

Docket: : A.13-12-012  
Exhibit Number : ORA-4C-S  
Commissioner : C. Peterman  
ALJ : A. Yip-Kikugawa  
Witness : T. Roberts



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

**Report on the Results of Operations  
for  
Pacific Gas and Electric Company  
Test Year 2015  
Gas Transmission and Storage Rate Case**

Chapter 4A  
Hydrotest and  
Vintage Pipe Replacement Programs

**Supplemental Testimony**

San Francisco, California  
December 30, 2014

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1 **I. INTRODUCTION**

2 **Q1: What is the Scope of this Supplemental Testimony?**

3

4 A1: ORA and PG&E both use Pipeline Safety Enhancement Plan (“PSEP”) hydrotest costs to forecast  
5 GT&S hydrotest costs, but each use different data to represent PSEP costs. This testimony addresses  
6 PG&E’s claims in its Rebuttal Testimony that ORA’s forecast for GT&S hydrotest unit costs is inaccurate  
7 because of ORA’s reliance on the data contained in PG&E’s PSEP Quarterly Compliance Reports filed  
8 with the Commission (“PSEP Reports”).<sup>1</sup> Specifically, PG&E states that ORA’s use of data from the PSEP  
9 Reports does not include:<sup>2</sup>

10

- 11 1. Costs associated with cancelled or deferred projects.
- 12 2. “General hydrotest program costs,”
- 13 3. Costs incurred after individual projects became operational,

14

15 PG&E has included these costs in the PSEP data it relies upon to forecast its much higher GT&S hydrotest  
16 unit costs.

17

18

19 **Q2: Has PG&E quantified the three additional groups of PSEP costs that it claims were not included in**  
20 **the PSEP Reports, and which ORA therefore did not include in its cost forecasts?**

21

22 A2: Yes, PG&E provided the following in response to an ORA data request:<sup>3</sup>

23

- 24 1. Costs associated with cancelled or deferred projects: \$39.167 million,
- 25 2. “General hydrotest program costs: \$62.824 million,
- 26 3. Costs incurred after individual projects became operational: “over \$2 million.”

27

28 These costs are for 2011-2013.<sup>4</sup>

29

30

31 **Q3: Where does your testimony respond to PG&E’s claims?**

32

33 A3: Section II of this testimony explains why the costs for cancelled or deferred projects should not be  
34 included in a reasonable GT&S forecast.

35

36 Section III of this testimony challenges PG&E’s inclusion of \$62.8 million for non-specific “general”  
37 hydrotest program costs.

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<sup>1</sup> ORA’s forecast was calculated using costs for PSEP projects completed in 2011 through 2013, as provided July 3, 2014 in Attachment 1 to PG&E’s response to ORA-DR-89 Q2. PG&E’s response to ORA-DR-116 Q2 confirmed that this data “was from the PSEP quarterly compliance reports.”

<sup>2</sup> PG&E 2015 GT&S Rebuttal Testimony, Volume 1 (Barnes), pp. 4A-46 to 4A-48.

<sup>3</sup> PG&E Response to ORA-DR-123 Q9, Q10, and Q11.

<sup>4</sup> The “over \$2 million” figure includes costs incurred through the September 30, 2014 for projects tied-in and reported as completed from program inception through December 31, 2013. See PG&E October 30, 2014 PSEP Report, pp. 26-27.

1  
2 Section IV of this testimony rebuts PG&E’s claim that approximately \$2 million in costs were recorded to  
3 individual project orders after these projects became operational and explains how the PSEP Report  
4 costs for completed projects is actually higher than the comparable costs for the same projects included  
5 in PG&E’s GT&S forecast.  
6

7 Section V identifies anomalies in PG&E’s data that make it unreliable and recommends that a full audit  
8 of the PSEP program be performed to establish an accurate baseline for hydrotest costs in future  
9 proceedings.  
10

11  
12 **Q4: Do you have any conclusions regarding the accuracy of PG&E’s claims based on additional**  
13 **information provided in PG&E Rebuttal Testimony and subsequent discovery?**  
14

15 A4: Yes. After reviewing the PSEP cost data PG&E used to support its Rebuttal Testimony, it is clear that  
16 PG&E has recorded the costs identified in A2 above to the PSEP program but that it did not include these  
17 costs in its PSEP Reports. With regard to these costs, I conclude: (1) that the probability of these types  
18 of costs being incurred in the GT&S hydrotest program is very low, and that therefore these costs should  
19 not be included in a forecast for GT&S; and (2) that inconsistencies and irregularities in the data  
20 provided by PG&E raise questions about the accuracy of the data PG&E relies upon to support these  
21 costs and its GT&S forecast generally.  
22

23 First, there are significant differences between the PSEP and GT&S hydrotest programs that impact  
24 program costs. This testimony explains and quantifies these cost differences, and shows why PG&E’s  
25 three costs identified in its rebuttal that were not included in its PSEP Reports should be excluded from  
26 GT&S cost forecasts. It is important to note that I excluded these costs from ORA’s GT&S cost forecast  
27 primarily because of differences between the PSEP and GT&S programs, independent of whether costs  
28 were or were not reasonably and correctly recorded as PSEP costs.  
29

30 Second, this testimony discusses irregularities within and inconsistencies between the series of data sets  
31 PG&E has provided as representative of PSEP recorded costs to support its GT&S forecast. The  
32 significant scope and cost impact of these irregularities challenge the reasonableness of PG&E’s claimed  
33 PSEP recorded costs, and the credibility of PG&E’s GT&S forecast. However, a full audit of the PSEP  
34 program is required to quantify these impacts. This testimony does not provide the type of  
35 comprehensive analysis required to deem PG&E’s PSEP costs unreasonable, but it does highlight enough  
36 issues to justify an audit.  
37

38 Given the differences between the PSEP and GT&S programs, irregularities in the data provided by  
39 PG&E, and the need to issue a decision in this case in a timely manner, the compliance data ordered by  
40 D.12-12-030 and subsequently provided in the PSEP Reports is the best record of PSEP actual costs, and  
41 that this data produces the most reasonable forecast for GT&S hydrotest program costs.  
42  
43

44 **Q5: Does the data provided by PG&E in rebuttal testimony and subsequent discovery responses**  
45 **support PG&E’s assertion that ORA was wrong to forecast GT&S hydrotest costs based on PSEP Report**  
46 **data?**  
47

1 A5: No, it does not. A basic premise of my opening testimony was that data provided to the CPUC per a  
2 direct order should be the most accurate and complete data available, and it is the primary reason  
3 ORA's GT&S hydrotest forecast is based on the PSEP Reports.<sup>5</sup> As a regulated utility, PG&E is required to  
4 provide accurate and complete data when ordered to do so, whether the regulator is the CPUC, SEC, or  
5 FERC, and failure to do so undermines the very fabric of the regulatory compact. PG&E was ordered to  
6 provide the PSEP data in the form of the PSEP Reports to the Commission and the parties in order to  
7 have accurate information about PSEP implementation, including the projected and actual costs, and  
8 explanations of any significant deviations in costs.<sup>6</sup> It is appropriate for the Commission and parties to  
9 assume that PSEP cost information filed with the Commission pursuant to a Commission order is  
10 accurate and can be relied upon to forecast similar future costs. In the current case, PG&E has  
11 disowned the PSEP cost data that was provided in the PSEP Reports and instead proposes to use higher  
12 claimed PSEP recorded costs to forecast average hydrotest unit costs that are twice those it forecast for  
13 PSEP in 2011.<sup>7</sup> Based on the magnitude of this change, and the precedent that could be set by not  
14 holding PG&E accountable to data in the PSEP Reports, PG&E should be subjected to the highest  
15 standard regarding the burden of proof required to invalidate its PSEP Report data and justify this  
16 increase. By providing examples of inconsistencies and irregularities in data provided by PG&E to  
17 support its GT&S forecast, this testimony shows that PG&E has not met this burden, and that its GT&S  
18 forecast should not be relied upon. Instead, the Commission should adopt ORA's forecast, which is  
19 based on data provided to the Commission pursuant to Commission order.  
20  
21

22 **Q6: What are your recommendations based on these conclusions?**  
23

24 A6: First, given the significant anomalies in the data supporting the additional costs that PG&E  
25 attributes to PSEP (described in more detail in Section V below), I recommend that the CPUC perform an  
26 audit of the PSEP program once that program is completed so that accurate data is available as a  
27 baseline against which to evaluate future GT&S cost performance, and to use in forecasting costs in  
28 subsequent cases. This audit would not result in changes to in the costs approved in this case or those  
29 approved in PSEP, but instead would provide an accurate baseline for hydrotest and other costs in  
30 future proceedings. This is consistent with the recently adopted Rate Case Plan changes in Rulemaking  
31 13-11-006.<sup>8</sup> Without this audit, potential accounting errors in PG&E's recorded PSEP costs would go  
32 unchecked, which would inflate ratepayer funding for hydrotesting expenses in subsequent ratecases.  
33

34 Second, since this audit and related analysis will not be completed in time to inform the current  
35 proceeding, I recommend, consistent with my original testimony dated August 11, 2014, that GT&S  
36 hydrotest costs be forecasted using PSEP cost data provided by PG&E in its PSEP Reports to the  
37 Commission consistent with D.12-12-030, Ordering Paragraph 10 and Attachment D. My

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<sup>5</sup> ORA-4C Testimony (Roberts) with Errata from August 29, 2014, p. 19.

<sup>6</sup> See D.12-12-030, p. 86 ("To keep the Commission, the parties, and the public informed of PG&E's progress and actual cost experience, we will require PG&E to file and serve compliance reports. ... The information required will include comparisons of actual versus authorized cost for each work project as well as explanations of any significant deviations. Schedule and prioritization changes will also be included."). See also D.12-12-030, Ordering Paragraph 10, p. 128, and Attachment D.

<sup>7</sup> ORA-4C Testimony (Roberts) with Errata from August 29, 2014, pp. 15-16.

<sup>8</sup> See D. 14-12-025, pp. 43-48 ("Verification and Annual Reporting.")

1 recommendation for an \$87.543 million reduction to PG&E's TY2015 request of \$179.245 million for  
2 GT&S hydrotesting is unchanged, as are the arguments presented to support this reduction.<sup>9</sup>

3  
4 Finally, this Supplemental Testimony supports the observation in my Opening Testimony that the PSEP  
5 Reports have been a valuable tool in evaluating PG&E's performance on the PSEP.<sup>10</sup> Continuing  
6 discovery and analysis since then allowed additional insight and lead to the further observations that  
7 PG&E's cost accounting data is only timely and meaningful for program evaluation if: (1) the "cost order  
8 structure" is established from the onset to categorize costs in a meaningful way to support future  
9 analysis,(2) costs are accurately recorded to the correct account, and (3) ex post adjustments to the cost  
10 data are minimized. Going forward, I recommend that compliance reports similar to the PSEP Reports  
11 be required, however the contents and format of the reports should be reevaluated to maximize their  
12 accuracy and utility.

## 14 II. COSTS FOR CANCELLED OR DEFERRED PROJECTS

15  
16 **Q7: What did you find regarding the \$39.167 million PG&E attributes to cancelled or deferred**  
17 **projects?**

18  
19 A7: The latest dataset provided by PG&E through discovery identifies 435 cost orders for projects not  
20 included in its PSEP Reports.<sup>11</sup> 413 of those orders totaling \$39,167,119 were classified as cancelled or  
21 deferred and the cost for these orders individually ranged from -\$84,553 to \$3,253,481. The other 22  
22 orders are for "general" expenses, which are addressed in Section III of this testimony.

23  
24  
25 **Q8: Do you agree with PG&E that these costs for cancelled or deferred projects should be included in**  
26 **the GT&S forecast?**

27  
28 A8: While it may be reasonable for PG&E to identify *some* costs for cancelled or deferred projects as  
29 PSEP program costs, these costs are not appropriate for use in a forecast of GT&S hydrotest costs.  
30 Further, even in the context of PSEP program costs, the costs provided by PG&E are excessive for  
31 reasons explained below.

32  
33  
34 **Q9: Why do you think that PG&E's inclusion of costs for cancelled or deferred projects is inappropriate**  
35 **for the GT&S forecast?**

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<sup>9</sup> This value is from the ORA-4C Testimony (Roberts) with Errata from August 29, 2014, p.6.

<sup>10</sup> ORA-4C Testimony (Roberts) with Errata from August 29, 2014, p.68.

<sup>11</sup> Attachment 1 to PG&E's Response to ORA-DR-123 Q10, excluding orders classified as "Test". The term "order" in this testimony refers to a numbered account in PG&E's accounting system to which actual costs are recorded. The term is synonymous with "job order," "current order," and "specific order," but is not the same as PG&E's separate "planning order" numbers.

1 A9: Work performed, and experience gained, during the PSEP program should greatly reduce or  
2 eliminate these costs during GT&S because:

- 3
- 4 1. PSEP occurred in parallel with a major records validation program, and this resulted in cancelled  
5 and deferred projects during PSEP as pressure test, pipe characteristic, and class location data  
6 was corrected and updated,
- 7 2. PG&E represented to the Pipeline and Hazardous Materials Safety Administration (PHMSA) that  
8 its records validation program was completed on July 1, 2013,<sup>12</sup> and PG&E's records should  
9 generally be accurate and reliable now,
- 10 3. PG&E gained experience in evaluating the quality of records during PSEP, and tailoring project  
11 planning accordingly to avoid unnecessary work when data is not certain,
- 12 4. Costs incurred during PSEP for projects deferred until a later time should reduce planning and  
13 design costs if these projects are subsequently completed, such as during the 2015 GT&S  
14 timeframe.

15

16

17 **Q10: Why were there a large number of projects cancelled or deferred during PSEP?**

18

19 A10: In PSEP, PG&E originally defined 165 hydrotest projects covering 783 miles to be performed in  
20 2011-2014.<sup>13</sup> In parallel with the PSEP hydrotest program, PG&E initiated a records validation program  
21 to find missing pressure test records and fix inaccurate pipe characteristic records in direct response to  
22 recommendations from the National Transportation Safety Board (NTSB) stemming from its San Bruno  
23 investigation.<sup>14</sup> Decision 12-12-030 accommodated this records improvement process and allowed  
24 PG&E to update its PSEP scope based on updated records.<sup>15</sup> On July 1, 2013, PG&E reported to PHMSA  
25 that this records validation process was completed,<sup>16</sup> and on October 29, 2013 it filed its PSEP Update  
26 Application 13-10-017. PG&E's testimony in that application stated that of the 783 miles of previously  
27 planned strength tests, 162 miles were cancelled, and 86 additional miles of testing was deferred  
28 "beyond Phase 1."<sup>17</sup> Based on PG&E's discovery responses, it incurred and recorded \$39.2 million for  
29 these cancelled and deferred projects, which it included in its GT&S hydrotest forecast.<sup>18</sup> The PSEP was  
30 necessitated and driven by a massive effort to correct and improve PG&E's pipeline records in response

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<sup>12</sup> The NTSB website provides a history of its recommendation P-10-005 regarding its San Bruno investigation which recommended that the CPUC oversee PG&E's compliance with NTSB recommendations P-10-2 (see footnote 14 below). The history includes an August 14, 2014 letter from the CPUC which stated "PG&E completed MAOP validation of its transmission pipeline system, comprised of approximately 6,750 miles, on July 1, 2013" and a September 19, 2014 response from the NTSB which stated P-10-005 is "CLOSED—ACCEPTABLE ACTION." See [http://alpha.ntsb.gov/investigations/AccidentReports/\\_layouts/ntsb.recsearch/Recommendation.aspx?Rec=P-10-005](http://alpha.ntsb.gov/investigations/AccidentReports/_layouts/ntsb.recsearch/Recommendation.aspx?Rec=P-10-005).

<sup>13</sup> PG&E PSEP Prepared Testimony in R.11-02-019, (Hogenson), p. 3-29 and Workpapers supporting PG&E PSEP Prepared Testimony in R.11-02-019, (Hogenson), Table 3, pp. WP 3-753 to WP 3-757.

<sup>14</sup> NTSB Recommendations P-10-2, P-10-3, and P-10-4, NTSB Accident Report NTSB/PAR-11/01; PB2011-916501, adopted August 30, 2011, pp. 133-134. These recommendations were initially issued on January 3, 2011. See pp. 75-76 of the same report.

<sup>15</sup> Decision 12-12-030, Ordering Paragraph 11, p. 129.

<sup>16</sup> See footnote 12.

<sup>17</sup> PG&E PSEP Update Prepared Testimony in A.13-10-017, (Hogenson and Campbell), Table 2-10, p. 2-29.

<sup>18</sup> PG&E Response to ORA-DR-123 Q11. This response also states that the "definition of cancelled projects to PG&E in this context is that a job could be cancelled, the test records were verified, or it was deferred to a later date (for this data set deferred means beyond 2013)."

1 to the San Bruno explosion.<sup>19</sup> This one-time records search and correction project has now been  
2 completed, should not be repeated, and PG&E has not requested funding to continue the MAOP  
3 validation program during the current GT&S time period.<sup>20</sup>  
4  
5

6 **Q11: Why should there be few or any projects cancelled or deferred during GT&S?**  
7

8 A11: Projects to improve the accuracy and availability of PG&E records have been completed, which will  
9 result in fewer situations where projects are initiated based on erroneous data, only to be cancelled or  
10 deferred once accurate data is obtained. As previously discussed, PG&E reported to PHMSA that the  
11 MAOP validation project was deemed complete as of July 1, 2013. In addition, PG&E has completed or  
12 is nearing completion on many other programs intended to improve the accuracy of its data. PG&E has  
13 represented that it completed a Pipeline Centerline Survey and three class location studies, and that it is  
14 on schedule to transition to automated software to support subsequent class location studies.<sup>21</sup> PG&E  
15 appears to be behind schedule in implementing a new graphical information system (“GIS”) designed to  
16 provide a “single version of the truth” regarding pipeline records, but should still complete this project  
17 in 2015.<sup>22</sup> PG&E has stated that each of these programs involves an ongoing process of improvement  
18 which indicates that errors will still be found, “but at a reduced pace.”<sup>23</sup> However, the extraordinary  
19 actions taken in 2011 and 2014 to improve the accuracy of PG&E’s pipeline records should greatly  
20 reduce the number of projects canceled compared to those experienced in PSEP.  
21  
22

23 **Q12: Why do you believe PG&E is better prepared to respond to changing data during GT&S than it  
24 did in PSEP, and thus reduce or eliminate costs associated with cancelled or deferred projects in  
25 GT&S?**  
26

27 A12: During the PSEP time period, PG&E improved the accuracy of its pipeline data through its records  
28 validation project, developed a method of categorizing the quality of its pipeline data, and completed  
29 the PSEP Update application based on updated data.<sup>24</sup> These efforts should improve PG&E’s ability to  
30 plan projects and programs based on the quality of the available data, which should eliminate, or  
31 dramatically reduce costs associated with projects that are ultimately cancelled. PG&E’s GT&S  
32 application illustrates that its hydrotest plans provide for greater agility to respond to new or changing

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<sup>19</sup> See the previously cited NTSB report. PG&E forecasted the cost of its records improvement program to be \$162.3 million. See PG&E PSEP Prepared Testimony in R.11-02-019, (Whelan), Table 5-1, p.5-4.

<sup>20</sup> This is based on a review of program costs summarized in PG&E GT&S testimony. See PG&E 2015 GT&S Prepared Testimony, Volume 1 (Krannich), Tables 3-2 and 3-3, pp. 3-11 and 3-12.

<sup>21</sup> See PG&E 2015 GT&S Prepared Testimony, Volume 1 (Mojica), p. 4B-6, and PG&E July 30 30, 2013 PSEP Report, p. 67.

<sup>22</sup> PG&E’s October 30, 2014 PSEP Report, p. 64, indicates that PG&E’s records improvement project, Mariner, has been extended from the first quarter of 2015 to the end of 2015, but does not provide the specific status of the new GIS project on page 66.

<sup>23</sup> PG&E’s response to ORA-DR-123 Q1 states that “PG&E fully expects this detailed review [of records when designing hydrotest projects] to find additional records for tests, even though it should be at a reduced pace.”

<sup>24</sup> See Chapter 1 of PG&E PSEP Update Prepared Testimony in A.13-10-017, (Medina) for an overview of PSEP MOAP Validation project, specifically page 1-6 regarding the assignment of “Q-values” to pipeline documents based on the quality of the data.

1 data. PG&E states “the dynamic nature of making risk-based decisions requires some flexibility in  
2 executing the work” and:<sup>25</sup>

3  
4 “as a result, the number of miles as well as the location and number of pressure tests may  
5 change during the course of the rate case period. This could be driven by new information that  
6 changes the evaluation of the risk or variance in estimated permitting and construction  
7 schedule.”<sup>26</sup>

8  
9 Whereas PG&E’s PSEP Implementation Plan submitted in R.11-02-019 on August 26, 2011, included  
10 detailed definitions of each of the 165 proposed projects proposed for the PSEP,<sup>27</sup> the GT&S Application  
11 provides only minimal definition for proposed projects, but adds a long list of “flex” projects that can be  
12 added to the program to meet annual mileage goals.<sup>28</sup> PG&E has invested less effort in defining GT&S  
13 projects, and put more effort into providing backup projects as a contingency against any change in  
14 program scope. This indicates that PG&E has learned from its PSEP experience, and that PG&E has a  
15 plan to identify uncertain data and limit expenditures for planning and designing projects until data can  
16 be validated.

17  
18  
19 **Q13: How can costs incurred during PSEP for projects that were deferred reduce costs during GT&S?**

20  
21 A13: Where PG&E has recorded costs in PSEP for deferred projects to be completed after 2014,  
22 preliminary records and engineering analysis has been completed and already charged to PSEP.<sup>29</sup> For  
23 such projects that will be completed during the current GT&S period, a majority of this work will not  
24 have to be repeated, and the cost of those projects should be reduced accordingly. Thus, the total  
25 impact on GT&S hydrotest costs is a decrease in the average project cost, not an increase as is presumed  
26 in PG&E’s cost forecast. It is not possible to differentiate which of the 413 projects were deferred rather  
27 than cancelled, so the scope of this decrease cannot be determined at this time.<sup>30</sup>

28  
29  

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<sup>25</sup> PG&E 2015 GT&S Prepared Testimony, Volume 1 (Barnes), p. 4A-34.

<sup>26</sup> *Id.*, p.4A-33.

<sup>27</sup> Chapter 3 workpapers, pp. WP 3-753 to WP 3-1487, in the Original PSEP application, and chapter 2 workpapers,  
pp. WP 2-1079 to WP 2-2484, in the PSEP Update application show the scope and level of details provided by PG&E  
for PSEP hydrotest projects, including a map of the test, class locations, number of test sections, which specific  
pipe segments would be included, and a detailed cost estimate.

<sup>28</sup> Chapter 4A workpapers WP 4A-52 to WP 4A-53 in the current application, two pages, provide all the project  
definition for proposed GT&S hydrotest projects, including the pipeline route number, approximate mileage post  
 (“MP”) numbers, maximum project length, and estimated year of test. Chapter 4A workpapers WP 4A-54 to WP  
4A-61 in the current application provide data for “flex” GT&S hydrotest projects.

<sup>29</sup> PG&E’s response to ORA-DR-116 Q1 states that “Part of PG&E’s process during engineering is to pull all drawings  
and records for a project, and in so doing, engineers may find traceable, verifiable and complete records for a  
proposed test.” Based on a review of costs associated with cancelled projects discussed in A14 below, PG&E has  
included costs for more than records searches in the costs for the 413 cancelled or deferred projects. See FN 40.

<sup>30</sup> PG&E’s response to ORA-DR-123 Q11 indicates that data provided in GTS-RateCase2015\_DR\_ORA\_123-  
Q10Atch01 can be sorted to support that the cost of cancelled or deferred projects is \$39.167 million. However,  
the descriptor used by PG&E, “Def/Can/RV/Eng,” appears to classify deferrals, cancelled projects, records  
validation, and engineering costs together.

1 **Q14: Despite the discussion above, if the CPUC were to find conceptually that the GT&S forecast**  
2 **should include a component to account for future cancelled or deferred projects, do you believe the**  
3 **\$39.167 million included in PG&E’s forecast establishes a reasonable level?**  
4

5 A14: No. First, the preceding discussion explains why the number of cancellations and deferrals, and the  
6 corresponding costs incurred in GT&S should be dramatically lower than were experienced in PSEP, if  
7 not fully eliminated.  
8

9 Second, a review of the costs PG&E recorded for cancelled or deferred projects in PSEP indicates they  
10 were not reasonable, even in that program. One indication that the inclusion of \$39.167 million is  
11 excessive is the sheer scope of the request: PG&E includes 413 project orders for cancelled or deleted  
12 projects when only 165 projects were planned for PSEP, and only 224 orders were provided for  
13 completed projects.<sup>31</sup> ORA recognizes that the original 165 PSEP test projects were split into many  
14 additional projects in the PSEP Update, and project orders were also added based on updated records  
15 that increased the scope of the PSEP Update by 129 miles.<sup>32</sup> However, the PSEP Update only included  
16 411 line items for hydrotest expense projects, which includes both original and split projects; completed  
17 and cancelled projects; and summary information.<sup>33</sup> Thus, it is inconsistent for PG&E to have recorded  
18 costs for 637 hydrotest projects, 244 that were completed and 413 that were not, when it listed 411 line  
19 items for hydrotest projects in its October 29, 2013 PSEP Update application. A further troubling  
20 inconsistency is that ORA asked PG&E to “Provide a table ... for all completed and cancelled pipe  
21 replacement and hydrotest projects from the inception of the PSEP program in 2011 through March 31,  
22 2014.”<sup>34</sup> Sorting the table provided by PG&E in response indicated that only 66 hydrotest projects were  
23 cancelled.<sup>35</sup>  
24

25 Third, the schedule of MAOP validation was known in 2011 and should have been incorporated into  
26 PG&E’s PSEP planning and engineering schedule such that work based on un-validated data would be  
27 minimized. Of the \$39.167 million associated with the 413 projects, \$33.2 million was incurred in 2012  
28 and 2013, by which time PG&E should have adjusted its project planning process to be synchronized  
29 with the MAOP validation process. Based on the data provided by PG&E, it appears that PG&E did not

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<sup>31</sup> ORA-4C Testimony (Roberts) with Errata from August 29, 2014, Table 4C-4, p.20, indicated that the PSEP Reports included 252 completed projects in 2011-2013. Subsequent review indicated that 28 of these projects were for a split project that only had one order number. For example, Order 41474058 is for both T-93A and T-93B, but all costs are assigned to T-93A.

<sup>32</sup> PG&E PSEP Update Prepared Testimony in A.13-10-017, (Hogenson and Campbell), Table 2-10, p. 2-29.

<sup>33</sup> See workpapers supporting PG&E PSEP Update Prepared Testimony in A.13-10-017, Table 2-3. Hydrotest projects begin at line 1 on page WP 2-6 and continue to line 411 on page WP 2-10.

<sup>34</sup> ORA-DR-89 Q2. Note that D.12-12-030 required PG&E to list cancelled projects in the PSEP Compliance reports, and quantify the cost impact. See D.12-12-030, Attachment D, Question 26 which states: “Describe or provide a specific reference to PG&E’s work papers of the projects that were not completed or replaced by a higher priority project and show the uncompleted project’s associated costs. Compute the corresponding reduction to the Implementation Plan adopted amounts set out in Attachment E, as required by Ordering Paragraph 6.” PG&E listed the cancelled projects in the PSEP Reports, but deferred cost impact information to the PSEP Update Application, and that application did not include project level costs for cancelled projects. See workpapers supporting PG&E PSEP Update Prepared Testimony in A.13-10-017, Table 2-3, e.g. line 1, p. WP 2-6.

<sup>35</sup> This figure was obtained using Attachment 1 to PG&E’s response to ORA DR-89 Q2. Column V was filtered for “Test” and Column X was filtered for “Cancelled.” This attachment did not include order numbers for the cancelled projects, which prevented an easy comparison to the 413 projects labeled as cancelled or deferred Attachment 1 of PG&E’s response to ORA-DR-123 Q10. Additionally, PG&E’s PSEP Update Prepared Testimony in A.13-10-017, (Hogenson and Campbell), stated that 62 hydrotest projects had been cancelled, see p. 2-29.

do this synchronization effectively (or perhaps not at all), and thus incurred very significant expenses initiating work which provided minimal if any benefit to the system or ratepayers and therefore should be disallowed.

Fourth, PG&E’s description of the cause of this \$39.167 million discrepancy is “the costs associated with analyzing records and costs for cancelled projects” and further explains that “PG&E might cancel a hydrotest during this process as the engineers may find traceable, verifiable and complete records [of a previous hydrotest].”<sup>36</sup> As discussed in Answers 10, 11, and 19, finding and analyzing records was the specified purpose of the first phase of the MAOP validation project, the costs for which were disallowed.<sup>37</sup> Therefore, those records related costs should not be duplicated and charged to PSEP projects, and should not be in the dataset of PSEP costs considered for PG&E’s forecast of GT&S cost.

To better understand the cost data for cancelled or deferred projects, ORA reduced PG&E’s list of 413 cancelled or deferred projects to the 20 cancelled or deferred projects with the largest recorded costs for additional review. This resulted in Table 4C-S-1 below, which revealed a number of anomalies with PG&E’s data regarding cancelled or deferred projects:

**TABLE 4C-S-1  
Top 20 Highest Cost Orders Identified As Deferred or Cancelled In PG&E Response to ORA 123Q10**

Line	Order	Order Description	MAT	Sum of 2011 Actual	Sum of 2012 Actual	Sum of 2013 Actual	Total 2011-2013	Cost Type
1	41497305	L-300A_1 TEST 0.45MI MP 445.59-446.48 PH	KE1	\$ 3,140,588	\$ 112,893		\$3,253,481	Defer/Can/RV/Eng
2	41821631	L-109 TIM-013A-12 PSEP FUND	KE1		\$ 2,541,277	\$ 5,828	\$2,547,105	Defer/Can/RV/Eng
3	8149082	DFM-1816-05 TEST 0.36MI MP 0.00-1.20 PH	KE1			\$2,491,982	\$2,491,982	Defer/Can/RV/Eng
4	8149081	DFM-7219-01 TEST MP 0.00 TO 3.73	KE1			\$1,852,199	\$1,852,199	Defer/Can/RV/Eng
5	41544921	T-96 L-SP5 MP 0.0000 TO MP 3.8700	KE1	\$ 1,734,321		\$ 48	\$1,734,369	Defer/Can/RV/Eng
6	41821633	DFM-3017-01 TEST 3.10MI MP 0.81-3.92 PH1	KE1		\$ 1,677,478	\$ 33,720	\$1,711,198	Defer/Can/RV/Eng
7	41719452	L-148 PR-005-12 MP 0.93-1.43	KF1		\$ 1,615,535	\$ 3,022	\$1,618,556	Defer/Can/RV/Eng
8	41822507	DFM-0813-01 TEST 1.00MI MP 0.02-1.29 PH1	KE1		\$ 1,393,103	\$ 33,010	\$1,426,112	Defer/Can/RV/Eng
9	41822376	L-197B TEST 4.50MI MP 0.00-4.47 PH1	KE1		\$ 1,299,038	\$ 557	\$1,299,595	Defer/Can/RV/Eng
10	41858965	L-021C TIM-065-12 MP 35.05 TO 39.44 IM	IIH			\$1,098,113	\$1,098,113	Defer/Can/RV/Eng
11	41822375	DFM-7224-09 TIM-162-12 IM FUND	IIH		\$ 951,422	\$ 107,670	\$1,059,092	Defer/Can/RV/Eng
12	41912559	L-191-1 TIM-022-12 MP 20.46 TO 25.29 IM	IIH			\$1,023,354	\$1,023,354	Defer/Can/RV/Eng
13	41600071	L-172AT-085-12 MP 55.403 TO MP 58.602	KE1	\$ 126	\$ 494,624	\$ 425,086	\$919,836	Defer/Can/RV/Eng
14	41471987	DREG4093 WALERGA RD DFM UPRATE- EXPENSE	JTC		\$ 60,256	\$ 768,097	\$828,353	Defer/Can/RV/Eng
15	41599879	L-153_2 C-020-12 MP 25.11 TO MP 27.88	IIH		\$ 246,077	\$ 569,208	\$815,286	Defer/Can/RV/Eng
16	41822364	DFM-0115-01 TIM-146-12 IM FUND	IIH		\$ 684,201	\$ 97,324	\$781,525	Defer/Can/RV/Eng
17	41951094	*CANCDFM-1817-01 TEST 5.29MI MP 3.21-8.5	KE1			\$ 637,401	\$637,401	Defer/Can/RV/Eng
18	41622645	L-118AT-102B-12 MP 0.76 TO MP 0.83	KE1		\$ 511,849	\$ 5,871	\$517,720	Defer/Can/RV/Eng
19	41858961	DFM-1813-02 TIM-267-13 MP 8.76-9.71 IM	IIH			\$ 507,353	\$507,353	Defer/Can/RV/Eng
20	41821639	DFM-3017-01 TIM-131-12 IM FUND	IIH		\$ 477,376	\$ 22,697	\$500,073	Defer/Can/RV/Eng
21			Total	\$ 4,875,036	\$ 12,065,129	\$ 9,682,539	\$ 26,622,704	Defer/Can/RV/Eng

One anomaly evident from the above table is that only one of the project descriptions indicates that the project was cancelled - line 17 for DFM-1817-01. A review of all 413 orders for deferred or cancelled projects shows that only seven had a project description that identified the project as cancelled.

Additional review was performed on the first ten orders in Table 4C-S-1 above using a separate spreadsheet<sup>38</sup> which broke out order costs into “cost elements.”<sup>39</sup> As shown in Table 4C-S-2 below,

<sup>36</sup> PG&E 2015 GT&S Rebuttal Testimony, Volume 1 (Barnes), pp. 4A-47 to 4A-48. Also see PG&E response to ORA-DR-116 Q1, Page 4, item 3.

<sup>37</sup> PG&E PSEP Update Prepared Testimony in A.13-10-017, (Medina), p.1-1, lines 10-13.

<sup>38</sup> Data from Attachment 2, revision 1, to PG&E’s response to ORA-DR-59 Q4. The total cost for the top ten projects in this table is \$19,032,711, which is the same for the same ten projects provided in Table 4C-S-1.

1 looking at the underlying cost elements revealed that eight of the first ten orders in Table 4C-S-1 above  
 2 are based primarily on one type of cost, classified by PG&E as a “Cost Adjustment” which provides no  
 3 insight into the nature or reasonableness of these charges.<sup>40</sup>

4  
 5 **TABLE 4C-S-2**  
 6 **Eight of Top 10 Highest Cost Orders Identified As Deferred or Cancelled In PG&E Revised Response to**  
 7 **ORA-DR-59 Q4 With Cost Elements Revealed**

Line	Order	Order Description	MAT	Cost Element	Cost Element Description	2011 Actual	2012 Actual	2013 Actual	Totals
1	8149081	DFM-7219-01 TEST MP 0.00 TO 3.73	KE1	5590042	Cost Adjustments			\$ 1,456,104	\$ 1,456,104
2	8149081	DFM-7219-01 TEST MP 0.00 TO 3.73	KE1	5590045	Activity Type Cost Adjustment			\$ 396,095	\$ 396,095
3	8149082	DFM-1816-05 TEST 0.36MI MP 0.00-1.20 PH	KE1	5590042	Cost Adjustments			\$ 1,976,004	\$ 1,976,004
4	8149082	DFM-1816-05 TEST 0.36MI MP 0.00-1.20 PH	KE1	5590045	Activity Type Cost Adjustment			\$ 515,978	\$ 515,978
5	41544921	T-96 L-SP5 MP 0.0000 TO MP 3.8700	KE1	5001500	Gas Transmission Expense - Affiliate - B	\$ 1,734,321			\$ 1,734,321
6	41544921	T-96 L-SP5 MP 0.0000 TO MP 3.8700	KE1	5590042	Cost Adjustments			\$ 1	\$ 1
7	41544921	T-96 L-SP5 MP 0.0000 TO MP 3.8700	KE1	6608158	Contractor Consultant			\$ 47	\$ 47
8	41821631	L-109 TIM-01 3A-12 PSEP FUND	KE1	5490000	Contracts			-\$ 44,459	-\$ 44,459
9	41821631	L-109 TIM-01 3A-12 PSEP FUND	KE1	5590042	Cost Adjustments		\$ 2,541,277	\$ 50,287	\$ 2,591,564
10	41821633	DFM-3017-01 TEST 3.10MI MP 0.81-3.92 PH 1	KE1	5490000	Contracts			\$ 6,271	\$ 6,271
11	41821633	DFM-3017-01 TEST 3.10MI MP 0.81-3.92 PH 1	KE1	5590042	Cost Adjustments		\$ 1,677,478	\$ 24,256	\$ 1,701,734
12	41821633	DFM-3017-01 TEST 3.10MI MP 0.81-3.92 PH 1	KE1	6603000	Administration			\$ 34	\$ 34
13	41821633	DFM-3017-01 TEST 3.10MI MP 0.81-3.92 PH 1	KE1	6603025	Estimating Services			\$ 3,159	\$ 3,159
14	41822376	L-197B TEST 4.50MI MP 0.00-4.47 PH 1	KE1	5490000	Contracts			\$ 22,663	\$ 22,663
15	41822376	L-197B TEST 4.50MI MP 0.00-4.47 PH 1	KE1	5590042	Cost Adjustments		\$ 1,298,927	-\$ 22,106	\$ 1,276,821
16	41822376	L-197B TEST 4.50MI MP 0.00-4.47 PH 1	KE1	6603105	Estimating Overtime Services		\$ 111		\$ 111
17	41822507	DFM-0813-01 TEST 1.00MI MP 0.02-1.29 PH 1	KE1	5490000	Contracts			\$ 1,643	\$ 1,643
18	41822507	DFM-0813-01 TEST 1.00MI MP 0.02-1.29 PH 1	KE1	5590042	Cost Adjustments		\$ 1,393,103	\$ 31,387	\$ 1,424,470
19	41858965	L-021C TIM-065-12 MP 35.05 TO 39.44 IM	IH	5490000	Contracts			\$ 995,615	\$ 995,615
20	41858965	L-021C TIM-065-12 MP 35.05 TO 39.44 IM	IH	5590042	Cost Adjustments			\$ 101,194	\$ 101,194
21	41858965	L-021C TIM-065-12 MP 35.05 TO 39.44 IM	IH	6603025	Estimating Services			\$ 108	\$ 108
22	41858965	L-021C TIM-065-12 MP 35.05 TO 39.44 IM	IH	6603083	Maintain & Operate Services			\$ 1,196	\$ 1,196
23		Total				\$ 1,734,321	\$ 6,910,896	\$ 5,515,456	\$ 14,160,673
24		Total for Cost Adjustments				0	\$ 6,910,785	\$ 2,676,981	\$ 9,587,766
24		Total % for Cost Adjustments				0%	100%	49%	68%

9  
 10  
 11 A review of the cost orders for cancelled projects in Table 4C-S-2 above also reveals a number of  
 12 anomalies in PG&E’s data:

- 13 • Order 41497305, line 1, was completed in 2011, not cancelled.<sup>41</sup>
- 14 • Order 8149082, line 3, indicates a cost of \$2.5 million for a cancelled project on DFM-1816-05.  
 15 However PSEP originally included one project for this gas line at an estimated cost of  
 16 \$963,000.<sup>42</sup> This forecast was updated to \$1,066,000 in the update application.<sup>43</sup> The project  
 17 was completed in 2013, and has a recorded cost of \$-71,396.<sup>44</sup>

39 ORA-DR-58 Q1 stated “every expenditure associated with PSEP hydrotesting should be charged to an appropriate predefined account” and asked PG&E to “provide a list of all accounts that are compiled to obtain the recorded expenditures in Table 4A-9.” PG&E’s response to this DR and its presentation to ORA on June 12, 2014 indicated that these accounts are “cost elements,” and provided a list of cost elements used for PSEP expenditures.

40 Two of the ten largest orders have a more extensive list of recorded costs. Order 41497305, line 1 in Table 4C-S-1 above, includes 28 cost elements including elements including engineering, permitting, materials, etc. Order 41719452, line 7 in Table 4C-S-1 above, includes 40 cost similar cost elements that indicate work beyond records review and engineering analysis.

41 See PSEP Update Application Workpapers: data line 3 on page WP 2-1544 and row 3 on page WP 2-1545. This specific order number is not included as a completed project in any of PG&E’s responses to data requests, but is included as a completed project for \$3.253 million in Table 11-3 of the October 30, 2014 PSEP Report.

42 See Original PSEP Application workpapers page WP 3-756, line 147. This is for PSRS 23864, order 41474016.

43 See PSEP Update Application workpapers, page WP 2-10, line 346. The project description and original PSRS number are the same, but the order number is changed to 416999027, and the PSRS is changed to 27569.

44 See January 30, 2014 PSEP Report, Table 11-1 line 4, p. A-1, which shows contractor and material costs of \$1.708 million are offset by \$1.780 million in “other” costs.

- Order 41600071, line 13, is for a test project originally filed in PSEP with an estimated cost of \$2.4 million.<sup>45</sup> While no testing has been performed on this line through PSEP, PG&E indicates that \$919,836, or 38% of the forecasted costs, has been expended and recorded.<sup>46</sup>

In sum, the absence of complete information about whether a project was cancelled or deferred, the assignment of costs to a “cost adjustment” without any further explanation, and anomalies arising from just a preliminary look at a small subset of PG&E’s data all raise significant questions about the accuracy and reasonableness of PG&E’s accounting for PSEP costs for cancelled or deferred projects which are best addressed through a thorough and independent audit.

Consequently, if the Commission found, contrary to my recommendation, that the GT&S forecast should include a component to account for future cancelled or deferred projects, this cost should be much lower due to improvements in PG&E’s pipeline data, processes for using this data, and other experience gained during PSEP. In addition, the anomalies and missing information contained in PG&E’s data supporting the \$39.167 million PG&E claims it incurred for PSEP demonstrate that PG&E’s cost accounting is not reasonable on its face and cannot be relied upon.

### III. GENERAL COSTS

**Q15: Do you have any overarching comments about PSEP cost data relative to the \$62.8 million PG&E attributes to “general” program costs?**

A15: Yes. PG&E included \$62.8 million in “general” program costs attributed to 22 general cost orders in its GT&S hydrotest forecast which were not included in PSEP Reports. However, as described below, general costs for the PSEP program should, could, and may have been included with the recorded costs for individual PSEP hydrotest project orders, creating the possibility that double-counting of general program costs may be occurring.

PG&E’s original PSEP forecast submitted with its PSEP Implementation Plan in R.11-02-019 included indirect or general program costs two areas: (1) within the Program Management Office (PMO) budget, and (2) within the budget of each project.<sup>47</sup> As to the first type of costs, expenditures on the PMO should not be included in the calculation of hydrotest unit costs, as discussed in detail later in this testimony.<sup>48</sup>

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<sup>45</sup> See Original PSEP Application workpapers page WP 3-754, line 53.

<sup>46</sup> See PSEP Update Application workpapers, page WP 2-1427.

<sup>47</sup> The hydrotest cost forecast PG&E’s consultant Gulf produced for PSEP divided costs between direct costs, composed of materials, construction costs, commissioning costs, freight, and taxes, and indirect costs including all other costs. See by Attachments 1 to 4 to PG&E’s response to ORA-DR-55 Q3 in the PSEP proceeding.

<sup>48</sup> See Question and Answer 17 and 18.

1 As to the second type of cost, hydrotest-specific general costs were included within the original PSEP  
2 unit costs calculated by PG&E’s consultant Gulf International, and as adders for each project. Regarding  
3 the former, the following general costs were explicitly included in the Gulf unit costs:<sup>49</sup>

- 4
- 5 • Right of Way (“ROW”), 6% of material and construction costs,
- 6 • Regulatory and environmental, 3% of material and construction costs,
- 7 • Construction management and QA/QC, 5% of material and construction costs,
- 8 • Engineering, Design, and Survey costs, 10% of material and construction costs,
- 9 • PG&E project team labor, 1.5% of material and construction costs,
- 10 • AFUDC, 5.24% of total costs.

11

12 Excluding AFUDC, these general costs added 25.5% to Gulf’s forecasted direct costs.<sup>50</sup> In addition to  
13 these allowances included within Gulf’s unit costs, PG&E added 2.5% of calculated costs for “Project  
14 Management” and 2.9% for Customer outreach to the budget for each project.<sup>51</sup> In sum, PG&E’s  
15 forecasted PSEP costs for each hydrotest project included 30.9% for a wide range of indirect costs within  
16 the budget for each of the 165 proposed PSEP projects, independent of its request for a separate PMO  
17 budget. PG&E’s PSEP Implementation Plan did not discuss any incremental “general” program costs  
18 outside of the forecasted project budgets, its workpapers did not include orders for general costs,<sup>52</sup> and  
19 D.12-12-030 did not adopt a budget for “general” costs.<sup>53</sup> It is therefore reasonable that Appendix D of  
20 D.12-12-030 implicitly required that PG&E disclose “general” costs in the “other” cost category provided  
21 in Table 11-1 of the PSEP Reports.<sup>54</sup> Based on the record leading to the adoption of PSEP, and the  
22 implementing decision itself, all PMO costs should have been recorded to separate PMO account and all  
23 non-PMO costs **should have** been allocated to individual projects and included in the total recorded  
24 costs for each project.

25

26 PG&E also had the ability to allocate costs to individual project orders and **could have** done so. PG&E’s  
27 forecast for GT&S hydrotest was based exclusively on PSEP hydrotest costs: recorded costs for 2011 and  
28 2012, and forecasted costs for 2013. PG&E demonstrated in a June 12, 2014 presentation how some  
29 costs are recorded directly to a project order number, and some are allocated indirectly through a

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<sup>49</sup> PG&E PSEP Prepared Testimony in R.11-02-019, (Hogenson), Attachment 3E, p. 3E-9. This was confirmed by Attachments 1 to 4 to PG&E’s response to ORA-DR-55 Q3 in the PSEP proceeding. PG&E project team labor was stated as 10% of engineering and construction management, which together are 15% of construction and material costs. PG&E agreed with ORA that AFUDC should not have been included for expense projects, and adjusted the unit costs in the PSEP Update Application A.13-10-017. See PG&E PSEP Rebuttal Testimony in R.11-02-019 (Hogenson), Q/A 111, p. 3-47.

<sup>50</sup> Excluding AFUDC.

<sup>51</sup> See original PG&E PSEP Workpapers, e.g. p. WP 3-993.

<sup>52</sup> Table 3 in PG&E’s original PG&E PSEP Workpapers lists all proposed expenses by order number, including hydrotest, ILLI, engineering analyses, and \$1.5 million for planning the program. All 165 lines for hydrotest expenses are for specific projects; none are for general costs. See pp. WP 3-753 to WP 3-757.

<sup>53</sup> See D.12-12-030, late filed exhibit ALJ-5, Table 3, which includes the same order numbers those in Table 3 of the PG&E workpapers, cited in the previous footnote.

<sup>54</sup> See D.12-12-030, Attachment D, item 11, p.D2, which requires labor, material, and contractor costs for each completed project. Table 11-1 of each PSEP Report includes the total cost of each project, which is the sum of labor, material, contracts, and “other” expenditures. For example see October 30, 2014 PSEP Report, p. A-2.

1 “provider cost center” or PCC.<sup>55</sup> This presentation showed how a wide range of general or indirect costs  
2 are assigned to individual cost orders via the PCC, including:

- 3
- 4 • Supervision and Management,
- 5 • Labor burden,
- 6 • Material burden,
- 7 • Capital A&G, and
- 8 • AFUDC.
- 9

10 The June 12 presentation showed that the PCC provides a mechanism through which general program  
11 costs can be assigned to individual project orders. Therefore, where PG&E created 22 separate  
12 nondescript orders for general costs, it has done so by choice rather than necessity. This reduced cost  
13 transparency and the ability of PG&E shareholders, ratepayers, and the CPUC to review PSEP recorded  
14 costs in a meaningful way.

15  
16 In addition, PG&E has the ability to reallocate costs to a project order that was initially recorded to a  
17 general cost order, and did so with \$26.5 million of “misaligned” general costs in 2012, which also  
18 indicates that they *could have* reallocated costs initially assigned to a general cost order.<sup>56</sup>

19  
20 A key question remains: Did PG&E include general costs within individual projects for work that are  
21 duplicative for work it assigned to the 22 general cost orders? A conclusive answer requires a full audit  
22 of the PSEP program, but some evidence of misallocation of costs is provided in the following discussion.

23  
24  
25 **Q16: Do you have any specific issues with the \$62.8 million PG&E attributes to general program costs?**

26  
27 A16: Yes. As shown in Table 4C-S-3 below, PG&E’s response to a discovery request breaks the \$62.8  
28 million into the following 22 general cost orders:<sup>57</sup>

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<sup>55</sup> Attachment 3 to PG&E’s response to ORA-DR-64 Q2 is a presentation in which PG&E explained to ORA its cost accounting process. Pages 5 and 6 of this presentation addressed PCCs.

<sup>56</sup> See PG&E response to ORA-DR-116 Q1, as discussed in question and answer 19 of this testimony.

<sup>57</sup> Based on a sort on “general” costs in Attachment 2 to PG&E’s response to ORA-DR-116 Q1.

**TABLE 4C-S-3**  
**22 PG&E Hydrotest Cost Orders Identified As “General” In PG&E Response to ORA 123Q10**

Line #	Order	Order Description	MAT	Sum of 2011 Actual	Sum of 2012 Actual	Sum of 2013 Actual	Total 2011-2013	Cost Type
1	41463579	STRENGTH TEST-PROGRAM	KE1	\$ 60,023,736	\$ (26,529,940)	\$ 6,008,815	<b>\$39,502,611</b>	General
2	41496075	STRENGTH TEST-PMO	KE1	\$ 9,699,267	\$ 2,432,818	\$ 1,286,605	<b>\$13,418,690</b>	General
3	8119984	Hydrotest PMO	KE1		\$ 822,868	\$ 4,349,497	<b>\$5,172,365</b>	General
4	41613028	2012 STRENGTH TEST - GENERAL	KE1	\$ 3,567	\$ 1,692,314	\$ 578,883	<b>\$2,274,763</b>	General
5	41496073	STRENGTH TEST-FACILITIES	KE1	\$ 829,339	\$ (491)		<b>\$828,848</b>	General
6	8120278	Hydrotesting Engineering	KE1		\$ 85,854	\$ 266,611	<b>\$352,465</b>	General
7	41605311	ATS WORK 2011 HYDROTESTS	KE1	\$ (256)	\$ 314,788	\$ (3,344)	<b>\$311,187</b>	General
8	8141443	Baker Tank Maintenance	KE1			\$ 281,375	<b>\$281,375</b>	General
9	2032985	2013 HYDROTEST PIPE DESTRUCTIVE TESTING	KE1			\$ 232,793	<b>\$232,793</b>	General
10	8122895	2012 Retro-Wage Escalation-MWC II-IIC	IIH		\$ 164,300		<b>\$164,300</b>	General
11	2032287	ATS 2012 Hydrotest Pipe Testing	KE1		\$ 106,686	\$ 55,752	<b>\$162,438</b>	General
12	41849199	HYDROTEST - TEST HEADS (EXPENSE)	KE1			\$ 150,868	<b>\$150,868</b>	General
13	41634469	ATOMIC ABSORPTION UNITS-EXP-HYDRO TEST	KE1		\$ 41,842	\$ 739	<b>\$42,582</b>	General
14	2032545	2012 Hydrotest Pipe Destructive Testing	KE1			\$ 11,475	<b>\$11,475</b>	General
15	41513705	UG WELDING CONTRACTORS	KE1	\$ 36,264	\$ 941,122	\$ (968,658)	<b>\$8,729</b>	General
16	2033710	TIMP Dig PMO	IIH			\$ 5,300	<b>\$5,300</b>	General
17	8122896	2012 RETRO-WAGE ESCALATION-MWC II-NON-IIC	IIH		\$ 1,660		<b>\$1,660</b>	General
18	41208369	2010 ECDA-INSPECTIONS	IIH	\$ -	\$ 559		<b>\$559</b>	General
19	41844492	2013 UG CONSTRUCTION GC BLANKET PO	KE1			\$ (48,167)	<b>(\$48,167)</b>	General
20	41844493	2013 INFRASOURCE GT BLANKET PO	KE1			\$ (50,586)	<b>(\$50,586)</b>	General
21	2032987	PSEP Hydrotesting Non-IIC Expense	KE1			\$ 86,871,198	<b>\$86,871,198</b>	General
22	2032986	PSEP Hydrotesting IIC Expense	KE1			\$ (86,871,198)	<b>(\$86,871,198)</b>	General
23		<b>Total</b>		<b>\$70,591,917</b>	<b>(\$19,925,621)</b>	<b>\$12,157,960</b>	<b>\$62,824,256</b>	General

Referring to Table 4C-S-3 above, a total of \$60.4 million is attributed to two types of charges: Program Management Office (PMO), lines 2 and 3; and non-descript general orders, lines 1 and 4. These four orders account for approximately 96% of the total \$62.8 million PG&E identified as “general” program costs and were subjected to further review by ORA.

**Q17: Should the \$18.6 million in costs described as PMO costs in lines 2 and 3 be included as PSEP hydrotest costs?**

A17: No. PG&E requested funding for a PMO in the original PSEP application separate from its hydrotest request.<sup>58</sup> The PSEP PMO included a workstream program manager within the PMO dedicated to hydrotesting.<sup>59</sup> PMO consultants CH2M Hill and Parsons were engaged to “build a strength test project team and the support the development of the PMO.”<sup>60</sup> Thus, the PSEP Implementation Plan indicated that the PMO was actively engaged in managing and supporting the hydrotest program. PG&E’s request for a PMO was not opposed by parties, since in ORA’s words “PG&E is putting in place a comprehensive management framework to deliver the component projects of the Implementation Plan in a timely, cost effective and high quality manner.”<sup>61</sup> An annual budget of approximately \$9.75 million was adopted, which was slightly lower than requested by PG&E due to an adjustment in escalation.<sup>62</sup> The expense

<sup>58</sup> PG&E PSEP Prepared Testimony in R.11-02-019 (Bottorff/Stavropoulos), p. 1-16, Tables 1-2 and 1-3. Hydrotesting is one element of the Pipeline Modernization Program listed in line 1 of both tables, as shown in Table 3-1 of the same testimony at page 3-6.

<sup>59</sup> PG&E PSEP Rebuttal Testimony in R.11-02-019 (McDonald), p. 15-4.

<sup>60</sup> Id., p. 15-5.

<sup>61</sup> ORA PSEP Prepared Testimony in R.11-02-019 (DRA-07, Oh), p. 19.

<sup>62</sup> PG&E PSEP Prepared Testimony in R.11-02-019 (Caletka/Lechner), p. 7-2. Table 7-1 shows PG&E’s annual requests for PMO expenses and Capex, which range from \$4.6 million to \$10.1 million. Table 7-3, p. 7-21, of the same testimony shows that the total expense request was assigned to MAT KEX, and the Capex request to 2HX.

1 portion of the budget, \$3.3 and \$3.2 million in 2013 and 2014 respectively, were allocated to MAT KEX,  
2 while the PMO expenses in Table 4C-S-3 above were recorded to MAT KE1. It therefore appears that  
3 PG&E has recorded substantial PMO costs to the PSEP hydrotest program which were not authorized,  
4 and that are duplicative of PMO costs that were expressly authorized under a separate account. The  
5 correct treatment *should have* recorded PMO costs to other cost orders, and not counted them in  
6 hydrotest cost orders.

7  
8  
9 **Q18: Should the \$18.6 million in costs described as PMO costs in lines 2 and 3 be used to forecast**  
10 **GT&S costs?**

11  
12 A18: No. In GT&S, PG&E again requested a budget for a PMO. In this case, PG&E requested \$12.75  
13 million for 2015 based on claimed average annual PSEP PMO expenses for 2011-2014 of \$10.1 million.<sup>63</sup>  
14 This 27% increase in cost is accompanied by a decrease in PMO responsibilities, since the GT&S  
15 application states that “the PMO Project Execution organization will be funded by individual projects,”  
16 e.g. hydrotest projects.<sup>64</sup> In contrast, PG&E’s PMO request in the original PSEP application stated that  
17 “the number of PMO resources reflected in the [PMO] labor estimates represents a lean organization to  
18 cover the required elements of Program *execution* and oversight.”<sup>65</sup> In other words, PG&E’s request for  
19 a PMO in GT&S has increased more than 27%, and the budget beyond the explicit \$12.75 million request  
20 is embedded in the cost of other programs, including hydrotest. PG&E has not explicitly quantified the  
21 PMO costs embedded within its GT&S forecast for hydrotest projects, but by including \$18.6 million of  
22 PSEP PMO costs in its GT&S forecast it has implicitly increased the GT&S PMO budget by nearly 50%.<sup>66</sup>  
23 ORA did not oppose PG&E’s explicit request for \$12.75 million or recommend any disallowance.<sup>67</sup> ORA  
24 does, however, oppose the inclusion of PMO work within the hydrotest program and the inclusion of  
25 \$18.6 million in PSEP PMO cost in the GT&S hydrotest forecast. The correct treatment *should be* to  
26 include PMO costs in the PMO cost forecast, not in the hydrotest forecast.

27  
28  
29 **Q19: What did you find regarding the \$41.8 million associated with general or program cost orders in**  
30 **Lines 1 and 4?**

31  
32 A19: Table 4C-S-3 includes large sums allocated to vague and non-descriptive orders, for example \$39.5  
33 million for “Strength Test – Program” and \$2.3 million for “2012 Strength Test- General” in lines 1 and 4  
34 respectively. ORA reviewed order 41463579, line 1 in Table 4C-S-3 (“Strength Test – Program”), in detail

---

D.12-12-030 required PG&E shareholders to fund all PSEP expenditures in 2011, and most of those incurred in 2012. It also reduced PG&E’s requested escalation rate from 3.21% to 1.5% (see pp. 100-101) which reduced the all budgets requested by PG&E. For example, the 2013 total PMO request of \$10.1 million was reduced to \$9.8 million. See Late Filed Exhibit ALJ-5 to D.12-12-030, Table 4, 5, E-3, and E-2.

<sup>63</sup> PG&E 2015 GT&S Prepared Testimony, Volume 1 (Campbell), p.9-2. This is the sum of \$6.33 in expenses (new MAT JTD) and \$6.42 million in Capex (new MAT 75E). Average 2011-2014 data is sum of the average expenses (MAT KEX and KF1) and average capex (MAT 2HX) per PG&E 2015 GT&S Workpapers, Chapter 9, pp. WP 9-2 and WP 9-3. See ORA Workpaper 4C-S-5.

<sup>64</sup> PG&E 2015 GT&S Prepared Testimony, Volume 1 (Campbell), p.9-7. The Project Execution organization is shown in Figure 9-2, page 9-8, and described on pages 9-10 to 9-11.

<sup>65</sup> PG&E PSEP Prepared Testimony in R.11-02-019 (Caletka/Lechner), p. 7-20, emphasis added.

<sup>66</sup> PG&E 2015 GT&S Workpapers, Chapter 4A. See WP 4A-1 to 4A-15. The percentage increase is equal to  $\$18.6/(\$3 \times \$12.75) = 48.6\%$ .

<sup>67</sup> ORA 2015 GT&S Prepared Testimony (ORA-05, Lee), dated August 11, 2014, pp. 2-3.

1 because it has the largest cost impact, and because PG&E specifically referred to this order in a follow  
2 up discovery response:<sup>68</sup>

3  
4 “The \$39.5 million in costs captured above [for order 41463579 (Strength Test – Program)], are  
5 costs that are either not attributable to one project, or were incurred before project orders  
6 were established. Examples of costs attributable to more than one project are provided by year  
7 below:

- 8 • In 2011, costs included work that was done to start the program including: hiring,  
9 engineering, and even construction costs prior to PG&E having a systematic Order  
10 structure in place. [\$60.0 million]
- 11 • The 2012 line item attempts to correct some misaligned 2011 costs by transferring  
12 dollars to projects. [-\$26.5 million]
- 13 • The 2013 line item shows a \$6 million amount related to building data-sets, preliminary  
14 scoping (prior to project establishment) general data validation where orders are not  
15 yet established, etc. This activity can be expected to continue in the future.”

16  
17 PG&E’s description of \$39.5 million in general expenses it has recorded to the PSEP hydrotest program is  
18 not satisfactory for the following reasons:

- 19 • The initial PSEP work designing specific projects, obtaining ROW access and permits, and  
20 establishing contracts with subcontractors who performed the bulk of PSEP work required  
21 significant time early in 2011. While this work was underway, PG&E had sufficient time to  
22 design and deploy a cost order structure with more resolution than “Strength Test-Program,”  
23 which is the description of a single cost order to which PG&E recorded \$60 million in 2011.  
24
- 25 • If PG&E was able to “correct some [\$25.5 million] misaligned 2011 costs,” it should have  
26 corrected all costs in this cost bucket and allocated them to individual project cost orders.  
27 Assigning costs to a PCC may have been one way to do this.
- 28 • “Building data sets” such as Pipeline Features Lists (PFLs) and “general data validation” were  
29 remedial actions due to inadequacies in PG&E’s records, which were disallowed by D.12-12-030.  
30 These costs should have been included with data validation costs in PSEP and borne by  
31 shareholders, not included as hydrotest costs. Further, as discussed in Section II, these types of  
32 expenses should be significantly limited going forward since, according to PG&E, its MAOP  
33 validation was completed July 1, 2013, approximately 18 months ago.

34  
35 In addition, a majority of the general expenditures assigned to these vague cost orders were recorded in  
36 2011 and likely stem from two causes: start up costs for a major new program (PSEP), and costs incurred  
37 when PG&E was in a state of crisis and was forced to show it was performing immediate and significant  
38 work to demonstrate that it was actively engaged in preventing another San Bruno-like accident.  
39 Hydrotesting in GT&S is a continuation of the PSEP program which has the benefit of PG&E’s PSEP  
40 experience, and a combination of new and existing staff to ensure a smooth transition to non-crisis  
41 management. These types of one-time general costs should be unique to PSEP, should not be incurred  
42 going forward, and should not be included in PG&E’s GT&S cost forecast.

43  
44 To better understand the inputs to general cost order 41463579 (Strength Test – Program), on Line 1 of  
45 Table 4C-S-3 above, I examined the specific costs behind the \$39.5 million total, which is comprised of

---

<sup>68</sup> PG&E response to ORA-DR-116 Q1, p.4. Costs in brackets are from Table 4C-S-3, line 1.

1 126 types of costs which PG&E refers to as “Cost Elements.”<sup>69</sup> These same cost elements are used for  
 2 direct project cost orders for the same time periods, which suggests the potential duplication of  
 3 recorded costs.<sup>70</sup> For example, cost element 5040112 for “Hazardous Waste - Waste Pick-Up Cost” was  
 4 used for 204 cost orders totaling \$22.7 million. As shown in line 2 of Table 4C-S-4 below, \$7.8 million, or  
 5 34% of that total, was assigned to general cost order 41463579 (Strength Test – Program), even though  
 6 these costs are only incurred at a project level, and could be charged to individual project cost orders.<sup>71</sup>  
 7 To evaluate whether double counting was occurring, ORA drilled down to identify the top ten cost  
 8 elements within general cost order 41463579 (Strength Test – Program), which as shown in Table 4C-S-4  
 9 below is “Contracts.”

10  
 11 **TABLE 4C-S-4**  
 12 **Largest Cost Elements in PG&E General Hydrotest Cost Order 41463579 per**  
 13 **Response to ORA-DR-59 Q4**

Line	Order	Order Description	MAT	Cost Element	Cost Element Description	2011 Actual	2012 Actual	2013 Actual	Totals
1	41463579	STRENGTH TEST-PROGRAM	KE1	5490000	Contracts	\$40,896,747	(\$25,166,736)	\$2,055,776	\$17,785,787
2	41463579	STRENGTH TEST-PROGRAM	KE1	5040112	Hazardous Waste - Waste Pick-Up Cost	\$4,641,638	\$2,700,398	\$488,717	\$7,830,752
3	41463579	STRENGTH TEST-PROGRAM	KE1	5001250	Consulting Services - Other	\$1,914,148	\$2,744,572	\$1,054,851	\$5,713,571
4	41463579	STRENGTH TEST-PROGRAM	KE1	5490003	Engr/Dsgn and Engr, Proc & Constr Contra	\$1,746,603	(\$246,707)	\$541,170	\$2,041,066
5	41463579	STRENGTH TEST-PROGRAM	KE1	6608160	Contractor Engineering		\$508,124	\$1,236,542	\$1,744,666
6	41463579	STRENGTH TEST-PROGRAM	KE1	5001230	Consulting Services - Engineering	\$1,426,231	(\$4,613)		\$1,421,618
7	41463579	STRENGTH TEST-PROGRAM	KE1	5007000	Rents	\$808,329	\$260,480		\$1,068,809
8	41463579	STRENGTH TEST-PROGRAM	KE1	6603023	Engineering Services	\$428,668	\$223,985	\$93,844	\$746,497
9	41463579	STRENGTH TEST-PROGRAM	KE1	6603058	Technical Services	\$48,938	\$413,933	\$102,269	\$565,140
10	41463579	STRENGTH TEST-PROGRAM	KE1	6603001	Construction	\$533,531	\$25,990	\$335	\$559,856
11		Total				\$52,444,834	(\$18,540,575)	\$5,573,504	\$39,477,763

15  
 16 In discovery, ORA asked PG&E to “provide a list of all vendors employed by PG&E to perform hydrotests  
 17 as part of PSEP. For each vendor, include the following:...c) Payments made to date, from PG&E to the  
 18 vendor,...e) A list of the tasks performed, e.g. trenching, welding, radiography.”<sup>72</sup> PG&E’s response  
 19 dated July 10, 2014 did not provide a summary of the tasks performed by each vendor, but it did include  
 20 a table of payments, e.g. costs recorded by PG&E, that allowed sorting by order and cost element  
 21

<sup>69</sup> Revision 1 of Attachment 2 of PG&E’s response to ORA-DR-59 Q4, dated November 14, 2014. The cost for all 126 cost elements total \$39,502,611, which is the same value shown in line 1 of Table 4C-S-3 above. This is nearly the same as the cost for the top ten cost elements shown in Table 4C-S-4 below, \$39,477,763. This is because the remaining 116 cost elements include eight credits totaling -\$5.9 million which offset the remaining 108 cost elements. For example, there is a -\$2.8 million credit for the cost element “Cost adjustment.”

<sup>70</sup> For example, cost element 5490000 for “Contracts” is used for 397 cost orders; 5001250 for “Consulting Services – Other”, is used for 282 cost orders; 5490003 for “Engr/Dsgn and Engr, Proc & Constr Contra” was used for 269 cost orders; and 5040112 for “Hazardous Waste - Waste Pick-Up Cost” was used for 204 cost orders. The vast majority of these cost orders were for individual hydrotest projects cost orders. Data is based on sorting data in Revision 1 to Attachment 2 to PG&E’s response to ORA-DR-59 Q4 by cost element number.

<sup>71</sup> PG&E’s response to ORA-DR-59 Q19 indicated that disposal of hydrotest effluent, the primary hazardous waste from hydrotesting, was the responsibility of the test contractor: “Prior to each hydrotest, **contractors acting on PG&E’s behalf** make an agreement with the local water utility to purchase water and with the local sanitary sewer district to dispose of water. In some cases, requests are made to dispose of the water in a field or other location, which requires a Regional Water Quality Control Board approval/permit. **These agreements are typically site specific to each test**” (emphasis added.) The cost for this disposal should therefore be included in the recorded cost of construction contracts.

<sup>72</sup> ORA-DR-59 Q6.

1 numbers.<sup>73</sup> For line 1 in Table 4C-S-4 above showing \$17.786 million in total expenditures for  
 2 “Contracts”, PG&E’s detailed data on contractors indicates that \$172.3 million was paid under that same  
 3 general cost order 41463579 (Strength Test – Program).<sup>74</sup>

4 **TABLE 4C-S-5**  
 5 **Cost Element 5490000, “Contracts,” for PG&E General Hydrotest Cost Order 41463579**  
 6 **per Response to ORA DR-59 Q6**  
 7

Line	Order #	Order Description	MAT	Cost Element	Cost Element Description	2011 Total	2012 Total	2013 Total	Total
1	41463579	STRENGTH TEST-PROGRAM	KE1	5490000	Contracts	\$10,773,331	\$152,005,735	\$9,509,317	\$172,288,383

8 Individual charges within the annual totals in Table 4C-S-5 include:

- 9 • 2011: \$9.8 million for three invoices to two vendors, one of which is the PMO contractor, for  
 10 hydrotest support or hydrotest general,<sup>75</sup>
- 11 • 2012: \$139.2 million for four invoices to two of PG&E’s prime construction contractors,<sup>76</sup>
- 12 • 2013: \$8.2 million for four invoices for program support and inspection services,<sup>77</sup>

13 Thus, there is a ten fold difference between PG&E’s two data responses, leading one to ask, among  
 14 other things, why \$139.2 million for contractor costs are included in one dataset, but not the other. This  
 15 significant discrepancy points to either inconsistencies in PG&E’s cost accounting data, in how the PSEP  
 16 PMO collects and reports data, or in how PG&E responds to specific discovery requests. Each of these  
 17 puts into question the credibility of the data PG&E used to forecast its GT&S hydrotest costs.  
 18

19  
 20 **Q20: If PG&E were subsequently able to demonstrate that it was reasonable to record \$41.8 million of**  
 21 **general costs as PSEP hydrotest costs (Lines 1 and 4 of 4C-S-3), would it also be reasonable to include**  
 22 **these costs in the GT&S forecast?**  
 23

24 A20: No, not unless PG&E were able to persuasively show that each of these general costs will  
 25 reasonably be incurred in GT&S. As described in answers 10 and 11 above, the PSEP hydrotest program  
 26 was relatively unique in its scope and accelerated time frame, and was also initiated during the crisis  
 27 that followed the San Bruno explosion. If costs in the 22 general cost orders were found to be  
 28 reasonable for PSEP, it is probable that they would also be found to be one-time start up costs that are  
 29 unique to PSEP, and not likely to be incurred for the ongoing continuation of the hydrotest program in  
 30 GT&S. The GT&S forecast should only include costs that are likely to be incurred on an ongoing basis,  
 31 and PG&E has failed to meet its burden of proving this.

<sup>73</sup> One group of costs on the “Test Vendor PCC Dollars” tab does not include order numbers and were not included in this analysis. This tab includes 108 invoices totaling over \$75 million and dominated by two vendors: CH2M Hill for \$46.7 million and Gas Transmission Services Inc. \$24.8 million.

<sup>74</sup> Data compiled by filtering Attachment 1 to PG&E’s response to ORA DR-59 Q6 by order #, cost element #, and delivery date.

<sup>75</sup> CH2M Hill, purchase order number (PO#) 2500510834; and GTS, Inc., PO#s 2500465820 and 2500531942.

<sup>76</sup> ARB Inc. received payments for \$5.7 million and \$61.8 million on PO# 2500473439; Snelson Inc. received payments for \$10.0 million and \$61.8 million on PO# 2500473665. It is not clear why two separate payments were made to the same invoice on the same day, June 30, 2012.

<sup>77</sup> CH2M Hill, PO# 2500586819; GTS Inc., PO# 2500577657; and Tulsa Inspection, PO#s 2500831109 and 2500825632.

1 **IV. COSTS INCURRED AFTER PROJECTS WERE DEEMED**  
 2 **COMPLETED**

3  
 4 **Q21: Do you agree that “approximately \$2 million” in costs were recorded for PSEP Hydrotest after**  
 5 **projects were tied-in and operational?**

6  
 7 A21: No. Data provided by PG&E indicates that recorded costs for some completed projects have  
 8 increased beyond those PG&E reported in its PSEP Reports, but these increases are more than offset by  
 9 projects in which its data shows decreased costs. Therefore, PG&E has not experienced any net increase  
 10 in PSEP costs.

11  
 12 To analyze this issue, ORA compared the PSEP project costs data provided by PG&E in response to ORA  
 13 DR-123 with the PSEP Report data provided in response to ORA DR-89 and used by ORA to generate its  
 14 GT&S forecast. The PSEP Report data included 224 completed projects with a total cost of \$485.5  
 15 million.<sup>78</sup> PG&E’s ORA DR-123 data listed 221 completed projects with a total cost of \$478.3 million.  
 16 Each of these 221 projects was also included in the PSEP Report data, but at a total cost of \$480.2  
 17 million - \$1.9 million higher than PG&E’s data. See Table 4C-S-6 Line 1. In addition, PG&E responses to  
 18 ORA discovery show that three projects with significant costs in the PSEP Reports, which ORA included in  
 19 its GT&S cost forecast, were not included in PG&E’s GT&S forecast.

20  
 21 Comparing the costs of each of the 221 projects that appear in both data sets reveals that 119 projects  
 22 have a total price increase of \$3.7 million while 14 projects have a total price decrease of \$5.7 million.  
 23 Thus, total costs for projects with cost decreases more than offset those with cost increases (compare  
 24 Lines 5 and 7), contrary to PG&E’s argument that costs have increased by “approximately \$2 million.”  
 25 Table 4C-S-6 summarizes these results:

26  
 27 **TABLE 4C-S-6**  
 28 **Variances in Total Hydrotest Costs Between**  
 29 **PSEP Report Data (PG&E Response to ORA-DR 89) and PG&E’s Post Rebuttal Response to ORA DR-123**

30

Line #	Description of costs	Project Count	ORA-DR-89 Cost	ORA-DR-123 Cost	Variance (ORA 123\$ - ORA89\$)
1	Projects in both data sets	221	\$ 480,238,838	\$ 478,292,113	\$ (1,946,725)
2	Projects in only one data set	3	\$ 5,300,000	\$ -	\$ (5,300,000)
3	Total Variance, <b>decrease</b> after PSEP Report	244	\$ 485,538,838	\$ 478,292,113	\$ (7,246,725)
4					
	<u>Breakdown of line 1 costs</u>				
5	Projects with lower cost in ORA-DR-123 than ORA-DR-89	14	\$ 32,569,788	\$ 26,889,079	\$ (5,680,709)
6	Projects with same cost in both data sets	88	\$ 207,738,025	\$ 207,738,025	\$ -
7	Projects with higher cost in ORA-DR-123 than ORA-DR-89	119	\$ 239,931,025	\$ 243,665,009	\$ 3,733,984
8	Total Variance for projects in both data sets	221	\$ 480,238,838	\$ 478,292,113	\$ (1,946,725)
9					
10	Check (line 8 minus line 1)	0	\$ 0	\$ (0)	\$ (0)

31

<sup>78</sup> ORA-4C Testimony (Roberts) with Errata from August 29, 2014, pp. 21-22, Table 4C-4, p.20. This table indicated that the PSEP Reports included 252 completed projects in 2011-2013. Subsequent review indicated that 28 of these projects were for a split project that only had one order number. For example, order 41474058 is for both T-93A and T-93B, but all costs are assigned to T-93A.

1  
2 Significantly, Table 4C-S-6 shows that not only is PG&E’s argument regarding increased costs of  
3 “approximately \$2 million” is not supported by PG&E’s own data, it also shows that ORA’s estimate of  
4 total PSEP costs is \$7.2 million higher than PG&E’s: \$1.9 million for higher PSEP Report costs plus \$5.3  
5 million for the three projects PG&E did not include in its most recent data set. However, ORA’s unit  
6 costs remain lower than PG&E’s because of PG&E’s addition of costs for deferred and cancelled projects  
7 discussed in Section II and “general hydrotest program costs” discussed in Section III.  
8  
9

10 **Q22: Setting aside the analysis provided above, does PG&E’s omission of cost data on three projects in**  
11 **response to ORA DR-123 raise other concerns?**  
12

13 A22: Yes. PG&E has indicated that there is only one source of PSEP cost data: its SAP accounting  
14 system.<sup>79</sup> Differences in the cost orders for particular projects, e.g. cost increases for the 119 projects  
15 shown in Line 4 of Table 4C-S-6 above, can occur because the SAP accounting data is adjusted or  
16 updated, resulting in changes over time. However, there should not be omissions of entire cost orders  
17 for projects completed months before the data is queried. This appears to be the same type of issue  
18 that led to the omission of cost data on 17 projects in PG&E’s original response to ORA DR-59 Q4, as  
19 discussed in more detail in the following section.  
20

## 21 **V. ANOMALIES IN PG&E’S DATA REVEALED THROUGH ANALYSIS** 22 **OF THESE ISSUES**

23 **Q23: What irregularities and inconsistencies lead you to recommend that the CPUC audit PG&E’s PSEP**  
24 **costs?**  
25

26 A23: Irregularities uncovered during ORA’s review of cancelled and deferred projects, general hydrotest  
27 cost orders, and costs incurred after project completion are discussed in sections II, III, and IV above  
28 respectively. In addition, inconsistencies were observed between data sets PG&E has provided in this  
29 case. Finally, PG&E provided revised costs for completed PSEP projects in its most recent PSEP Report  
30 which reveals even more anomalies.  
31  
32

33 **Q24: What are the inconsistencies you observed among the data sets provided by PG&E in this case?**  
34

35 A24: PG&E’s stated expenses for hydrotesting have changed throughout this case, making any challenge  
36 to its data a moving target. The following Table 4C-S-7 compares PG&E’s hydrotest expenses for 2011,  
37 2012, and 2013 based on the workpapers supporting its testimony (Lines 1 and 2) as compared to the  
38 data provided by PG&E in response to ORA discovery requests (Lines 3, 4, and 5):<sup>80</sup>  
39  
40

---

<sup>79</sup> PG&E Response to ORA-DR-64 Q3.

<sup>80</sup> Total order count is less than the sum of annual order counts since some orders have costs in multiple years.

**TABLE 4C-S-7**  
**Annual Hydrotest Expenses, per PG&E Testimony and Discovery Responses**

Line #	Data Source	Date Issued	2011			2012			2013			2011-2013 all	
			Order Count	MAT Codes	Expenses Millions	Order Count	MAT Codes	Expenses Millions	Order Count	MAT Codes	Expenses Millions*	Total Order Count	Expenses Millions
1	PG&E workpapers supporting 2015 GT&S Application, pp. WP 4A-4 to WP 4A-9, total claimed hydrotest expenses	12/19/2013	43	KE1, IIH, JTC, KF4	\$341,191,466	239	KE1, KEX, IIH, JTC, KF4, KF1, 34A, HPF, HPM,	\$298,398,816	20	KE1, KEX, IIH, JTC, KF4, KF1, 34A, HPM,	\$ 235,137,496	268	\$874,727,778
2	PG&E workpapers supporting 2015 GT&S Application, pp. WP 4A-50 Hydrotest expenses used to calculate PSEP unit costs	12/19/2013	NA	NA	\$231,000,000	NA	NA	\$178,895,000	NA	NA	\$ 190,000,000	NA	\$599,895,000
3	Attachment 2 to PG&E Response to ORA-DR-59 Q4, original	7/2/2014	197	KE1, IIH, JTC, KF4	\$341,190,919	553	BXM, KE1, KEX, IIH, JTC, KF4, KF1, 34A, HPF, HPM,	\$298,424,483	358	KE1, KEX, IIH, JTC, KF4, KF1, 34A, HPM	\$ 153,706,175	603	\$793,321,577
4	Attachement 1 to PG&E Response to ORA-DR-123 Q10	10/2/2014	188	KE1, IIH, JTC, KF1	\$230,897,603	507	KE1, IIH, JTC, KF1	\$181,814,403	448	KE1, IIH, JTC, KF1	\$ 167,571,482	656	\$580,283,488
5	Attachment 2 to PG&E Response to ORA-DR-59 Q4, revised	11/14/2014	188	KE1, IIH, JTC, KF1	\$230,897,603	507	KE1, IIH, JTC, KF1	\$181,814,403	448	KE1, IIH, JTC, KF1	\$ 167,571,482	656	\$580,283,488
	*Values in grey are PG&E forecasted												

As background, the annual costs in Line 2 of Table 4C-S-7 are the costs used in PG&E’s initial testimony in this case to calculate unit costs.<sup>81</sup> These costs were derived from the total hydrotest expenses in line 1, shown in PG&E’s workpapers.<sup>82</sup> A large part of the difference between lines 1 and 2 is MAOP validation costs which PG&E subsequently subtracted, but that it should never have classified as hydrotest costs in the first place, as discussed in ORA’s Opening testimony.<sup>83</sup>

The main concern highlighted by Table 4C-S-7 is the change between PG&E’s initial response to ORA-DR-59 Q4 in July 2014 (Line 3) and PG&E’s subsequent responses following Rebuttal Testimony in October and November 2014 (Lines 4 and 5). In particular, the data from July included costs for nine MAT codes to provide totals matching PG&E’s testimony and workpapers. While PG&E removed some costs for MAOP validation assigned to MAT KF4 to calculate 2011 and 2012 unit costs, it did not do so for 2013 costs in its initial response to ORA discovery.<sup>84</sup> ORA’s opening testimony demonstrated that removing MAT KF4 MAOP validation costs from 2013 recorded costs, to be consistent with PG&E’s calculations of 2011 and 2012 unit costs, yielded a cost of \$124.5 million.<sup>85</sup> In Rebuttal, PG&E indicated that actual 2013 costs were \$167.5 million,<sup>86</sup> significantly higher than the \$153.7 million in Line 3 above (which PG&E provided in a data response) and ORA’s calculated value of \$124.5 million. PG&E unilaterally provided a revision to its response to ORA-DR-59 Q4 and comparison to the original response in Table 4C-S-8 below shows the source of the differences:

<sup>81</sup> PG&E 2015 GT&S Prepared Testimony, Volume 1 (Barnes), Table 4A-11, p. 4A-41.

<sup>82</sup> PG&E 2015 GT&S Workpapers, Chapter 4A, Table 1, pp. WP 4A-9, line 404, and WP 4A-50.

<sup>83</sup> ORA-4C Testimony (Roberts) with Errata from August 29, 2014, pp. 21-22.

<sup>84</sup> Attachment 2 to PG&E Response to ORA-DR-59 Q4. MAT KF4 is defined as “Records and MAOP Validation,” and “As the first part of the Pipeline Records Integration Initiative, PG&E will validate the MAOPs of its transmission pipelines based on pipeline features (MAOP Validation). The data and MAOP validation is taking place in two phases.” See Attachment 1 to PG&E’s response to ORA-DR-87 Q1d, tab “GT Expense”, line 117.

<sup>85</sup> ORA-4C Testimony (Roberts) with Errata from August 29, 2014, p. 24, and ORA Exhibit 4C Workpapers, pp. 10-11.

<sup>86</sup> PG&E 2015 GT&S Rebuttal Testimony, Volume 1 (Barnes), Table 4A-10, p. 4A-49.

**TABLE 4C-S-8**  
**Changes to 2013 Recorded Cost in Revision 1 to PG&E's Response to ORA DR-59 Q4**

Line #	Description of 2013 costs	ORA-DR-59 Q4 A2 Original	ORA-DR-59 Q4 A2 Revised	Variance (Rev. - Orig.)
1	Total 2013 costs	\$ 153,706,175	\$ 167,571,482	\$ 13,865,307
2				
3	MAT KF4 MAOP validation costs	\$ 29,170,914	\$ -	\$ (29,170,914)
4	MAT 34A, BXM, HPM, HPF and KEX costs	\$ 1,450,676	\$ -	\$ (1,450,676)
5	General cost orders	\$ 11,975,337	\$ 12,157,960	\$ 182,623
6	123 cancelled or deferred projects not included in original, 2013 impact	\$ -	\$ 11,802,574	\$ 11,802,574
7	17 completed projects not included in original, 2013 impact	\$ -	\$ 32,501,701	\$ 32,501,701
8	<b>Total Variance, lines 3-7</b>			<b>\$ 13,865,307</b>
9				
10	Check (line 9 minus line 1)			\$ 0

Table 4C-S-8 shows that PG&E removed MAOP validation costs associated with KF4, and costs assigned to other MAT codes, but these were offset by including new costs. The biggest change between PG&E's original July 2, 2014 response and the November 14, 2014 supplemental response is the \$32.5 million increase for 17 projects that PG&E failed to include in its initial response. PG&E's initial discovery response was provided more than six months into 2014, which should have provided ample time to finalize costs for projects completed in 2013, especially for the three projects completed prior to 2013.<sup>87</sup> The total cost for these 17 projects of the total in the PSEP Reports is essentially the same as costs for the same projects in the PSEP Reports, so the issue is not that the cost for these projects was added.<sup>88</sup> Instead, the issue is that its initial response, which was provided six months after 2013 projects were completed, excluded 140 project level orders and instead included MAOP validation costs which should not have been included. A key goal of ORA's recommended audit should be to fully explain why and how the changes shown in Table 4C-S-8 occurred. See Section II and III for additional discussion of MAOP validation costs.

**Q25: Has PG&E attempted to correct the discrepancy between its PSEP Reports and data provided to support its GT&S forecast?**

A25: Yes, but the correction has resulted in the revelation of more anomalous data. PG&E's third quarter 2014 PSEP Report issued Oct. 30, 2014 included Table 11-3 in the appendix, which PG&E explains "is a new table as of the third quarter of 2014 which provides updated cost information on individual projects across PSEP construction workstreams that were completed (returned to operations) and previously reported in earlier Compliance Reports by PG&E from program inception through December 31, 2013."<sup>89</sup> The total costs using this dataset for projects completed in 2011-2013 is \$478.9 million, which is within .15% of the \$478.3 million total PG&E provided in response to ORA DR-123. However, Table 4C-S-9 below shows that these similar total costs are obtained from different groups of project cost orders. In sum, ORA's analysis, set forth in Table 4C-S-9 below shows that of the 4 data sets

<sup>87</sup> Orders 41535680, 41592685, and 41687447 had tie-in dates in 2011 and 2012.

<sup>88</sup> The difference is less than \$75,000.

<sup>89</sup> PSEP Report, R.11-02-019, October 30, 2014, p. 26.

1 provided by PG&E during the course of this proceeding thus far, projects included from one PG&E data  
 2 set to the next are not consistent; there are 200 project cost orders common to all of the data sets; and  
 3 there are 27 project cost orders which are not common to all of the data sets:

4 **TABLE 4C-S-9**  
 5 **Annual Hydrotest Expenses, per PG&E Discovery Responses and Revised PSEP Report Costs**  
 6

Line	Test Project Orders	Project Count	ORA 89Q2A1		ORA 59Q4A2R0		ORA 123Q10A1		PSEP Report Table 11-3	
			Project Count	Total \$	Project Count	Total \$	Project Count	Total \$	Project Count	Total \$
1	All Test orders	227	224	\$485,505,178	204	\$441,442,835	221	\$478,292,113	220	\$478,885,829
2										
3	Orders in all sources	200	200	\$434,785,069	200	\$434,795,523	200	\$434,795,523	200	\$436,257,486
4	Orders in Table 11-3 only	3	0	0	0	0	0	0	3	\$3,636,508
5	Orders in response to ORA-DR-89 only	1	1	\$1,726,018	0	\$0	0	\$0	0	\$0
6	Orders in response to ORA-DR-89 and 59 only	1	1	\$1,481,199	1	\$1,466,325	0	\$0	0	\$0
7	Orders in response to ORA-DR 89 and 123, & Tbl 11-3	16	16	\$38,193,277	0	\$0	16	\$36,362,491	16	\$36,930,770
8	Orders not in Table 11-3	5	5	\$7,260,492	3	\$5,180,987	5	\$7,134,099	0	\$0
9	Orders in response to ORA-DR-89 and Tbl 11-3 only	1	1	\$2,059,123	0	0	0	\$0	1	\$2,061,064
10										
11	<b>Check (Sum of lines 3-9 minus line 1)</b>	<b>0</b>	<b>0</b>	<b>\$0</b>	<b>0</b>	<b>\$0</b>	<b>0</b>	<b>\$0</b>	<b>0</b>	<b>(\$1)</b>

7  
 8 For example, lines 4 and 9 show that Table 11-3 in the October 30, 2014 PSEP Report includes four  
 9 project orders not included in PG&E’s response to ORA DR-123. Conversely, line 8 shows that five  
 10 project orders were included in PG&E’s response to ORA DR-123, but are not in Table 11-3. Appendix 1,  
 11 provided below, lists all 27 project orders that were not common to all four data sets shown in Table 4C-  
 12 S-9, and shows that the projects in question have different test numbers and were performed on  
 13 different pipelines, so these are not typographic or otherwise explainable errors in the data.

14 Table 4C-S-9 also shows that the changes in total hydrotest costs in each dataset is driven by changes in  
 15 which cost orders are included in each data source, rather than within individual cost orders. For  
 16 example, line 4 in the table shows that the total cost for 200 projects common to all data sets varied by  
 17 less than \$1.5 million or .3%. In contrast, the omission of certain costs orders shown in lines 4, 5, 8, and  
 18 9 individually have a greater impact.

19 **VI. CONCLUSION**

20 **Q26: Does the data provided by PG&E in rebuttal testimony and subsequent discovery responses**  
 21 **support PG&E’s assertion that ORA was wrong to forecast GT&S hydrotest costs based on PSEP**  
 22 **Compliance Report data?**

23  
 24 A26: No, it does not. The anomalies consistently and repeatedly revealed in PG&E’s data sets  
 25 demonstrate that the Commission should insist on the use of a single PSEP database for any forecasting  
 26 for PSEP-related work, like the GT&S hydrotest program, and that this data should come from the PSEP  
 27 Reports.  
 28

1 **Q27: Does this supplemental testimony have any bearing on your recommendations regarding the**  
2 **Vintage Pipe Replacement Program (VIPER)?**

3

4 A27: Yes. ORA performed similar discovery for the VIPER program based on PG&E's rebuttal testimony,  
5 which stated that the data used by ORA resulted in a "flawed unit cost calculation."<sup>90</sup> ORA was unable  
6 to perform a comprehensive analysis of this data, but its preliminary review of attachments included  
7 with the responses indicates that there are similar problems associated with PG&E's VIPER forecast.

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<sup>90</sup> PG&E 2015 GT&S Rebuttal Testimony, Volume 1 (Barnes), p. 4A-74.

1 **APPENDIX 1 – ADDITIONAL DATA**

2 **TABLE 4C-S-10**

3 **27 Project Cost Orders Included in Some PG&E Discovery Responses and PSEP Reports, But Not Others**

4

Line	Order #	Project Description	Tie-in Date	Total 2011-2013 costs			PSEP Report Table 11-3
				ORA-DR-89Q2A1	ORA-DR-59Q4A2R0	ORA-DR-123Q10A1	
1	9,715,461	T-96A (E) SP - 5 MP 0 to MP 2.4	5/27/2011	\$ 2,059,123			\$ 2,061,064
2	41,497,305	T-65B L-300A MP 445.705 to MP 446.48	9/28/2011				\$ 3,253,481
3	41,502,562.1	T-22S L-131 MP 51.42 to MP 55.88	10/21/2011				\$ 35,455
4	41,535,680	W00273&W0274- HYDRO 300A MP 290.33	10/11/2011	\$ 2,443,979		\$2,443,979	\$ 2,443,979
5	41,592,685	T-121 L-303 MP 26.555 to MP 27.672	11/19/2011	\$ 1,810,507		\$1,810,507	\$ 1,810,507
6	41,617,910	TIM-013A-12, Line L-109, Daly City	11/8/2012				\$ 347,572
7	41,687,447	T-172-12, Line L-131, Livermore	8/12/2012	\$ 1,560,916		\$1,582,014	\$ 1,574,827
8	41,699,030	T-173-12, Line DFM-7219-01, Modesto	8/31/2012	\$ 1,851,884		\$0	\$ 117
9	41,743,422	T-265-13, Line DFM-1004-01, Orland	7/22/2013	\$ 2,256,385	\$2,252,630	\$2,252,630	
10	41,743,430	TIM-274-13, Line GCUST5900, Fremont	6/15/2013	\$ 694,744	\$692,024	\$692,024	
11	41,801,018	T-091B-12, Line L-210B, Suisun City	9/17/2013	\$ 2,262,380	\$2,236,333	\$2,236,333	
12	41,842,134	T-333-14, Line DFM-1502-02, Marysville	7/2/2013	\$ 1,964,957		\$1,950,328	
13	41,858,968	T-331A-14, Line DFM-1501-01, Yuba City	7/24/2013	\$ 5,989,809		\$5,989,809	\$ 6,051,559
14	41,859,176	T-360-14, Line DFM-7226-13, Modesto	6/8/2013	\$ 1,305,677		\$1,305,677	\$ 1,335,379
15	41,859,416	T-318A-14, Line DFM-0604-06, Vacaville	10/9/2013	\$ 2,700,792		\$2,700,792	\$ 2,721,049
16	41,865,228	TIM-286-13, Line L-021C, Penngrove	10/6/2013	\$ 1,726,018			
17	41,867,295	T-013C-12, Line L-109, Daly City	9/12/2013	\$ 4,027,232		\$4,027,232	\$ 3,681,716
18	41,867,640	T-282A-13, Line L-172A, West Sacramento	10/25/2013	\$ 3,453,008		\$3,453,008	\$ 3,492,962
19	41,877,582	TS-003-13, Line GCUST5814, Palo Alto	7/17/2013	\$ 72,313		\$72,313	\$ 73,168
20	41,899,453	T-284-13, Line DFM-1815-02, Monterey	10/31/2013	\$ 1,282,686		\$1,282,686	\$ 1,275,584
21	41,916,188	T-303B-14, Line L-186, Dos Palos	11/23/2013	\$ 4,031,043		\$4,031,043	\$ 4,248,038
22	41,916,192	T-304-14, Line L-186, Dos Palos	12/8/2013	\$ 2,594,838		\$2,594,838	\$ 2,929,108
23	41,918,261	T-355-14, Line L-300B, Kern	10/30/2013	\$ 1,799,285		\$1,799,285	\$ 1,885,144
24	41,931,283	T-337-14, Line DFM-1603-03, Manteca	10/22/2013	\$ 605,864		\$605,864	\$ 634,592
25	41,935,085	TIM-269C-13, Line DFM-1813-02, Seaside	10/29/2013	\$ 82,026		\$2,784	
26	41,942,319	T-288A-13, Line L-300B, Bear Valley Spring	11/19/2013	\$ 2,663,443		\$2,663,443	\$ 2,773,040
27	97,001,461	T-279-13, Line SP4Z, Antioch	5/1/2013	\$ 1,481,199	\$1,466,325		
<b>Project Count</b>				<b>24</b>	<b>4</b>	<b>21</b>	<b>20</b>
<b>Cost subtotal</b>				<b>\$ 50,720,109</b>	<b>\$ 6,647,312</b>	<b>\$ 43,496,590</b>	<b>\$ 42,628,343</b>

5

6 Note that the Order number in line 3, 41502562.1, was added to accommodate this project, since  
7 another project has the same basic order number, 41502562.

8

1 **APPENDIX 2 – WORKPAPERS**

2 The following workpapers support the tables and analysis indicated:

- 3 • ORA 4C-WP-S-1: Table 4C-S-1, Table 4C-S-3, Table 4C-S-6, Table 4C-S-7, Table 4C-S-8
- 4 • ORA 4C-WP-S-2: Table 4C-S-2 and Table 4C-S-4
- 5 • ORA 4C-WP-S-3: Table 4C-S-5
- 6 • ORA 4C-WP-S-4: Table 4C-S-9 and Table 4C-S-9
- 7 • ORA 4C-WP-S-5: Program Management Office (PMO) calculations

8

9 These workpapers will be provided to the service list in native Microsoft Excel format.