and security proposals in order to begin integrating safety and security more fully into the ratesetting process.

2.2.4 SED REPORTS

2.2.4.1 Liberty Report

The Liberty Report reviewed PG&E's electric operations proposals in light of the March 5 letter. One of Liberty's main conclusions states:

> The general nature of rate proceedings involving an individual company does not create an optimum environment for promoting and testing the effectiveness of the changes it will take to move PG&E toward the state anticipated by the March 5 letter. Consideration of a different context and of an approach allowing for thought of statewide consistency where appropriate will help reinforce to the state's utilities the Commission's continuing emphasis on enhanced consideration of risk assessment in connection with safety spending, promote the development of best practices, and establish useful levels of consistency.[4]

[3] March 5, 2012 Letter from Paul Clanon to PG&E.
[4] Exh. 168, p. S-3.

The Liberty Report then made four recommendations, one of which was that "stakeholders should consider the optimum means ***outside the GRC*** context for underscoring the long-term nature of the interest in enhanced use of risk assessment in considering safety matters and for addressing the merits of a comprehensive approach by the state's energy utilities."[5]

Unfortunately, for the time being, we only have the GRC mechanism to consider risk assessment in connection with safety spending. Therefore, it is imperative that the Commission address safety and reliability issues and afford them the proper consideration and weight in fashioning the GRC decision. No longer can the Commission arbitrarily split the difference between PG&E and DRA's proposals. DRA's tradition of simply averaging past costs without considering the potential safety effects of their proposals is unacceptable.[6] DRA does not even attempt to balance safety considerations in its rate proposals. In a Data Request CUE sent to DRA asking it to provide copies of all analyses performed in addressing: (1) the effects on the safety of employees and the public resulting from its recommendations, and (2) the effects on the reliability of PG&E's electric or gas service resulting from its recommendations, DRA responded:

> Except to the extent specifically stated in the testimonies, ***DRA does not distinguish its testimonies or analyses on the basis of their effects on the safety of PG&E's employees or their effects on the reliability of PG&E's electric or gas service, etc.*** To the extent that any aspects of PG&E's

[5] *Id.*
[6] Exh. 282, CUE/Cross Exhibit, Data Request to DRA.

> testimony purports to address or make recommendations of the safety of PG&E's employees or the reliability of PG&E's electric or gas service, DRA's corresponding response to such response to such testimony constitutes DRA's analysis of the same.[7]

DRA's proposals regularly cut funding for safety and reliability projects. Therefore, it was obligated to address the potential safety effects of its proposals. Yet DRA admits that it utterly failed to consider the impact on safety of its proposals. The Commission should emphatically reject DRA's stunning disregard for the safety of PG&E's customers and employees.

a. Aging Infrastructure

The Liberty Report addresses the "aging infrastructure gap" and the safety issues that a utility's aging infrastructure can pose. It recommends that PG&E treat aging infrastructure as an enterprise-level risk,[8] and states that "[m]aintenance of the assets should be a continuous process conducted in a sustainable strategic manner. It is far too easy to put off the replacement to save maintenance funding."[9] It further notes that "[a]s the replacements are delayed, the magnitude of the financial implications of getting behind becomes too severe to overcome."[10] Most, if not all, of CUE's recommendations for PG&E's electric distribution system are based on maintenance and updates to the existing infrastructure. The Commission should note those parties recommending delaying replacement rates and costs for short term savings on maintenance funding. Just as the Liberty

[7] *Id.* Emphasis added.
[8] Exh. 168, p. 98.
[9] *Id.*
[10] *Id.* at p. 99.

Report says, the cost of these short term savings as the replacements are delayed is that "the magnitude of the financial implications of getting behind becomes too severe to overcome." These delays will only lead to a worsening, unsafe electric distribution system. Addressing these issues now will prevent future GRCs from facing unworkable requests for failing infrastructure.

3. GAS DISTRIBUTION

3.1 POLICY AND INTRODUCTION

The Commission should support CUE's recommendations to increase funding for Leak Survey and Repair as part of its renewed commitment to public safety. CUE's proposal will result in PG&E finding more leaks than with either traditional methods or the Picarro method alone. After the San Bruno explosion, the Commission cannot continue to underfund gas Leak Survey and Repair. It is not an option.

3.6 LEAK SURVEY AND REPAIR

As the first GRC since the San Bruno explosion, PG&E has identified several safety goals which align with its overall objective of having zero injuries to the public it serves or to its employees.[11] One of these goals is to become a "safety-first culture," which includes making substantial investments in improved public safety initiatives.[12] PG&E is proposing improved leak surveys as part of this attention to safety. As part of this proposal, PG&E seeks to employ the Picarro surveyor technology. However,

[11] Exh. 14, PG&E/Stavropolous, p. 1-11.
[12] *Id.* at p. 1-12.

the evidence shows that Picarro does not find all the leaks that traditional surveys find. Thus, the Commission should require PG&E to supplement the Picarro surveys with traditional foot surveys in order to find all detectable leaks. Picarro is simply not yet adequate to completely replace foot surveys.

A. Picarro Technology

PG&E proposes implementing the Picarro technology, which is 1,000 times more sensitive than traditional methods.[13] CUE supports PG&E's use of the Picarro surveyor[14] because it finds many leaks that traditional methods do not. However, the evidence presented in this GRC shows that Picarro finds ***different*** leaks than traditional methods, not just more leaks.

The side-by-side studies[15] found that the Picarro methodology detected many more leaks than the traditional approach. In Sacramento, Picarro found 163 leaks while the traditional methodology found only 117.[16] In the Diablo division, the disparity was even larger: Picarro found 339 leaks while the traditional approach found 189 leaks.[17] Overall, the Picarro approach found 64 percent more leaks than the traditional approach.[18] The Picarro methodology not only found more leaks overall, it found more leaks of every grade.[19]

[13] *Id.*, p. 33
[14] Exh. 146, CUE/Marcus, p. 38.
[15] Exh. 148, CUE/Marcus, Attachments.
[16] Exh. 146, CUE/Marcus, p.36.
[17] *Id.*
[18] *Id.*
[19] *Id.*

While Picarro found many leaks missed by the traditional method, it failed to find most of the leaks found by the traditional on-foot method. Overall, less than 16 percent of the leaks found by the traditional method were also found by Picarro.[20] Picarro did not merely find ***more*** leaks than the traditional approach, it found ***different*** leaks. Of the total of 760 distinct leaks found by the two approaches, only 48 were found by both.[21] Indeed, both Picarro and PG&E agreed with these results.[22]

Because of the limited overlap between the leaks found by the Picarro methodology and those found by traditional methodology, using both methods would find far more leaks than either alone would find. While Picarro itself finds 64 percent more leaks than the traditional approach, doing both finds 148 percent more leaks than the traditional method.[23]

B. The Commission Should Approve Picarro but Only in Addition to Traditional Foot Surveys

The fact that the Picarro methodology finds many previously unfound leaks supports PG&E's proposal to introduce the Picarro methodology on an increasingly large scale in its service area.

On the other hand, the fact that existing methods find many leaks that Picarro misses, including Grade 2 and Grade 2+ leaks, implies that PG&E should not be permitted, at this time, to use the Picarro methodology in place of traditional methods. Rather, PG&E should be required, for this GRC cycle,

[20] Exh. 146, CUE/Marcus, p.36.
[21] *Id*. at. p. 37.
[22] Tr. 21: 2433, ll.20-2434:17, Picarro/Crosson; Tr. 14: 1408, ll.7-15; PG&E/Redding.
[23] Exh. 146, CUE/Marcus. p. 36.

to use Picarro only as a supplement to current methods. PG&E has testified that it is unsure how it will determine when to move to an entirely Picarro-based leak survey system.[24] The next GRC should provide more accurate data reflecting the efficacy and costs of the Picarro surveyor. The proposal to use Picarro as a full replacement methodology should be taken up at that time.

3.6.1 EXPENSE

The side-by-side studies provided data indicating that Picarro will likely be cheaper than current leak detection methods, when and if it is capable of replacing them rather than supplementing them.[25] But that does not mean that Picarro will cause PG&E's costs to lower. Leak ***detection*** is only part of the cost associated with keeping the gas distribution system safe. Leak ***repair*** is the other half of the picture. Because Picarro finds so many more leaks than the current methods, using this method will cause leak repair costs to rise. Corrosion detection costs will also rise.[26]

CUE's cost proposal requiring PG&E to perform both Picarro and traditional surveys is not expensive. PG&E proposes to perform Picarro-only surveys for 194,723 services in 2014.[27] The incremental cost of traditional surveying for those services would cost under $3 million.[28] The Commission should instead require PG&E to use its proposed 3-year cycle, perform its

[24] Tr. 14: 1409, l. 17- 1412, l. 5.
[25] Exh. 146, CUE/Marcus, p. 35.
[26] *Id.* at p. 39.
[27] Exh.148, CUE/Marcus, p.19.
[28] *Id.*

proposed 194,723 service surveys using Picarro, but also survey those 194,723 services using the traditional methodology, at an additional cost of $3.0 million.[29] Again, without doing both types of leak surveys, the undisputed evidence shows that many leaks will be undetected, which is fundamentally inconsistent with basic safety requirements.

3.6.2 BALANCING ACCOUNT

The testimony shows that there is an enormous amount of uncertainty about the costs of implementing the Picarro methodology and the resultant leak repair costs.[30] Given the uncertainty about how many incremental leaks the Picarro methodology will find compared to traditional leak detection methods, and the uncertainty about how much leak repair costs will increase to fix those newly-found leaks, the Commission should approve PG&E's proposed two-way balancing account for Picarro costs and associated leak repair costs. Picking a single number now for the costs of Picarro-based leak detection and the associated repair costs would be a futile exercise. It would give PG&E a financial incentive to not repair leaks, and reward PG&E if Picarro ultimately does not work as well as tests to date suggest. A two-way balancing account will both cover PG&E costs if Picarro works better than expected (triggering high repair costs), and provide refunds if Picarro works more poorly than expected, or is used less than currently expected.[31]

[29] Exh. 148, CUE/Marcus, p. 20.
[30] Exh. 146, CUE/Marcus, pp. 39-41; Exh. 148, CUE/Marcus, pp. 16-21.
[31] Exh. 146, CUE/Marcus, pp. 40-41.

Again, the Commission cannot ignore evidence showing that significantly more leaks will be found using both leak survey methods. The Commission must make safety and security the principle focus of ratesetting, and approve necessary costs to find leaks and repair them.

4. ELECTRIC DISTRIBUTION

4.1 POLICY AND INTRODUCTION

The Commission should adopt CUE's recommendations to increase PG&E spending on Electric Distribution. As directed, CUE's primary focus is on safety and reliability. As such, all of CUE's recommendations will result in a safer, more reliable electric distribution system. Moreover, approving proactive maintenance costs will prevent insurmountable repair costs in the future.

4.5 ELECTRIC DISTRIBUTION MAINTENANCE

A. MWCs KA, KB, 2A and 2B: Overhead and Underground COE

Unrepaired COE (formerly ERR) results in decreased reliability. As CUE told the Commission three years ago, "[u]nfixed ERR means that when a device is needed to assure reliability, it's not operable and thus doesn't do its job. Inoperable fuses increase SAIFI and SAIDI both, inoperable switches increase SAIDI, and so on."[32]

The evidence in this proceeding shows that: (1) the number of COE items identified each year has fallen in each of the last two years; (2) the

[32] *Id*. at pp. 4-5.

number of COE items repaired has increased from 2010 to 2012; (3) the backlog of unrepaired maintenance tags relating to COE is well on its way to being eliminated this year; (4) cycle times were reduced 37% from 2008 to 2009; and (5) cycle times have decreased since then for most categories of COE.[33] PG&E is to be commended for its efforts to address its past ERR problems, and the progress it appears to be making.

However, the improvement is not as drastic as PG&E suggests.[34] The reported improvements from 2009 to 2012 were in large part due to a definitional change, and not to an actual decrease in cycle times.[35] The overall change still appears to be in the direction of improvement, but not nearly by the 33 percent PG&E claims.[36]

A comparison of the year-by-year difference between COE items identified and COE items repaired shows that, while more items were fixed than found in 2012, the opposite was true in 2010 and 2011.[37] Over the three year period, 13,462 items were identified, but only 10,685 were fixed.[38] This implies that the COE backlog actually increased by 2,777 items over the three-year period.[39] PG&E acknowledges that its plans for 2013-16 include repairing no more COE items than are identified,[40] meaning its backlog of

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[33] *Id.* at p. 5.
[34] *Id.* at pp. 6-7.
[35] *Id.* at p. 7.
[36] *Id.* at p. 7.
[37] *Id.* at p. 8.
[38] *Id.*
[39] *Id.*
[40] *Id.*

unrepaired items will not shrink from its size at the end of 2012. PG&E's COE performance still has room for improvement.

At a minimum, the Commission should direct PG&E to eliminate the increase in the COE backlog of 2,777 items which occurred over the 2010-12 period, and provide the funding to do so. Across the 2014-16 GRC cycle, that would require fixing an additional 926 COE items per year.[41] PG&E estimates a cost of $33.328 million per year for the 4,234 COE items it currently plans to fix each year in 2014-16.[42] Fixing an additional 926 items per year would increase that cost by $7.289 million.[43] It would reduce the average cycle time for COE items by 80 days per year, bringing PG&E closer to its proposed goals from the 2008 ERR Report.[44] PG&E does not object to CUE's recommendation as "the additional funding proposed by CCUE would allow PG&E to be even more responsible in its maintenance of COE."[45]

In other words, the electric system would be safer and more reliable if the Commission adopted CUE's recommendation regarding COE.

4.5.1 EXPENSE

CUE recommends increasing PG&E's Electric Distribution Maintenance expense costs by $2.9 million in order for PG&E to replace an additional 926 COE items per year.

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[41] *Id*. at p. 9.
[42] *Id*.
[43] *Id.*
[44] *Id*.
[45] Exh. 55, PG&E/Hulon, p. 5-54, ll. 13-20.

4.5.2 CAPITAL EXPENDITURES

CUE recommends increasing PG&E's Electric Distribution Maintenance capital expenditures by $4.4 million in order for PG&E to replace an additional 926 COE items per year.

4.7 POLE REPLACEMENT

There is a large discrepancy between what PG&E's depreciation data implies for pole retirement rates, and what it actually proposes to retire and replace. According to PG&E's depreciation testimony, distribution poles have an average service life of 42 years, and the current stock of distribution poles, towers, and fixtures had an average remaining life of 31.12 years as of December 31, 2011.[46] Accordingly, PG&E has requested $181 million per year to cover the depreciation of those pre-2012 poles over their estimated average remaining life of 31+ years.

However, PG&E is actually not replacing its pre-2012 poles on a 31 year cycle, or even a 42-year cycle. While PG&E has about 2.2 million poles, it has removed an average of just 21,540 poles per year over the last decade, and only 19,090 per year over the last five years.[47] At those rates, it would take over a ***century*** to remove all of the existing poles.[48]

Because of this slow pace of pole removal and replacement, the average age of PG&E's stock of poles has been growing dramatically for the last

[46] Exh.4, PG&E/Clarke, p. 11-4.
[47] Exh. 148, CUE/Marcus, p. 10.
[48] *Id.*

decade. The average pole standing today is 39.26 years old.[49] Whereas PG&E had about 150,000 poles over 60 years old in 2007, by the start of the Test Year 2014 it will have some 344,000 poles over 60 years old. Moreover, during the GRC period of 2014-16, more than 120,000 existing poles will reach the age of 60 years.[50]

If PG&E truly believed that its average remaining pole life is 31.12 years, and it simplistically assumed that therefore half of its poles will reach the end of their lives in the next 31.12 years, it would have to replace over 35,000 poles per year.[51] If PG&E were simply trying to keep the number of poles over 60 years old on its system from growing, it would have to replace over 40,000 poles per year.[52] But if PG&E were to align its pole replacement policies with its depreciation rates, it should be replacing over 100,000 poles in 2014.[53] Through the Pole Replacement Program, PG&E proposes to replace only 5,760 poles per year during the GRC period of 2014-16,[54] which corresponds to a pole replacement cycle of over ***380 years***.[55]

PG&E's history of replacing far too few poles has led to an ever-increasing average pole age and an ever-increasing number of poles over the age of 60. PG&E's pole removal rate over the last three years has barely

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[49] *Id.* at p. 11.
[50] *Id.*
[51] *Id.*
[52] *Id.*
[53] *Id.* at pp. 11-12.
[54] *Id.* at p. 12.
[55] *Id.*

budged from the rate over the last 6 years, and is down from the average of the last decade.[56]

This GRC cycle, the Commission should order PG&E to double its rate of pole replacement from the 19,000 poles per year. Replacing an additional 19,000 poles per year would increase the 2014 PG&E revenue requirement by approximately $19.7 million.[57] That would be a manageable increase of 10,000 poles per year from what PG&E replaced in 2012.[58] It will still be far fewer replacements than would be expected based on PG&E's claimed average pole service life of 42 years,[59] and it would still not be enough to slow the increase in poles over the age of 60, but it would be a start. It would not stop the aging of PG&E's fleet of poles, but it would slow it down.[60] Increasing the rate of pole replacements now will buy time for PG&E to deal with the aging pole infrastructure in the future, and will improve reliability as the number of over-aged poles at risk for failure in major storms is decreased.

Furthermore, PG&E does not object to CUE's recommendation to double its pole replacement, as it "recognizes that its pole infrastructure is aging, and that heightened investment in replacing that infrastructure will be necessary at some point. It may be preferable to replace poles at a higher

[56] *Id.* at p. 14.
[57] *Id.*
[58] *Id.* at pp. 14-15.
[59] *Id.* at p. 15.
[60] *Id.*

rate than PG&E has forecast beginning in this GRC, rather than waiting until later GRCs to do so."[61]

However, any Commission order to increase the pole replacement rate should be subject to a one-way balancing account to ensure that ratepayers do not pay for pole replacements that do not occur. PG&E objects to CUE's recommendation that any increase in pole replacement funds should be subject to a one-way balancing account.[62] But without the assurance of a balancing account, PG&E has no obligation to spend the money allotted for pole replacements on pole replacements. PG&E could "shift funding from pole replacement to some other programs" if it so chooses during this GRC cycle.[63] To hold PG&E accountable to its ratepayers and to prevent PG&E from taking ratepayers' money for pole replacement but using it elsewhere, the Commission should subject the increase in pole replacements funds to a one-way balancing account.

4.13 SUBSTATION ASSET STRATEGY

A. Distribution Breakers in Substations

As with poles, PG&E has a substantial mismatch between the useful life of distribution circuit breakers in substations as reflected in depreciation rates – a stock of assets with 31.5 years of life left – and what it is planning

[61] Exh. 55, PG&E/Hulon, p. 7-6, ll. 20-29.
[62] *Id.* at p. 7-6, l. 29- 7-7, l. 2.
[63] Tr. 18: 2006: ll. 4-14; PG&E/Hulon.

to actually do, which is to replace its stock of breakers over a ***112 -year*** cycle.[64]

PG&E should be required to align its replacement rate with its depreciation rate. If the average existing breaker has 31.5 years of life left, and if the distribution of remaining breaker life is symmetrical, then half of all existing breakers will reach the end of their lives over the next 31.5 years. That means that the average breaker replacement rate should be 71 per year, not PG&E's planned average of 35 breakers per year in 2014-16. The Commission should order PG&E to double its planned breaker replacement rate, and authorize funding to do so.[65] Again, this proposal will make PG&E's electric service safer and more reliable, and control future maintenance costs.

4.13.2 CAPITAL EXPENDITURES

PG&E projects a capital cost of $31.5 million for 105 breakers in 2014-16.[66] Doubling the breaker replacement rate, assuming costs are proportional, would require an additional $31.5 million in capital costs, or an average of $10.5 million per year. That would increase 2014 revenue requirement by roughly $0.9 million.[67]

[64] Exh. 146, CUE/Marcus, pp.15-16.
[65] *Id.* at pp. 16-17.
[66] *Id.* at p. 17.
[67] *Id.*

4.15 ELECTRIC DISTRIBUTION RELIABILITY

A. Proactively Improving Reliability

The Commission's Cornerstone decision[68] required PG&E to provide actual data on the economic value of reliability to customers for use in this GRC,[69] and PG&E responded appropriately by producing a Value of Service (VOS) study in 2012.[70] The PG&E VOS study analyzes, for various customer classes and for various types and durations of outages, the economic costs associated with those outages. It also shows the economic values associated with avoiding those outages in the first place. By providing data to convert outage frequency and duration into monetary terms, the VOS study allows the Commission to evaluate proposed expenditures to improve reliability on a benefit/cost basis.[71]

PG&E has applied the VOS study to a variety of measures it is proposing for this GRC to show that they would not only improve reliability, but that the monetary benefits of that improvement would outweigh the cost of the proposed measure. For example, PG&E proposes to expand its Electric Distribution Reliability programs involving fuses and reclosers, FLISR, underground protection, and improvements to its worst-performing circuits, and in each case shows that its proposals would have benefit/cost (B/C) ratios

[68] D.10-06-048.
[69] *Id.* at p. 20.
[70] *Id.*
[71] *Id.*

above four.[72] But there are many other reliability improvements where the benefits far exceed the costs. Thus, PG&E should be doing ***even more***.

B. Overhead Conductor

Over the GRC period, PG&E proposes to proactively replace 62 miles per year of deteriorated and annealed conductor, which will not only prevent outages due to conductor failure but also mitigate the public and system safety implications associated with "'wire down' events."[73] Obviously, downed electric wires can be extremely dangerous. Yet, PG&E's planned replacements will total less than 1/6 of one percent of the total overhead distribution wire on PG&E's system.[74] At PG&E's planned replacement rate of 62 miles per year, it would take over ***1,800 years*** to replace the current stock of overhead distribution conductor.[75]

The Liberty Report found PG&E's proposed conductor replacement program in this GRC proposal does not "fully assess the magnitude of the deteriorated conductor situation."[76] The extent of the safety issues posed by conductor failures is not reflected in this GRC.[77]

As a practical matter, PG&E cannot align its overhead conductor replacement rate with its overhead conductor depreciation rate. However, the Commission can order PG&E to double its planned overhead conductor

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[72] *Id.* at p. 21.
[73] *Id.* at pp. 17-18.
[74] *Id.*
[75] *Id.*
[76] Exh. 168, p. 143.
[77] *Id.*

replacement rate, and authorize funding to do so, in order to address the magnitude of the conductor deterioration issue. PG&E has demonstrated that the planned replacement rate will, by reducing outages, have a benefit/cost ratio of 2.0.[78] Doubling the replacement rate will increase the reliability benefits of the program by some amount. The resulting benefit/cost ratio will still be greater than one, and PG&E will move farther along towards its eventual need to replace its entire existing stock of overhead conductor.[79] The "deteriorated conductor situation" should be a high priority in this proceeding. CUE's recommendation will better address this issue than PG&E's proposal.

PG&E projects a capital cost of $101.1 million for 62 miles of overhead line replacement in 2014-16.[80] Doubling the overhead line replacement rate, assuming costs are proportional, would require an additional $101.1 million in capital costs, or an average of $33.4 million per year. That would increase 2014 revenue requirements by roughly $3.0 million.[81]

C. Fuses

PG&E proposes to spend $3 million per year in 2014-16 to install 700 overhead fuses, with a calculated B/C ratio of ***21.0***.[82] The reduction in

[78] *Id*. at p. 19.
[79] *Id.*
[80] Exh. 146, CUE/Marcus, p. 18.
[81] *Id.*
[82] Exh. 17, PG&E/Calvert, p. 15-23.

outages due to those 700 fuses will save customers from outage-related costs of some ***$189 million***.[83]

The Commission should order PG&E to double its overhead fuse program by identifying additional locations for fuses that would have an incremental B/C ratio well above one. The Commission should also authorize the necessary funding for an expanded program. Given the B/C ratio of 21 for the proposed program, it is shocking that PG&E proposes to install so few fuses. With a B/C ratio so high, the Commission should recognize that CUE's proposal will both save customer much, much more than it costs, and will reduce future, delayed maintenance costs.

Doubling PG&E's requested $3 million per year program would require an additional capital investment of $3 million per year. That would increase 2014 revenue requirements by roughly $0.3 million.[84]

D. Reclosers

PG&E proposes spending $9.8 million in 2014-16 to install 244 new line reclosers, with a calculated B/C ratio of ***37.2***.[85] The reduction in outages due to those 244 reclosers will save customers from outage-related costs of some ***$364 million***.[86] The Commission should order PG&E to double its recloser program by identifying additional locations for reclosers that would have an incremental B/C ratio well above one. Furthermore, the Commission

[83] Exh. 146, CUE/Marcus, p. 23.
[84] *Id*. at p. 24.
[85] Exh 17, PG&E/Calvert, pp. 15-23, 15-24.
[86] Exh. 146, CUE/Marcus, p. 24.

should also authorize the necessary funding for an expanded program. Given the B/C ratio of 37.2 for the proposed program, again, it is shocking that PG&E is proposing to install so few line reclosers.

Doubling a $9.8 million program would require an additional capital investment of $9.8 million over the GRC period, or an average of $3.3 million per year, resulting in an increase of 2014 revenue requirements by roughly $0.3 million.[87]

E. FLISR

Fault Location, Isolation, and Service Restoration (FLISR) is an automated technology that "reduces the impact of outages by quickly opening and closing automated switches to reduce what may have been a one-to-two-hour outage, to less than five minutes for most affected customers."[88] PG&E proposes spending $180 million in 2014-16 to install FLISR on 600 circuits, with a calculated B/C ratio of ***31.2***, although the actual B/C ratio may be as low as 21.8.[89] The reduction in outages on those 600 circuits will save customers from outage-related costs of at least ***$4.78 billion*** over the life of the FLISR installations.[90]

The Commission should order PG&E to expand its FLISR program by 50 percent, to 300 circuits per year, by identifying additional circuits where FLISR would have an incremental B/C ratio well above one. Given the B/C

[87] *Id*. at p. 25.
[88] Exh. 17, PGE/Williams, p. 1-10.
[89] Exh. 146, CUE/Marcus, pp. 25-26.
[90] *Id*. at p. 26.

ratio for the proposed program, the benefits are enormous – vastly more than the cost. With a B/C ratio so high, the Commission should recognize that CUE's proposal will both save customers much, much more than it costs, and will reduce future, delayed maintenance costs.

The Commission should authorize the necessary funding for an expanded FLISR program. Increasing a $60 million per year program by 50 percent would require an additional capital investment of $30 million per year. That would increase 2014 revenue requirements by roughly $2.7 million.[91]

Increasing the FLISR program by 50% would not only increase FLISR capital costs by $30 million per year, but also would also increase recloser costs by $6.6 million,[92] with an associated increase in 2014 revenue requirements of about $0.6 million.[93] To the extent the Commission orders an expanded FLISR program, it should also authorize the required increase in recloser purchases.[94]

Unless the Commission proposes to simply ignore VOS data it ordered in the Cornerstone case, it should increase funding for projects with very high B/C ratios (like FLISR). This will make the electric system safer and more reliable, and is independently justified by the value to customers.

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[91] *Id*. at p. 27.
[92] *Id.*
[93] *Id.*
[94] *Id*.

F. Targeted Circuit Improvements

PG&E proposes spending $26 million per year in 2014-16 to target improvements for 80 of its 400 worst-performing circuits each year, with a calculated B/C ratio of 7.1.[95] That means that the reduction in outages due to those 80 targeted circuits per year will save customers from outage-related costs of some ***$364 million***.[96]

The Commission should order PG&E to expand its targeted circuit program by 50 percent, to 120 circuits per year, by identifying additional circuits where targeting would have an incremental B/C ratio well above one. Even an expanded program would still not address all of the 400 worst-performing circuits over the three year GRC cycle.

The Commission should authorize the necessary funding for an expanded targeted circuit program. Increasing a $26 million per year program by 50 percent would require an additional capital investment of $13 million per year. That would increase 2014 revenue requirements by roughly $1.2 million.[97]

G. Underground Protection

PG&E proposes spending $8 million per year in 2014-16 to install 67 underground fuses and 67 interrupters, with a calculated B/C ratio of 4.6.[98]

[95] *Id.* at p. 28.
[96] *Id.* at pp. 28-29.
[97] *Id.* at p. 29.
[98] *Id.* at p. 30.

The reduction in outages due to those underground fuses will save customers from outage-related costs of some $36.8 million.[99]

The Commission should order PG&E to expand its underground protection program by 50 percent, to a total of 100 fuses and interrupters, by identifying additional underground fuses and interrupters which would have an incremental B/C ratio well above one.

The Commission should also authorize the necessary funding for an expanded targeted circuit program. Increasing an $8 million program by 50 percent would require an additional capital investment of $4 million, or an average of $1.3 million per year. That would increase 2014 revenue requirements by roughly $0.1 million.[100]

CONCLUSION

CUE's recommendations follow Paul Clanon's March 5, 2012 letter's explicit directions and focus on the safety and reliability of PG&E's physical system. Now is the time for the Commission to commit to its renewed focus on safety and reliability by supporting intervenors, like CUE, who propose expenditures directly related to safety and reliability and discounting parties who make proposals focused solely on reducing PG&E's revenue requirement. This GRC should mark a new era when the Commission makes safety and reliability the primary focus of ratesetting.

[99] *Id.*
[100] *Id.* at p. 31

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Respectfully submitted,

_____/s/_____

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