BEFORE THE PUBLIC UTILITIES COMMISSION

OF THE STATE OF CALIFORNIA

Order Instituting Investigation on the Commission's Own Motion into the Operations and Practices of Pacific Gas and Electric Company to Determine Violations of Public Utilities Code Section 451, General Order 112, and Other Applicable Standards, Laws, Rules and Regulations in Connection with the San Bruno Explosion and Fire on September 9, 2010.	I.12-01-007 (Filed January 12, 2012)
Order Instituting Investigation on the Commission's Own Motion into the Operations and Practices of Pacific Gas and Electric Company with Respect to Facilities Records for its Natural Gas Transmission System Pipelines.	I.11-02-016 (Filed February 24, 2011)
Order Instituting Investigation on the Commission's Own Motion into the Operations and Practices of Pacific Gas and Electric Company's Natural Gas Transmission Pipeline System in Locations with Higher Population Density.	I.11-11-009 (Filed November 10, 2011) NOT CONSOLIDATED

OPENING BRIEF OF THE UTILITY REFORM NETWORK ON FINES AND REMEDIES

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1. PG&E's shareholders should be held responsible for paying the $1 billion of pipeline safety Implementation Plan ("PSIP") costs to test and replace gas transmission pipeline segments lacking a pressure test record that were tentatively apportioned to PG&E's ratepayers in Decision ("D.) 12-12-030. That decision contemplated that the level of pipeline costs to be recovered from ratepayers could be modified based on the record in these cases. The record here shows that the testing and replacement measures ordered in D.12-12-030 are necessary to remedy the violations demonstrated in these cases. The after-tax financial impact to PG&E of paying $1 billion in PSIP costs is $ 740 million.
2. The violations demonstrated in these cases are so serious and numerous as to mathematically justify a fine in the hundreds of billions of dollars -- even based solely on the minimum fine amounts in the Public Utilities Code. Because the statutory minimum fine well exceeds PG&E's financial resources, the fine actually imposed in these cases should be constrained by the company's "financial limit," the fine that PG&E can sustain without impairing its ability to serve customers or increasing its cost of capital. The record shows that PG&E's financial limit, estimated conservatively (i.e., in PG&E's favor) is $2.25 billion. Because PG&E shareholders have already paid or will pay $785 million for PSIP work ordered in D.12-12-030, PG&E's effective financial limit, prior to any fines or remedies in these cases, is $1.46 billion.
3. The Commission should order PG&E to pay a fine to the State Treasury of at least $670 million. This fine amount is based on PG&E's effective financial limit of $1.46 billion, minus: (a) the $740 million after-tax cost to PG&E of paying additional PSIP costs

described in Paragraph 1 above; and (b) an estimated $50 million cost to PG&E of the additional remedies ordered in Paragraph 5 below.

4. In order to have the total financial consequences of fines and remedies equal PG&E's effective financial limit of $1.46 billion, the $670 million fine should be increased as described in the event of any of the following:
    a. If, as a result of the "update application" ordered in Ordering Paragraph 11 of D.12-12-030, the Commission reduces the scope – and hence the cost - of pipeline testing or replacement projects in the PSIP, the fine should be increased by the (after-tax) amount of the reduced PSIP cost;
    b. If the Commission does not order PG&E shareholders to pay for any or all of the full $1 billion of PSIP costs described in Paragraph 1 above, the fine amount should be increased by the (after-tax) difference from $1 billion;[1] or
    c. If the total cost to PG&E of the remedies described in Paragraph 5 is less than $50 million, the difference from $50 million should be added to the fine total.[2]
5. The Commission should order the following additional measures as remedies for PG&E's violations:
    a. PG&E should be required to track in a centralized database where it has placed re-used or otherwise reconditioned pipe in its system. For each such segment, the database should show the date of manufacture of the segment, if known. If this date is unknown, the database should so indicate, to ensure that the segment is given

[1] For example, if the Commission decided that PG&E shareholders should pay only $750 million of additional PSIP costs (assuming for simplicity costs PG&E $500 million after-tax), then the fine should be increased by $240 million ($740 million after tax cost of $1 billion PSIP payments minus $500 million).
[2] Likewise, if the cost to PG&E of the Paragraph 5 remedies exceeds $50 million, the fine amount should be reduced by the excess cost above $50 million.

appropriate attention in integrity management. The database should include a link to reliable and readily accessible documentation showing, for each re-used or otherwise reconditioned pipe segment, that all steps necessary to prepare the segment for installation were performed and inspected. If such documentation is unavailable, the centralized documentation should so indicate so that the segment will be given appropriate attention in integrity management.

b. With respect to the MAOP Validation Project that PG&E is conducting at the Commission's directive, the Commission should require PG&E, in accordance with Ordering Paragraph 1 of D.11-06-017, to fully document any engineering-based assumptions it makes for data that is missing, incomplete or unreliable. Such assumptions must be clearly identified and justified and, where ambiguities arise, the assumption allowing the greatest safety margin must be adopted. In addition, PG&E should be required to pay for the costs of a qualified independent auditor, retained by the Commission, to: (a) audit PG&E's MAOP Validation results for accuracy, reliability, and compliance with the requirements of D.11-06-017, and (b) to prepare a full report to the Commission and available to interested parties of its conclusions and recommendations for remediation of any observed deficiencies.

c. With respect to PG&E's Project Mariner, the key four-year program that PG&E describes as an effort to improve the accessibility and reliability of its pipeline information, PG&E should be required to pay for the costs of a qualified independent auditor, retained by the Commission, to (a) examine the new systems developed in Project Mariner, including observations of the systems in operation, to ensure that they result in accurate, reliable, and accessible pipeline data that meets all safety

operational needs, and (b) to prepare a report to the Commission and available to interested parties of its conclusions and recommendations for remediation of any observed deficiencies.

d. The Commission should hire an independent monitor with demonstrated expertise in the safe operation of gas transmission pipelines and the auditing of gas transmission operations to oversee and report to the Commission regarding PG&E's PSIP work, its remediation of its integrity management program, and its gas pipeline recordkeeping. The tasks of the independent monitor should include overseeing the above-listed remedies.

OPENING BRIEF OF THE UTILITY REFORM NETWORK ON FINES AND REMEDIES

The Utility Reform Network ("TURN") submits this brief presenting its recommendations for fines[3] and other remedies for the violations by Pacific Gas and Electric Company ("PG&E") that have been demonstrated in Investigations (I.) 11-02-016 ("the Recordkeeping Investigation"), 11-11-009 ("Class Location Investigation"), and 12-01-007 ("San Bruno Explosion Investigation").

I. INTRODUCTION AND SUMMARY

The record of these three enforcement cases has demonstrated that the safety violations that allowed the installation of dangerously defective pipe in a residential neighborhood in San Bruno go far beyond those defective pup segments. Over many decades, PG&E has committed numerous violations with respect to the construction and installation of pipe, the recordkeeping that is essential to knowing the characteristics and condition of buried pipeline, and the integrity management process that was supposed to ferret out pipe segments, like Segment 180, that pose a threat to public safety.

Based on the record of these cases, the Commission now knows that, without Commission intervention after the San Bruno explosion, PG&E's inadequate recordkeeping systems and integrity management program would be incapable of foreclosing the possibility that other dangerous pipe segments are lurking underground, ready to rupture. One key reason is that PG&E has failed to keep any records showing that not just Segment 180 -- but all the other pipe

[3] This brief uses the terms "fine" and "penalty" synonymously and uses the phrase "total financial consequences" to refer to the cumulative financial impact on PG&E of TURN's recommended fines, disallowances and other remedies that would have a financial impact on the company.

in PG&E's system that needed to be reconditioned before installation -- was indeed properly reconditioned and inspected prior to being placed into service. Clearly, this did not happen before Segment 180 was installed, and the absence of documentation prevents PG&E and the Commission from verifying that necessary reconditioning steps were properly performed for the many other reconditioned segments. Compounding this danger is PG&E's failure to maintain an accessible database showing where it has placed re-used or otherwise reconditioned pipe in its system. Under these circumstances, the only way to address the risk that other segments with dangerous seam defects are in operation is to require PG&E to do exactly what the Commission ordered in Decision (D.) 11-06-017 – to test or replace all pipeline segments for which PG&E cannot document a reliable post-installation pressure test.

Accordingly, TURN's recommendations in this brief start with urging the Commission to require PG&E shareholders to pay for all of the pipeline testing and replacement work that the Commission approved in D.12-12-030. While that decision disallowed some of these Pipeline Safety Implementation Plan ("PSIP") costs from recovery based on the limited record in that proceeding, the Commission held open the possibility that other PSIP costs would be disallowed based on the record in these cases. Indeed, the more complete record here shows that, in the case of PG&E, the PSIP testing and replacement work is an absolutely essential remedy for PG&E's serious violation. Consequently, PG&E's shareholders, not ratepayers, should be required to pay for all of the testing and replacement costs made necessary by PG&E's violation, requiring a further disallowance to PG&E of $1 billion.

With respect to fines, Section III of this brief demonstrates that the violations in these cases are so serious and numerous as to mathematically justify a fine in the hundreds of billions of dollars – even based on the minimum fine amounts set forth in Public Utilities Code Section

2107,[4] as modified over the years. Because the statutory minimum fine well exceed PG&E's financial resources, the fine actually imposed should be constrained by the company's "financial limit," the fine that PG&E can sustain without impairing its ability to serve customers or increasing its cost of capital.

As explained in Section IV, the record shows that PG&E's financial limit, estimated conservatively (i.e., in PG&E's favor) is $2.25 billion. Because PG&E shareholders have already paid or will pay $785 million for PSIP work ordered in D.12-12-030, PG&E's effective financial limit, prior to any fines or remedies in these cases, is $1.46 billion. TURN urges the Commission to order PG&E to pay a fine to the State Treasury of at least $670 million. This fine amount is based on PG&E's effective financial limit of $1.46 billion, minus: (a) the $740 million after-tax cost to PG&E of the disallowance of $1 billion of PSIP testing and replacement costs and (b) an estimated $50 million cost to PG&E of the additional remedies described in Section V. In the event, the Commission adopts a different PSIP disallowance than the amount recommended by TURN, the fine amount should be adjusted as necessary to have the total financial consequences of fines, disallowances and other remedies equal PG&E's effective financial limit of $1.46 billion.

Section V concludes with TURN's recommendations for certain additional measures that are necessary to remedy PG&E's violations. These measures include: (a) tracking in a centralized database where PG&E has placed re-used or otherwise reconditioned pipe and whatever documentation PG&E has about whether the necessary reconditioning steps were performed; and (b) comprehensive independent audits of PG&E's Commission-ordered efforts to develop accurate, reliable and readily accessible records of its gas transmission pipeline.

[4] All statutory references are to the California Public Utilities Code, unless otherwise indicated.

II. PG&E SHOULD BE REQUIRED TO PAY FOR ALL THE PIPELINE SAFETY IMPLEMENTATION COSTS ORDERED IN DECISION 12-12-030

By virtue of Decisions 11-06-017 and 12-12-030, the Commission has ordered PG&E to test or replace almost 1,000 miles of pipeline lacking adequate records of an in-service pressure test in order to make its gas transmission system safe. Until the close of these three proceedings, the Commission has had a highly incomplete record of PG&E's past conduct and violations. Now, with the benefit of a more complete record, it is clear that, in PG&E's case, the testing and replacement work ordered in those decision was needed not just to put an end to "historic exemptions,"[5] but to remedy serious safety violations. Accordingly, PG&E shareholders should be responsible for all of the pipeline testing and replacement costs made necessary by its violations.

A. Decision 12-12-030 Made All of the PG&E Pipeline Safety Costs Tentatively Imposed on Ratepayers Subject to Disallowance Based on the Record in These Cases

D.11-06-017 was the genesis of the Pipeline Safety Implementation Plan ("PSIP") work approved for PG&E in D.12-12-030. In July 2011, the Commission was faced with the need to act promptly to prevent a tragedy like the San Bruno explosion from happening again. The National Transportation Safety Board had found that PG&E's records regarding the exploded pipe in Segment 180 of Line 132 were inaccurate.[6] The Commission had also learned that PG&E was unable to locate the records necessary to use pipeline features to validate the safe operating pressure of its pipelines for which the Maximum Allowable Operating Pressure

[5] D.11-06-017, p. 18.
[6] D.11-06-017, p. 2.

("MAOP") was not established by a pressure test.[7] Concerned that another undetected seam defect may be lurking underground, the Commission ordered PG&E – and the other gas utilities in California – to pressure test or replace all pipeline for which the utility was unable to document a valid pressure test.[8] At that point, the Commission did not know the extent to which utility violations or imprudence made this directive necessary, only that it needed to be done to promote safety.

In D.12-12-030, the Commission reviewed – and approved in most respects – the scope of PG&E's proposed PSIP. However, based on the record in that proceeding, the Commission did not grant PG&E full recovery of the approximately $2.2 billion of expenses and capital costs PG&E requested for its PSIP, based on a variety of rationales. First, the Commission found that PG&E's cost estimates were too high because of an overly generous contingency and reduced them by approximately $380 million.[9] Second, the Commission disallowed recovery of approximately $369 million of expenses (not including the contingency) forecast for the time period prior to the date of the decision, based on the rule against retroactive ratemaking.[10] Third, the Commission disallowed a combined $266 million of expenditures reflecting the cost to pressure test pipeline segments installed after 1955 and the cost of PG&E's pipeline records programs. With respect to pressure test costs, the Commission found that under the accepted industry ASME 1955 standards and later regulations, PG&E should have pressure tested (and retained a record) for all segments installed from 1956 to the present and that PG&E's rates would have reflected such costs.[11] With respect to records costs, the CPUC found that ratepayers

[7] D.11-06-017, pp. 4-6.
[8] D.11-06-017, p. 19.
[9] D.12-12-030, pp. 97-100.
[10] D.12-12-030, pp. 79-83.
[11] D.12-12-030, pp. 58-61.

should not pay for remedial records management efforts that were made necessary by PG&E's previous failure to prudently perform its management duties.[12] The Commission noted that it was not making any finding regarding whether PG&E had violated recordkeeping laws or regulations, as those issues are the subject of one of these cases, I.11-02-016.[13]

Of great significance to these cases, D.12-12-030 made clear that the PSIP costs tentatively approved for rate recovery in that decision could be reduced based on the record of these enforcement cases:

> Our upcoming decisions in Investigations (I.) 11-02-016, I.11-11-009, and I.12-01-007 will address potential penalties for PG&E's actions under investigation. We do not foreclose the possibility that further ratemaking adjustments may be adopted in those investigations; thus, all ratemaking recovery authorized in today's decision is subject to refund.[14]

As the Commission contemplated, the Commission now has a more extensive record regarding a wide range of PG&E's past conduct with respect to pipeline operations, integrity management and recordkeeping, as well as the extent to which PG&E's conduct violated applicable laws. As explained in the next section, that fuller record shows that, in PG&E's case, the test and replace directive was necessary to remedy the unsafe conditions created by PG&E's numerous and wide-ranging violations.

B. The Record in These Cases Shows That the Pipeline Testing and Replacement Ordered in Decision 12-12-030 Is Necessary to Remedy PG&E's Serious Violations

TURN has demonstrated in its briefs in I.12-01-007 and I.11-02-016 that, in violation of Section 451: (1) by PG&E's admission, Segment 180 was drawn from pipe that needed to be reconditioned before it would be safe for installation; (2) proper reconditioning and inspection

[12] D.11-06-017, p. 55.
[13] D.11-06-017, p. 97.
[14] D.12-12-030, p. 4, Ordering Paragraph ("OP") 3, p. 126.

would have discovered the defective pup segments; and (3) PG&E failed to keep any records showing that the pipe was properly reconditioned and inspected, preventing PG&E or the Commission from verifying post-installation that the pipe was made fit for use.[15] In addition, in I.11-02-016, TURN's briefs showed that, in further violation of Section 451: (1) the failure to document proper reconditioning was not limited to Segment 180, but a persistent practice; (2) PG&E's GIS system has long tracked only date of installation and not date of manufacture, even though these two events could be years or even decades apart; and (3) PG&E has long lacked a database to identify where it has placed re-used or otherwise reconditioned pipe in its system.[16] [17]

These violations, which were not addressed in the record in R.11-02-019, prevent PG&E from being able to use its records to demonstrate that there are not other defective segments similar to the Segment 180 pups that are lurking – undetected -- in PG&E's system.[18] Because valid pressure tests are the best means of detecting dangerous seam weld defects, remedying these violations calls for precisely the directive the Commission ordered in D.11-06-017 – testing or replacing all segments for which PG&E cannot produce a valid and reliable pressure test record.

Other violations demonstrated in these cases only reinforce the importance of the test or replace requirement as a necessary remediation measure. PG&E's integrity management practices fail to provide any comfort that PG&E would have discovered dangerous seam defects under that program, in that: (1) the GIS database PG&E used for threat identification contained

[15] TURN Op. Br. (I.12-01-007), pp. 10-12; TURN Op. Br. (I.11-02-016), pp. 17-19.
[16] TURN Op. Br. (I.11-02-016), pp. 25-28. The violations discussed in this paragraph are further summarized in Section III.C below, in connection with fine calculations.
[17] Re-used pipe is pipe that has been previously used and needs to be reconditioned before it can be made safe for re-use. Pipe that has not previously been used may also need to be reconditioned before installation, such as when pipe is not used promptly after manufacture and needs to be re-coated before installation. Tr., Jt. Vol. 3, pp. 429-430 (Harrison/PG&E); Jt. Vol. 4, p. 599 (Harrison/PG&E).
[18] TURN Op. Br. (I.12-01-007), p. 16.

inaccurate data resulting from PG&E's failure to use reasonable quality control measures in populating the database;[19] (2) PG&E failed to hydrotest segments with identified seam defects even after increasing operating pressures above historic levels; and (3) PG&E improperly relied on ECDA rather than hydrotesting or pigging to assess unstable manufacturing threats.[20] Moreover, PG&E's pressure test records are woefully deficient, lacking a valid record for more than 50,000 segments.[21]

In light of these serious violations, had the Commission not already (and wisely) ordered PG&E to test or replace all segments without a valid pressure test record, it would surely have ordered this remedy in these cases. Because the test or replace requirement is a necessary remedy for PG&E's violations, PG&E's shareholders, not ratepayers, should be required to pay for the cost of this key remediation program.

C. PG&E Shareholders Should Bear All Costs for Pipeline Testing and Replacement

D.12-12-030 tentatively authorized rate recovery of $1 billion ($150 million in expenses and $852 million of capital) for pipeline testing and replacement.[22] As shown above, this work is necessary to remedy PG&E's violations and make its gas transmission safe. Accordingly, this $1 billion should be paid by shareholders and disallowed from rate recovery.[23]

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[19] TURN Op. Br., (I.11-02-016), pp. 28-31.
[20] TURN Op. Br. (I.12-01-007), pp. 20-28.
[21] TURN Op. Br. (I.11-02-016), pp. 21-24. The violations discussed in this paragraph are further summarized in Section III below in relation to fine calculations.
[22] D.12-12-030, pp. E2 to E3, Tables E2, E3 and E4 ("Pipeline Modernization Program").
[23] TURN does not include the PSIP Valve Automation Costs in the amount that should be disallowed because the need for valve improvements does not result from PG&E's violations or imprudence.

The financial impact on PG&E of this $1 billion disallowance will be significantly less than $1 billion because of the tax benefits that PG&E will receive from absorbing these costs.[24] Using estimated tax "gross-up" factors of 1.68 for expenses and 1.30 for capital, the actual financial impact to PG&E will be approximately $744 million.[25]

D. Alternatively, Under Sections 451 and 463, the Commission Should Disallow Pipeline Testing and Replacement Costs As a Direct Consequence of PG&E's Imprudence

Even if (contrary to the record) the Commission does not find that the failures summarized in Section II.B above constitute violations, the Commission should conclude that they constitute errors or imprudence for purposes of assessing the reasonableness of rate increases under Sections 451 and 463. As TURN and DRA have explained in their previous briefs, if PG&E's conduct is not found to constitute a violation, for ratemaking purposes, its conduct should still be assessed for prudence, a determination on which PG&E bears the burden of proof.[26] For the same reasons summarized in Section II.B, PG&E's imprudence makes PG&E unable to foreclose the possibility that other dangerously defective segments are present in its system without testing or replacing all segments that lack a valid pressure test record. Because testing or replacing pipeline is made necessary by this imprudence, the $1 billion cost of this work should be disallowed from recovery under Sections 451 and 463.

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[24] Tr., Vol. 14, p. 1491 (Fornell/PG&E); Tr., Vol. 14, p. 1390-1391 (Lubow and Malko/CPSD).
[25] Calculation: ($852 million capital/1.3) + ($150 million expense/1.68) = $744 million. These tax gross-up factors can be confirmed (or corrected) by PG&E in an advice letter submission.
[26] TURN Op. Br., (I.12-01-007), pp. 6-8; TURN Op. Br., (I.11-02-016), pp. 7-9; DRA Op. Br. (I.12-01-007), pp. 9-11.

III. IN LIGHT OF THE BROAD SCOPE AND HUGE NUMBER OF SAFETY VIOLATIONS COMMITTED BY PG&E, AN ARITHMETIC CALCULATION OF THE STATUTORY FINES YIELDS A TOTAL FINE IN THE TENS OF BILLIONS OF DOLLARS, IF NOT HIGHER

In this section, TURN presents its analysis supporting the calculation of the statutory minimum and maximum fines for certain of the violations documented in the record of the three enforcement proceedings. Specifically, TURN focuses only on the particular violations addressed in its opening and reply briefs in the Recordkeeping and San Bruno Explosion Investigations. As TURN's briefs did not address many of the violations alleged by CPSD in those two Investigations or any violations alleged by CPSD in the Class Location Investigation, TURN's fine analysis significantly underestimates PG&E's total arithmetic fine liability.[27]

A. Fine Calculation for PG&E's Failure to Document Required Pressure Tests (Violation 18 – Recordkeeping Investigation)

1. Summary of Violations

In violation of legal requirements beginning in 1955, PG&E is unable to document pre-service pressure tests it was required to perform on its transmission pipeline segments.[28] The application standards and regulations all required PG&E to preserve records of the pressure tests for the life of the pipeline. The particular laws and regulations PG&E violated are: (1) from 1955 through 1960, Public Utilities Code Section 451, which enforced the code standards specified in ASME B31.1.8 (1955) and ASME B31.8 (1958);[29] (2) from 1961 to the present, the

[27] For example, not included in TURN's analysis are the over 3,000 violations spanning almost 16 billion days alleged by CPSD in the Class Location Investigation. Ex. CPSD-1 (I.11-11-009), p. 58, Table 12. By themselves, the arithmetic calculation of the fines for these violations, even at the statutory minimum fine of $500 per violation, would dwarf the fine calculations presented in this section.

[28] This discussion summarizes TURN's opening brief in I.11-02-016, pp. 20-24.

[29] The relevant pressure testing and recordkeeping requirements of ASME B31.1.8 (1955) and B31.8 (1958) are set forth in Sections 841.1 and 841.417, respectively. These provisions were incorporated into GO 112, GO 112-A and GO 112-B.

General Order ("GO") 112 series (i.e., GO 112, GO 112-A, GO 112-B, GO 112-C, GO 112-D, and GO 112-E).[30]

2. Number of Violations

In response to a TURN-CPSD data request requesting a list of segments for which PG&E lacked a pressure test record, PG&E produced Exhibit TURN-4, which includes a spreadsheet showing approximately 19,000 post-1955 segments in high consequence areas ("HCAs") for which PG&E lacks the required pressure test record.[31] For the remaining (approximately) 69% of its transmission system, PG&E was unable even to state which segments lacked pressure test records. In light of PG&E's inability even to answer the TURN-CPSD question, TURN explained in its opening brief that it would be appropriate to infer that a similar scale of non-HCA segments lack the requisite records, resulting in a conservative (i.e, in PG&E's favor) estimate of at least 50,000 violations.[32]

PG&E's reply brief argues that some pressure test records may cover more than one segment, so that violations should not be counted on a per-segment basis.[33] However, 49 C.F.R. Section 192.505 requires "each segment" to be tested, and even PG&E does not dispute that it needs to have a pressure test for each segment. Moreover, from the standpoint of pipeline safety, it makes no sense to excuse the absence of records for an unspecified number of segments on the basis that a hypothetical, non-existent record would have covered multiple segments.

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[30] Beginning in 1970 with Resolution G-1499 and continuing in GO 112-C, 112-D, and the current 112-E, the Commission has adopted the pressure test and documentation requirements in 49 C.F.R. Sections 192.505 and 192.517, respectively.
[31] TURN Opening Brief (Op. Br.) (I.11-02-016), pp. 22-23. These 19,000 segments cover 435.7 miles.
[32] *Id.*, p. 23.
[33] PG&E Reply Brief (Rep. Br.) (I.11-02-016), pp. 85-86.

Accordingly, the law and public safety compel the conclusion that PG&E is in violation of the regulations for each segment for which it lacks the requisite record.

3. These Are Continuing Violations

Under Section 2108, PG&E's violations for unavailable pressure test records are continuing violations for each day that PG&E failed to possess the required record. At any time, PG&E could and should have discovered its violation and cured it by performing and documenting the required pressure test.[34]

For reasons that CPSD compellingly explains in its opening brief,[35] PG&E should be presumed to lack the required pressure test record from the date of installation of the segment. PG&E's recordkeeping failures are the reason the record in these proceedings lacks better information about when, if ever, the records were created and, if records were created, when they were lost. PG&E should not be allowed to take advantage of its absent records as a means of preventing the Commission from fixing a start date for its continuing violations. Thus, as a matter of law and sound policy, the Commission should find that PG&E's violations began on the date the segment was installed.[36]

[34] TURN Rep. Br. (I.11-02-016), pp. 9-10.
[35] CPSD Op. Br. (I.11-02-016), pp. 18-20.
[36] In the spreadsheet in Exhibit TURN-4, for certain segments, PG&E was not even able to document the date the segment was installed. In these instances, to prevent PG&E from gaining an evidentiary advantage from its inadequate records, the Commission should find that the violations span the full period that the law required PG&E to retain pressure test records, i.e., from January 1, 1956 to the present.

4. Computation of Minimum and Maximum Fines

Using the spreadsheet in Exhibit TURN-4, TURN has applied the time-appropriate statutory fine amounts in Section 2107 to each of PG&E's continuing violations,[37] using the date of installation as the start date and January 31, 2011 (approximate date of the opening of I.11-02-016) as the end date. The calculations are summarized in Attachment A, which addresses only the HCA segments listed in Exhibit 4 (i.e., not the non-HCA segments for which PG&E failed to provide any data). The aggregate minimum and maximum fine amounts are shown for each year beginning with 1956 and continuing through 2010. When totaled for all years, even the minimum fine amount exceeds $100 billion, a testament to the large number of segments for which PG&E lacks pressure test records and the duration of the violations. Even if only violations for the last 10 years are considered (i.e., for segments installed from 2001 through 2010), the minimum and maximum fines are $1 billion and $44 billion, respectively.

Assuming for the sake of argument that these violations are not treated as continuing violations, the statutory fine would still be large. As noted above and in TURN's opening brief, the number of single (i.e., non-continuing) violations is at least 50,000, considering that PG&E only provided data regarding missing test records for less than one-third of its system miles. Based on the 2011 applicable statutory maximum of $20,000, 50,000 violations yields a maximum fine for these violations of $1 billion.

[37] From January 1, 1956 through December 31, 1993, the Section 2107 minimum and maximum fines per violation were $500 and $2,000, respectively, From January 1, 2004 through December 31, 2011, the maximum fine amount was increased to $20,000.

B. Fine Calculations for Violations Relating to Construction of Segment 180 and Associated Recordkeeping Deficiencies

1. Summary of Violations

This section addresses violations demonstrated in the San Bruno and Recordkeeping Investigations that relate to the construction of, and recordkeeping for, Segment 180. Five sets of violations fall into this category:

(1) PG&E's installation of defective pipe in Segment 180, which includes PG&E's failure to ensure that Segment 180 was properly reconditioned, inspected, and otherwise fit for service – a violation of Section 451;[38]

(2) PG&E's failure to conduct a pressure test for Segment 180 – a violation of Section 451;[39]

(3) PG&E's failure to document a pressure test for Segment 180 – a violation of Section 451;[40]

(4) PG&E's failure to have records showing the actual pipeline characteristics of Segment 180 – a violation of Section 451;[41] and

(5) PG&E's failure to have records showing that Segment 180 was properly reconditioned and inspected prior to installation – a violation of Section 451.[42]

2. These Are Continuing Violations

Each of the five sets of violations listed above are continuing violations under Section 2108. Had PG&E been complying with Section 451, at any time after the installation of

[38] TURN Op. Br. (I.12-01-007), pp. 8-12.
[39] CPSD Op. Br. (I.12-01-07), p. 35; TURN Rep. Br. (I.12-01-007), pp. 13-20.
[40] TURN Op. Br. (I.12-01-007), pp. 13-14; TURN Op. Br. (I.11-02-016), pp. 20-21.
[41] TURN Op. Br. (I.11-02-016), p. 17 (CPSD/Felts Violation #1).
[42] TURN Op. Br. (I.11-02-016), pp. 18-19 (CPSD/Felts Violation #1).

Segment 180 in 1956, PG&E could and should have discovered each of these violations and cured it by taking appropriate action. As TURN has previously explained, PG&E had ample warning signs that pipe of the type installed in Segment 180 needed closer analysis, and, in any event, PG&E should not be allowed to hide behind the perverse defense that, once it installed defective pipe, it had no legal responsibility to discover the defect.[43]

3. Computation of Minimum and Maximum Fines

These five sets of continuing violations began in 1956 and continued to the time of the explosion of Segment 180. Applying the time-appropriate statutory fine amounts, these five violations yield total arithmetic minimum and maximum fine amounts of $ 50 million and $750 million, respectively.

C. Fine Calculations for Violations Related to PG&E's Failure to Track Re-Used and Reconditioned Pipe (Violation 23 – Recordkeeping Investigation)

1. Summary of Violations

This section addresses two sets of violations that relate to PG&E's use of reconditioned pipe in its transmission system.

First, as shown in TURN's briefs, PG&E has failed to keep accessible records showing where it has installed re-used or otherwise reconditioned pipe. Because the date of manufacture and the date of installation can differ by years or decades and because PG&E's centralized databases have only included the date of installation, PG&E has lacked accessible data to determine the age of its pipelines, a key piece of information, particularly for integrity

[43] TURN Rep. Br. (I.1-02-016), p. 10.

management. This deficient recordkeeping practice has posed a threat to the safe operation and maintenance of PG&E's pipelines, in violation of Section 451.[44]

Second, as shown in TURN's briefs, PG&E has failed to create or retain records showing that necessary work to recondition pipe was properly performed and inspected prior to installation of the re-used and/or reconditioned pipe. As noted above with respect to Segment 180, this failing allowed the reconditioned pipe that was used in Segment 180 to be installed without detecting the defective pup segments. However, this violation has not been limited to Segment 180, but has been a general recordkeeping deficiency that has prevented PG&E from being able to demonstrate to itself or to regulators that all of the reconditioned pipe in its system was properly determined to be fit for service. This serious omission constitutes a violation of Section 451, and, beginning in 1961, a violation of Sections 301.1 (and its successor provisions) and 811.27 of the GO 112 series.[45]

2. These Are Continuing Violations

Both of these violations are continuing violations that date at least from the time of the installation of Segment 180 in 1956, when the record shows that PG&E lacked any practice or policy to create a record to document proper reconditioning or to create accessible records showing where reconditioned and/or re-used pipe was installed in PG&E's system.[46] With

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[44] TURN Op. Br. (I.11-02-016), pp. 25-26.

[45] TURN Op. Br. (I.11-02-016), pp. 26-28. PG&E's I.11-02-016 reply brief (p. 100) incorrectly claims that Section 301.1 is irrelevant because TURN supposedly failed to show that PG&E was required to document reconditioning work. In fact, as TURN's I.11-02-016 opening brief (p. 26) explained, Section 811.27 of the ASME B31.8 standards, which was incorporated into the GO 112 series (*see* Ex. CCSF-1 in I.11-02-016, p. 14), required PG&E to undertake particular reconditioning steps to make pipe safe for re-use. Section 301.1 and its predecessors, in turn, required PG&E to maintain records to establish compliance with the rules and to keep such records available for inspection at all times by the Commission.

[46] TURN Op. Br. (I.11-02-016), pp. 25-28; Tr., Jt. Vol. 4, pp. 469-470 (Harrison/PG&E testifying that, from the 1950s, PG&E did not capture any organized overall record of used pipe in its system); Tr. Jt.

respect to both sets of violations, PG&E could and should have recognized that it had failed to create the required records and taken steps to correct its failing. Regarding the first set of violations, at any point during the violation period, PG&E should have attempted to create an accessible record showing where it had installed reconditioned and/or re-used pipe showing the segments for which the date of installation and date of manufacture differed significantly. Regarding the second violation, once it identified the reconditioned and/or re-used pipe in its system, PG&E could and should have treated such pipe as suspect and taken steps – such as direct assessment, hydrotesting (if not already documented) or pigging -- to rule out defects that would have been foreclosed by proper records of reconditioning.

As the first violation relates to a company practice (actually the absence of a necessary practice), it is a single set of continuing violations. The second set of violations would be a continuing violation for each reconditioned and/or re-used segment for which PG&E cannot document the necessary pre-service reconditioning. However, precisely because of PG&E's first violation, there is no accessible database from which PG&E could identify for the record the segments that contained re-used and/or reconditioned pipe. Because PG&E's other documented violations (such as violation 18 in the Recordkeeping Investigation) are so numerous and yield even minimum fine amounts that dwarf PG&E's available financial resources, TURN will count the second set of violations as only one continuing violation, while noting that a good case could be made for counting hundreds or even thousands of continuing violations in light of Mr.

Vol. 3, p. 439 (Harrison/PG&E, testifying that, prior to the San Bruno explosion, PG&E did not make an effort to have readily accessible information about where it had re-used pipe in its system). Using January 1, 1956 as the start date for these continuing violations is conservative (i.e., in PG&E's favor) as the record (summarized in TURN's above-cited brief) shows that PG&E was committing these violations well before that date.

Harrison's testimony that PG&E has between 30 and 130 miles of re-used pipe in its transmission system.[47]

3. Computation of Minimum and Maximum Fines

Two sets of continuing violations beginning in 1956 and continuing to the end of 2010[48] yields total arithmetic minimum and maximum fine amounts of $20 million and $300 million, respectively.

D. Fine Calculation for Integrity Management Failure to Identify Seam Weld Defect in Segment 180

As explained in TURN's brief, PG&E violated 49 C.F.R. Section 192.917(a) by failing even to identify the serious seam weld defect on Segment 180.[49] This was a continuing violation because at any time PG&E could have cured this violation by discovering and addressing this dangerous defect. As recommended by CPSD, using the start date of PG&E's integrity management program (12/15/2003) as the start date and the date of the explosion as the end date, the statutory minimum and maximum violations are $1.2 and $49 million, respectively.

E. Fine Calculation for PG&E's Integrity Management Failure to Hydrotest Segments With Manufacturing Threats That Were Pressure Spiked

As explained in TURN's briefs, the Federal Integrity Management regulations require that any "covered segment" with an identified manufacturing threat that experiences a pressure increase above the maximum operating pressure ("MOP") prior to HCA identification must "be

[47] Tr. Jt. Vol. 3, pp. 436-438 (Harrison/PG&E).
[48] For ease of computation, TURN uses December 31, 2010 as the end date of the violation period, a date shortly before the opening of I.11-02-016.
[49] TURN Op. Br. (I.12-01-007), pp. 16-17.

prioritized" as a "high risk segment for the baseline assessment."[50] ASME B31.8S requires pressure testing of the pipeline segment.[51]

TURN's testimony in I.12-01-007 provided data on PG&E's intentional spiking above MOP to evade the hydrotesting requirement of the federal regulations. PG&E spiked 46.6 miles of Line 132, including Segment 180. PG&E in total spiked 415.3 miles of pipeline on twelve different lines, including 86 miles of pipeline that had identified manufacturing threats in the 2009 Baseline Assessment Plan.[52] For those 86 miles of pipeline with an identified manufacturing threat, PG&E violated Section 192.917(e)(3) by failing to hydrotest the pipelines. These violations do not even consider whether PG&E failed properly to identify manufacturing threats on other segments.

Because the federal regulations require prioritizing and strength testing every "covered segment" when the operating pressure exceeds the historical maximum, the number of violations depends on the number of segments that were not properly assessed, which far exceeds the 86 miles of pipeline. PG&E's PSIP database indicates that the 86 miles of spiked pipeline contain 522 segments on twelve different pipelines.[53]

The spiking occurred on various dates between 2003 and 2010. The regulations required any lines with such pressure excursions to be prioritized and hydrotested. The start date of each violation is thus the date of intentional pressure spiking. The violation is ongoing, since PG&E

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[50] 49 C.F.R. §192.917(e)(3).
[51] These issues were addressed in TURN's Opening Brief in I.12-01-007 (pp. 23-27) and Reply Brief (pp. 31-35).
[52] I.12-01-007, Exh. TURN-1, p. 19.
[53] The number of actual segments is not in the record in this proceeding, and is based on PG&E's PSIP Database and 2009 BAP. The record evidence in this proceeding, as provided in Exh. TURN-4, shows that for the 435.7 miles of HCA pipeline with missing pressure test records, the average length of a segment is 0.01833 miles, or about 55 segments per mile. This average would mean that 86 miles would contain 4730 segments, a much larger number than the 522 segments spiked. Clearly, PG&E spiked main line segments that were longer than average.

could have hydrotested the lines at any time. For purposes of calculating the penalty range, the most appropriate end date would be January 12, 2012, the filing date of OII 12-01-007. However, since the statutory maximum penalty increased on 1/1/12, TURN uses 12/31/2011 as the end date purely for mathematical convenience.[54]

TURN calculates a penalty for each spiking event by multiplying the number of segments in each pipeline by the appropriate time period. The resulting penalty range is from $9.5 million to almost $380 million, as shown in Table 1 below:

Table 1: Calculation of Penalties for Intentional Spiking of All Pipelines

Line No.	No. of Segments	Date of Spiking	No. of Days (from spiking to 12/31/11)	Min Penalty Amount	Maximum Penalty Amount
101	55	12/11/03	2900	$1,450,000	$58,000,000
108	19	1/8/09	1073	$536,500	$21,460,000
109	104	12/11/03	2900	$1,450,000	$58,000,000
118A	90	1/8/10	713	$356,500	$14,260,000
107	13	6/19/09	912	$456,000	$18,240,000
132	133	12/11/03	2900	$1,450,000	$58,000,000
138	11	10/30/08	1140	$570,000	$22,800,000
0805-01	3	11/14/08	1127	$563,500	$22,540,000
114	44	6/19/09	912	$456,000	$18,240,000
142S	20	10/19/04	2592	$1,296,000	$51,840,000
1607-01	5	5/23/08	1298	$649,000	$25,960,000
50A	25	7/20/10	521	$260,500	$10,420,000
Total				**$9,494,000**	**$379,760,000**

As discussed extensively in TURN's opening and reply briefs in I.12-01-007, the Commission should take into account the intentional spiking in considering PG&E's conduct in

[54] TURN agrees that the dates would need to be different if PG&E cured the violation by hydrotesting any of these segments in 2011 or 2012.

this proceeding.[55] While PG&E argued that spiking was common in the industry and that the pressure excursions were small, PG&E knew that its position conflicted with PHMSA's interpretation of the regulations.[56] These pressure excursions were not accidental increases due to operational issues. They were a deliberate and oft-repeated practice designed specifically to evade the necessity to perform strength testing on pipelines. PG&E willfully and purposefully violated the law for its own benefit, so as to reduce potential hydrotest costs. Especially given PG&E's lack of prior hydrotest records and other vital pipeline documentation, such a practice cannot be treated lightly.

F. Fine Calculation for PG&E's Integrity Management Violations for Improper Use of ECDA to Assess Pipelines with Identified Manufacturing Threats

PG&E failed to consider all relevant information concerning seam failures and pipeline characteristics in identifying the existence of manufacturing threats and in assessing the stability of manufacturing threats on Line 132.[57] As a result, PG&E used the wrong method – External Corrosion Direct Assessment ("ECDA") – to assess the manufacturing threats on Line 132. If PG&E had properly used either in-line inspection, or conducted a hydrostatic strength test, it would have identified the problems on Segment 180.

However, PG&E's failures extended well beyond Segment 180 to multiple other segments that had identified manufacturing threats. As detailed in TURN's testimony in this proceeding, PG&E used ECDA on 90% of the segments with identified manufacturing threats

[55] See, I.12-01-007, TURN Opening Brief, p. 22-23: TURN Reply Brief, p. 31-35.
[56] Exh. PG&E-1, p. 4-26, Keas/PG&E. PHMSA FAQ-221.
[57] See, for example, TURN Opening Brief, I.12-01-007, pp. 16-19, 23-24.

that it assessed as part of integrity management, representing 323 miles of pipeline.[58] PG&E now plans to test or replace 301 miles of this pipeline in the PSIP, at a very large cost to ratepayers.[59]

PG&E's failure to properly assess manufacturing threats under its integrity management program violated the following federal Transmission Integrity Management Program ("TIMP") regulations:

- 49 CFR 192.917(a) (incorporating ASME B31.8S (§2.2)) – failure to identify and evaluate manufacturing threat of weld defect
- 49 CFR 192.917(b) – failure to gather and integrate required pipeline data
- 49 CFR 192.917(e)(2) – failure to consider and test for cyclic fatigue
- 49 CFR 192.917(e)(3) and 192.917(e)(4) – failure to consider relevant evidence of seam failures to assess seam threat stability
- 49 CFR 192.921(a) – failure to use and inspection method capable of finding seam issues

These violations originated with the onset of TIMP requirements on December 15, 2003.[60] Assuming the violations end on December 31, 2011, the statutory penalty amount for a single violation on a single segment would range from $1.45 million to $57.92 million.

The 301 miles of pipeline with identified manufacturing threats included in the PSIP Phase I comprise almost 1800 segments.[61] Thus, just the *minimum* statutory penalty for a single violation occurring on all the segments with manufacturing threats would be about $2.61 billion.

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[58] Exh. TURN-1 (I.12-01-007), p. 16 (Hawiger/TURN).
[59] Exh. TURN-1 (I.12-01-007), p. 16 (Hawiger/TURN). This number may be modified pursuant to PG&E's "update application" ordered in D.12-12-030, OP 11.
[60] This is the date of publication of the TIMP regulations in the federal register.
[61] Again, using the record evidence in this proceeding, based on the average of 55 segments per mile, would result in a much higher number of segments – 16,555. See, fn. 53.

G. Fine Calculations for PG&E's Failure to Take Reasonable Steps to Verify the Accuracy of the Data Used In Its GIS Database (Violation 24 – Recordkeeping Investigation)

In violation of Section 451, PG&E failed to use any reasonable quality control efforts when it transferred data from its job files to pipeline survey sheets in the 1970s and from its pipeline survey sheets to GIS in the 1990s.[62] This failure to take sufficient steps to ensure accuracy in these important databases was a continuing violation, in that, at any point, PG&E could have cured these violations by using quality control procedures to assess the accuracy of its data transfers and correct its errors. Using CPSD's start and end dates for this continuing violation (1974 and the date of the explosion in 2010), the statutory minimum and maximum violation amounts are $6.8 and $139 million, respectively.

H. Fine Calculations for PG&E's Use of Unverified, Inaccurate Information In Its GIS Database (Violation 25 – Recordkeeping Investigation)

PG&E violated the integrity management regulations by using in its integrity management program unverified and inaccurate data.[63] This was a continuing violation in that PG&E could have cured it at any time by using quality control measures to check the accuracy of its GIS records and correct the erroneous data. Using CPSD's start and end dates (1994 and the explosion date in 2010), the statutory minimum and maximum violation amounts are $1.3 million and $51 million, respectively.

[62] TURN Op. Br. (I.11-02-016), pp. 28-31.
[63] TURN Op. Br. (I.11-02-016), pp. 32-33.

IV. THE APPROPRIATE LEVEL OF FINES AND REMEDIES SHOULD BE LIMITED BY PG&E'S FINANCIAL ABILITY TO PAY WITHOUT HARMING RATEPAYERS

The Commission has held that the primary role of a fine pursuant to §2107 is to deter future violations.[64] To promote effective deterrence and to set fines "which are proportionate to the violation," the Commission considers 1) the severity of the offense, and 2) the conduct of the utility. [65]

The process of setting an appropriate fine generally starts with a quantification of potential fines pursuant to the minimum and maximum amounts set in §2107, together with the clarification in §2108 that every violation is a "separate and distinct offense" and that "in case of a continuing violation each day's continuance thereof shall be a separate and distinct offense." The Commission can also order refunds to individual customers,[66] refunds to all ratepayers of ill-gotten gains,[67] and impose other financial remedies as appropriate.

As discussed below, in this case the need for deterrence and the severity of the offense warrant the imposition of fines and remedies to the maximum extent of PG&E's financial ability to pay. This prohibition is measured by considering the "financial resources" of the utility, limited by the prohibition against "excessive fines." In this case, Overland Consulting, on behalf of CPSD, appropriately calculated PG&E's ability to pay a fine and reimburse ratepayers without impacting the utility's financial viability, including its ability to raise capital at a reasonable cost that does not harm ratepayers.

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[64] For example,. This primary goal has been reiterated in multiple enforcement proceedings.
[65] D.98-12-075, 84 CPUC 2d 155, 182.
[66] See, for example, D.07-09-041 (ordering refunds for backbilling violations).
[67] See, for example, D.08-09-038 (ordering refunds of $80.714 million and disallowing requested rewards of $35.000 million under various incentive mechanisms, in addition to a statutory fine of $30 million).

TURN does not evaluate in detail the individual factors used by the Commission in setting an appropriate penalty level. TURN understands that the CPSD and other parties will provide analysis of the legal standards. In the following sections, we briefly address the two principal factors – the severity of the offense and the conduct of the utility. Subsequently, we address in detail the question of PG&E's ability to pay a penalty that will not impact the financial viability of the utility, its ability to raise capital to provide safe and reliable service, or the rates paid by utility customers.

A. The Severity of the Offenses Warrants a Maximum Fine

In many cases involving utility malfeasance, the nature of the harm is purely economic. Clearly, that is not the situation here. The violations described in these three investigations resulted in the explosion of Line 132 on September 9, 2010. The explosion killed eight people, injured 58 people and destroyed 38 homes.[68] The briefs of the City of San Bruno in I.12-01-007 and the declarations attached to the CPSD testimony[69] provide testament to the physical and emotional toll on the residents of San Bruno resulting from the explosion and its aftermath. The Commission has explained that "violations which caused actual physical harm to people or property are generally considered the most severe."[70]

The sheer number and scope of the ongoing violations is unprecedented. As shown in Section III above, the evidence in these three enforcement cases demonstrates that there were violations almost too numerous to count when measured on a daily and segment by segment basis. PG&E violated Section 451, the GO 112 series, and federal integrity management

[68] The results of the explosion are not contested. They are laid out starkly in both the CPSD Investigative Report and the NTSB Accident Report. Exhs. CPSD-1 and CPSD-9.
[69] Exh. CPSD-4 in I.12-01-007.
[70] D.98-12-075, 84 CPUC 2d 155, 183.

regulations concerning recordkeeping, pipeline installation, pipeline strength testing, pipeline threat identification and assessment, and class identification, all regulations that are designed to protect public safety. PG&E had notice of recordkeeping problems, did not take proper steps to ensure record accuracy and completeness, and failed in numerous ways to take steps necessary to ensure a safe gas delivery system.

While the explosion in San Bruno caused severe physical and economic harm to the residents of San Bruno, the numerous violations have also caused economic harm to all ratepayers. As shown in Section II above, the evidence in these proceedings demonstrates that the testing and replacement that was approved in D.12-12-030 is made necessary by the fact that PG&E's violations prevent any reasonable assurance of the integrity of PG&E's underground pipelines. The only means to ensure that there are not other "reconditioned" pipe segments like the pups in Segment 180 that contain unstable seam defects is to test or replace all of the pipelines without reliable pressure test records. This remedial work is a direct outcome of PG&E's past violations. As noted, the Commission has tentatively authorized costs of approximately $1.0 billion, subject to refund, to fund this work in D.12-12-030.[71] Unless these costs are disallowed in full as urged by TURN in Section II, ratepayers will be forced to pay for the consequences of PG&E's violations.

B. The Conduct of the Utility Warrants a Maximum Fine

The Commission considers the utility's conduct in (1) preventing the violation, (2) detecting the violation, and (3) disclosing and rectifying the violation.[72] The evidence in these proceedings, detailed in the various briefs filed by TURN, CPSD, the City of San Bruno, and the

[71] TURN does not include work for valve automation or program management in this amount, since the valve automation program is not a direct result of past violations.
[72] D.98-12-075, 84 CPUC 2d 155, 183-184.

City and County of San Francisco, demonstrate that PG&E's conduct in all accounts does not warrant leniency on the part of this Commission.

The evidence in the San Bruno OII shows that PG&E failed to conduct the minimal required inspection of pipeline prior to installation during the 1956 relocation project, resulting in the installation of defective pipe, and PG&E to this day does not know how it got there. Furthermore, while the whole purpose of the integrity management program was to determine how to assess pipelines so as to evaluate all threats, PG&E decided to use the cheapest method of assessment and ignored evidence of seam defects that should have led it to hydrotest Line 132 prior to the explosion.

PG&E's failure to detect the presence of substandard pipe reflected in no small part PG&E's focus, especially since 2000, on cutting costs and maximizing profits. PG&E prematurely stopped its Gas Pipeline Replacement Program,[73] and significantly reduced in-line inspections after 2008 in order to reduce costs.[74] PG&E went so far as to postpone a significant replacement project on Line 132 just north of Segment 180, even though it claimed in the very next rate case that the project was necessary because "the likelihood of a failure makes the risk of a failure at this location unacceptably high."[75]

PG&E has lauded the various actions it took since the explosion to inspect its system and order remedial measures. But these actions were taken in response to PHMSA recommendations and CPUC orders. Moreover, in its briefs in the Recordkeeping and San Bruno Investigations, PG&E has denied any but the most trivial violations. For example, PG&E has denied that it violated Section 451 and GO 112 by not documenting post-1955 strength testing. PG&E has

[73] See, D.12-12-030, pp. 33-34, 45-47.
[74] I.12-01-007, TURN Opening Brief, pp. 34, 37-38.
[75] See, I.12-01-007, Exh. TURN-3; TURN Opening Brief, p. 35-36.

denied that it violated any law by failing to inspect Segment 180 prior to installation. PG&E has denied that it violated any law and standard by considering all of its pipelines with seam threats to be stable, even after it intentionally increased the pressure on 415 miles of pipeline. PG&E has denied that accurate date is necessary for a reliable integrity management program. And, in an attempt to exculpate itself, PG&E has made frivolous legal arguments, such as the argument that § 451 does not impose any safety requirements.

PG&E's actions and words in these enforcement proceedings evidence that its primary purpose is not to accept any responsibility for past violations. The Commission should not reduce the penalty and remedy costs based on the notion that PG&E's actions since September 9, 2010 constitute a desire to disclose and rectify past violations.

C. PG&E's Financial Resources Support Total Financial Consequences to PG&E in the Range of $2.25 to $2.50 Billion

1. PG&E's 'Ability to Pay' Serves As a Limiting Factor on the Total Fine to Be Imposed on PG&E

The Commission has held that any potential fine is limited by a constitutional limit on excessive fines, so that "the Commission will adjust the size of fines to achieve the objective of deterrence, without becoming excessive, based on each utility's financial resources."[76] The California Supreme Court has adopted the U.S. Supreme Court's analysis of "the principle of proportionality," which considers four factors to determine whether a penalty is excessive, including 1) the defendant's culpability, 2) the relationship between the harm and the penalty, 3) the penalties imposed in similar statutes, and 4) the defendant's ability to pay.[77]

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[76] D.98-12-075, 84 CPUC 2d 155, 184. See, also, D.08-09-038, *mimeo.* p. 92-93.
[77] *People Ex. Rel. Lockyer v. R.J. Reynolds Tobacco Co.* (2005), 37 Cal.4th 707, 728, 36 Cal.Rptr.3d 814, 124 P.3d 408.

This Commission has similarly looked at the "proportionality" of the harm and penalty in determining a proper fine amount.[78] In past cases, the Commission generally considered the size of the penalty in proportion to the economic hard to ratepayers, although there have certainly been prior cases involving physical harm as a result of utility violations[79] or imprudence.[80] In this case, in addition to the catastrophic physical effects of the explosion and fire, there are the economic impacts of the need to test or replace large portions of PG&E's pipeline due to the hidden threat of other segments that may not be adequate for service. As discussed in Section II above, these enforcement proceedings have demonstrated that PG&E's recordkeeping failures with respect to pipeline reconditioning, integrity management, and pressure testing make the PSIP test or replace requirement a vital remedy for PG&E's violations.

Fines in other proceedings do not provide much guidance here, given that the nature and extent of the harm due to the San Bruno explosion is unprecedented. However, the Commission's prior decisions demonstrate that proper deterrence requires a very significant financial penalty. For example, just in the time period between 1999 and 2012 this Commission has levied penalties above $20 million on five occasions,[81] and has ordered restitution greater than $20 million on three occasions.[82] Yet only one of those cases (Rancho Cordova) involved

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[78] See, for example, D.08-09-038, *mimeo.* p. 107.
[79] See, for example, D.11-12-021 (one fatality in Rancho Cordova explosion)
[80] See, for example, D.96-07-055 (disallowance due to lack of reasonableness associated with Mohave explosion in 1985, resulting in six fatalities).
[81] D.01-09-058 (PacBell penalty of $25 million for nondisclosure); D.02-10-059 (Qwest penalty of $20.34 million for marketing and billing violations); D.02-10-073 (SBC penalty of $27 million for billing problems); D.08-09-038 (SCE Penalty of $30 million for PBR fraud); and D.11-12-021 (PG&E penalty of $38 million for the Rancho Cordova explosion). The Commission until recently had included a database of all penalties and restitutions from 1999-2012 on its natural gas safety website, though TURN is unable to presently locate the database on the website.
[82] D.99-07-029 ($22.7 million disallowance of expenses for PG&E tree trimming); D.07-09-041 (PG&E restitution of $35 million for backbilling violations); D.08-09-038 (refunds of over $115 million for PBR fraud). These numbers do not include the $107 million in an option to buy required of Sempra in GIC 86722.

physical injury or death. These examples illustrate that the Commission has determined that penalties and remedies in the tens of millions of dollars are appropriate for deterrence and proportionality even in situations involving only economic harm.

PG&E provided data on six incidents involving natural gas pipeline explosions and fatalities in other jurisdictions, showing the total penalties imposed.[83] Several of the penalties were relatively small, even though there was loss of life and serious injury. However, during cross examination by counsel for the City of San Bruno, PG&E's witness Fornell conceded that four of the six cases involved "very different circumstances."[84] The evidence showed that the penalties in these four cases were limited by the fact that three explosions were the fault of third parties, not the relevant utility; and the penalty in one case was statutorily limited, and the statute was subsequently amended by the Pennsylvania legislature.[85] The other two cases resulted in penalties of $28.5 million and $101.5 million, though there is no record evidence concerning the circumstances of those explosions.

In prior cases the Commission has routinely mentioned the size of the utility's annual gross revenues and net income in discussing the utility's financial resources. But because most penalties and remedies have been less than $100 million, the Commission has not had to closely evaluate potential financial consequences to the utility.[86]

In this case, as shown in Section III above, the scope and number of the violations and extent of the harm mean that the mathematically derived fines would exceed the market value of

[83] Exh. Jt. 67, Figure 10, p. 21.
[84] 15 RT 1585:3-4 (Fornell/PG&E).
[85] 15 RT 1575-1580; See, also, Exh. Jt. 84 (Plum Borough explosion), Jt. 85 (Bergenfield explosion), Jt. 86 (Middletown explosion).
[86] Even in D.08-09-038, which ordered total penalties and restitution of $145 million, the Commission only evaluated the relationship of the $30 million fine to the economic harm caused by the utility and the net income of SCE. D.08-09-038, p. 93.

the utility. Such a penalty would likely be considered excessive, as the more appropriate response would be to revoke PG&E's monopoly utility franchise. The Commission must thus reach the salient issue of PG&E's "ability to pay."

In determining ability to pay without violating the "excessive fines" limitation, the CPUC should focus on the welfare of captive ratepayers. The ability to pay should be limited not by total available assets, but by the amount the company can pay without impacting the utility's ability to provide service (for example, by raising capital for investment) or increasing rates. This, in fact, is the principle followed by Overland Consulting in their "Financial Analysis of PG&E Corporation" dated August 21, 2012 ("the Overland Financial Analysis"). As explained below, the Overland Financial Analysis properly shows that PG&E can issue equity to pay over $2.25 billion without impacting its financial viability.

2. The Overland Financial Analysis Uses An Appropriate Methodology to Determine the Potential Fine that PG&E Could Pay without Harming Ratepayers or the Utility's Ability to Raise Capital

PG&E[87] has already stated its intent to issue new equity to pay for any penalties, and P&GE has also stated that it expects to pay a fine of $200 million.[88] However, PG&E alleges that issuing new equity to pay for any penalties above "market expectations" will sufficiently depress stock prices as to result in an "increased cost of equity capital." PG&E alleges that this increased cost of capital will make it more difficult and expensive for PG&E to raise the capital it will need in the next five years to fund its massive capital spending program.

[87] TURN consistently refers to PG&E in this discussion for ease of reference, though any issuance of shares would be done by the holding company, PG&E Corporation (ticker symbol PCG). The Overland Report and the Wells Fargo Report refer to PCG.
[88] Exh. Jt. 53, p. 22:17-19 (Lubow and Malko/CPSD).

The testimony of Overland Consulting on behalf of CPSD demonstrates that PG&E has reached incorrect conclusions regarding the possible size of fines and penalties that would negatively impact the utility and its ratepayers. The Overland Financial Analysis evaluates the impact of issuing new shares on company's price to book ratio and dividend payout ratio, assuming that the new shares fully dilute existing share value. Overland found that PG&E could issue up to $2.25 billion of new equity, without significantly impairing these key financial metrics.[89] This amount is in addition to the $200 million that PG&E has already included in its 2012 forecasts.[90] Thus, the Overland Financial Analysis found that PG&E could raise equity to pay for up to $2.45 billion in penalties and all other remedies and disallowances.

Overland acknowledges that an issuance of new equity that does not support capital investments earning a rate of return will dilute shareholder value.[91] However, Overland compellingly explains that it is *not* "the responsibility of the CPUC to shield shareholders against the financial consequences of the San Bruno event." Overland correctly concludes:

> Regulation should act as a proxy in the absence of a workable competitive market. Utility managers, not regulators, are the financial agents of the utility investors and are subject to prudence reviews to promote efficient behavior. "Prices" for energy services should not be allowed to rise in order to recover costs arising from improper or imprudent management practices. However, regulators must also be concerned about the ongoing viability of the regulated utility necessary to provide service and attract capital. We believe that the Overland analysis provides a reasonable framework for the commission to consider financial outcomes that also preserve PG&E's financial integrity.[92]

TURN especially commends to the Commission the rebuttal testimony sponsored by Howard Lubow of Overland and Dr. Robert Malko of Utah State University.[93] These experts

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[89] Exh. Jt. 52, p. 10.
[90] Exh. Jt. 52, pp. 10, 11; Exh. Jt. 54, p. 7:9-14 (Lubow and Malko/CPSD).
[91] Exh. Jt. 53, p. 9:16-26 and 24:14-20 (Lubow and Malko/CPSD).
[92] Exh. Jt. 54, p. 8:15-23 (Lubow and Malko/CPSD).
[93] Identified as Exhibits Jt. 53 (Confidential) and Jt. 54 (Public) in I.12-01-007.

clearly demonstrate why PG&E's criticisms of the Overland Financial Analysis are without merit, and demonstrate that Overland's conclusions are entirely consistent with proper financial analysis and with the forecasts of market analysts, who expect a total financial impact on PG&E (including fines, disallowances and unrecovered costs) of between $1.5 and $2.5 billion.[94] When all the evidence is closely evaluated, it is apparent that PG&E provides no substantive basis to dispute Overland's financial analysis. Rather, PG&E's analysis shows only that shareholders – not ratepayers - might be harmed by a stock price decline if the market is "disappointed."

3. PG&E's Response to the Overland Financial Analysis Contains Erroneous Criticisms, Fails to Rebut the Fundamental Point that PG&E Could Raise Over Two Billion Dollars to Pay for Fines and Penalties without Harming Ratepayers, and Ultimately Shows that any Increased Cost of Capital Would Only Affect Shareholders

PG&E presented the rebuttal testimony of Eric Fornell of Wells Fargo Securities ("Wells Fargo Report").[95] His testimony makes two main assertions. First, Mr. Fornell explains that "investors are less interested in investing in a company that was going to turn around and pay a fine," thus driving down stock prices and resulting in a smaller amount of capital raised from an equity issuance.[96] Second, he contends that if a fine exceeds investor expectations and impacts their perception of the California regulatory environment, it *might* result in a stock price decline long enough to increase the cost of equity capital.[97] Indeed, Mr. Fornell questions any analytical estimate of "ability to pay," since he believes that any fine that materially "exceeds investor expectations" will negatively impact utility cost of equity capital.

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[94] Exh. Jt. 54, pp. 7, 25, 26-27 (Lubow and Malko/CPSD). See, also, fn. 125 below.
[95] Identified as Exhibits Jt. 66 (Confidential) and Jt. 67 (Public) in I.12-01-007.
[96] Exh. Jt. 67, p. 24-25; 14 RT 1500:23 – 1501:15 (Fornell/PG&E).
[97] Exh. Jt. 67, p. 19-22; 14 RT 1501:16 – 1503:3 (Fornell/CPSD).

As explained in the following sections of this brief, the actual substantive analysis in the Wells Fargo Report fails to support the conclusions. The Commission's regulatory duty cannot be confined to meeting only "investor expectations." Mr. Fornell admitted that *even* if there is an increased cost of equity capital, this impact is unlikely to affect the company's ability to raise equity or provide service. Even more importantly, Mr. Fornell admitted that any increased cost of capital will *not* impact ratepayers unless 1) a stock price decline lasts for more than a year, which Mr. Fornell does not predict, and 2) the Commission actively chooses to bail out shareholders in the next cost of capital proceeding.

The main conclusion that can actually be drawn from the Wells Fargo Report is that current *shareholders* may be financially harmed if the market is "disappointed" by a larger than expected fine. In the end the Commission is thus left with this question – should it impose a fine consistent with "investor expectations" just to protect shareholders? TURN hopes and expects that the Commission will impose financial consequences that are proportionate to the level of past violations and adequate to redress the huge costs necessary to fix PG&E's pipeline system, and not based on a desire to shield current shareholders from management's historical failures and wrongdoing.

a. Most of the Wells Fargo Criticisms of Overland Are Simply Wrong and Evidence an Incomplete Reading of the Overland Report

The Wells Fargo Report claims that Overland's analysis is flawed because: 1) "neither the price to book nor dividend payout ratio is generally used by investment banks to determine the market's capacity for an equity offering";[98] 2) Overland failed to consider the use of fund offerings; 3) Overland failed to consider that "a penalty above [investor] expectations would

[98] Exh. Jt. 67, p. 15 (Fornell/PG&E).

signal to investors that the California regulatory environment is less constructive" and would thus "increase PCG's cost of capital";[99] 4) Overland ignored PCG's substantial need for new capital to fund capital expenditures from 2013 through 2016;[100] 5) a dividend cut is not a viable method of raising equity;[101] and lastly because 6) Overland failed to account for the combined effect of all of these factors.

Three of these criticisms are factually wrong, or reflect an inaccurate reading of the Overland Financial Analysis. The claim that Overland did not account for the use of funds (criticism #2) is incorrect, since Overland explicitly assumed full dollar for dollar dilution of shareholder value in order to account for the lack of earnings potential of the new equity.[102]

The claim that Overland did not account for additional equity needs is incorrect since Overland explicitly took into account PG&E's planned capital expenditures and planned equity issuances for 2012-2016 in determining the "threshold case."[103]

And the claim about dividend cuts is also incorrect, since Overland explicitly modeled a constant dividend, and only considered a dividend cut as an alternate option.[104] Overland does show that PG&E could raise a substantial amount of internal equity simply by maintaining its current dividend policy.[105]

There thus remain two subjective criticisms – the proper metrics to measure capacity for new equity issuances and the role of investor expectations in impacting the cost of equity capital.

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[99] Exh. Jt. 67, p. 16 (Fornell/PG&E).
[100] Exh. Jt. 67, p. 16-17 (Fornell/PG&E).
[101] Exh. Jt. 67, p. 18 (Fornell/PG&E).
[102] Exh. Jt. 54, p. 9:16-26 (Lubow and Malko/CPSD). Mr. Fornell admitted this fact during cross examination, though he still maintained that it does not account for "the reality of going out and trying to sell these shares." 14 RT 1495:11-25. But this is just an issue of the "all-in cost" of equity issuances.
[103] Exh. Jt 53, p. 17:12-20.
[104] Exh. Jt. 54, p. 15:6-14. Mr. Fornell again admitted this fact during cross examination. 14 RT 1496:4-7.
[105] The numbers are contained in confidential Exh. Jt. 53, p. 19:19-28 and p. 20:11-14.

b. The Wells Fargo "All-In Cost" Analysis is Less Relevant to Forecasting the Cost of Equity Capital than the Overland Analysis of Market to Book and Dividend Payout Ratios

Wells Fargo contends that Overland's use of the market-to-book and dividend payout ratios to measure financial impacts is not the appropriate means of evaluating the company's ability to issue new equity to pay for fines and penalties. Fornell argues that a number of factors influence the attractiveness of an equity offering, chief among them the "use of proceeds."[106]

But Overland explicitly accounted for the "use of proceeds" in its analysis by assuming 100% dilution of share value, as explained above. Mr. Fornell analyzes the "all in cost" of a number of equity offerings to show the impact of the "use of funds." The all-in cost reflects the decline in stock price during the short time period between deal announcement and the pricing of the equities.[107] Mr. Fornell's data show that stock offerings used primarily to repay debt, rather than to invest in infrastructure, resulted in a significantly higher "all-in cost."[108] Mr. Fornell concludes that these data show that the all-in cost of issuing equity to fund penalties will be high.

It is likely true that investor appetite for stock issuances that are primarily intended to pay fines will be lower; however, while this fact might increase the number of shares PG&E will need to issue to raise equity, it in no way shows that Overland's use of price to book and dividend payout is incorrect to measure the actual long-term financial impact on cost of equity.

Mr. Fornell readily agreed that the "all-in cost" of an equity issuance is "unrelated" to the "cost of equity capital."[109] The cost of equity capital is the total return (dividend yield and stock

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[106] See, for example, Exh. Jt. 67, p. 23 ("The use of proceeds is often a leading factor in establishing the market capacity and demand for an equity offering.")
[107] Exh. Jt. 67, p. 24-25; 14 RT 1499 (Fornell/PG&E). This stock price decline is for a period of days.
[108] Exh. Jt. 67, Figure 11, p. 25.
[109] Exh. Jt. 76, p. 1. 14 RT 1500:18-22 (Fornell/PG&E).

price growth) that an investor expects over the investment horizon.[110] Mr. Fornell admits that a stock price decline would have to last "a year, year and a half" in order to result in a higher cost of equity capital.[111]

Mr. Fornell agreed that financial models of the cost of equity capital depend on the long-term expectations of share and dividend growth.[112] But these are exactly the metrics which are reflected in the price to book and dividend payout ratios. The two metrics analyzed by Overland are precisely the metrics used by finance professionals in standard models (such as DCF and CAPM) to estimate cost of capital. Thus, Mr. Fornell's metrics criticism is really another variant of his allegation that Overland did not consider the "use of proceeds" in their analysis. This criticism is wrong, as discussed above.

c. The Commission Should Not Set the Penalty Level in Deference to Analyst Forecasts

Much of the Wells Fargo Report emphasizes the importance of "investor expectations," and Mr. Fornell argues that if the Commission imposes a penalty that exceeds investor expectations, investors will have a negative opinion of California's regulatory environment, thus ultimately driving up the cost of equity capital.[113] The Wells Fargo Report claims that Overland fails to account for investor expectations, "especially under circumstances where a penalty greatly exceeds investor expectations."[114] Indeed, when pressed during cross examination Mr. Fornell explained that he cannot estimate any number for "ability to pay," since it all depends on investor expectations as revealed in analyst reports.[115] In other words, Mr. Fornell concludes that

[110] 14 RT 1500:1-17 (Fornell/PG&E).
[111] 14 RT 1502: 24-28 (Fornell/PG&E).
[112] 14 RT 1500:3-17 (Fornell/PG&E).
[113] Exh. Jt. 67, p. 19-22; See, also, 14 RT 1517:1-7 (Fornell/PG&E).
[114] Exh. Jt. 67, p. 14.
[115] 14 RT 1614:15 – 1615:20 (Fornell/PG&E).

any financial measure of PG&E's resources is irrelevant if stock analysts have decided on a particular forecast of the expected penalty amount.

TURN does not doubt that from the perspective of a banker underwriting an equity issuance, Mr. Fornell's job is made more difficult if market "expectations" are greatly "disappointed." But even Mr. Fornell conceded that PG&E could raise equity in such a situation, but it would have to 1) wait "to let things settle out," and then 2) issue equity in tranches over time.[116]

Undoubtedly there would be a short term negative market reaction to a larger than expected penalty, though all parties agree that what is of ultimate interest to the market is the total cost imposed on PG&E shareholders. But Mr. Fornell's ultimate conclusion – that a fine above investor expectations will have negative consequences – should not guide this Commission's policy in these three enforcement proceedings. Such a perspective creates a Catch-22 that would circumvent the Commission's statutory and legal responsibilities.

Sometime toward the end of 2011 equity and bond analysts coalesced to report an expected "fine" of about $500 million.[117] One analyst candidly admitted that "how this consensus came to be is a total mystery to us. Such a penalty is not presently in our forecast but is starting to get baked into expectations of knowledgeable investors."[118]

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[116] Mr. Fornell discussed these practical realities in response to questions by counsel for City of San Bruno (14 RT 1587-1588) and in response to re-direct by PG&E's attorney (14 RT 1619-1620).
[117] Exh. Jt. 67, p. 20 (Fornell/PG&E). Wells Fargo cites to a mean "expected fine" of $477 million, while Overland Financial presented slightly earlier data showing a mean expected fine of about $580 million. Of course, these are means, and some analysts forecast fines of $750 million. Exh. Jt. 79.
[118] Exh. Jt. 67, p. 20, quoting FBR & Co., "The Good, the Bad, and the Ugly at EEI," November 20, 2011.

Various reports explain that equity analysts traveled to California and met with utility staff and CPUC Commissioners.[119] These analysts came away with the impression that Commissioners wanted "the fine to be big and memorable," and for some reason the forecast of that fine amount settled on figures near $500 million. Mr. Fornell analogized the outcome of this process:

> Think of, you know, when people used to listen to Greenspan and wonder about what the Fed was going to do. And to the extent that the Commission staff was sort of signaling something for the market to expect, that provides some degree of certainty of expectation for investors going forward. And people are going to focus very carefully on that.[120]

So equity analysts claim that the Commission somehow "signaled" a fine amount to them, and now the bankers[121] warn us that if the Commission exceeds these expectations, investors will be unhappy with the Commission. Following Mr. Fornell's position to its logical conclusion, the Wall Street "echo chamber" should become the driving force for this critical public policy decision regarding an adequate deterrent for past violations.

The Commission should not be blackmailed by this self-serving threat from Wall Street investor analysts. The impact on investor perceptions of the regulatory environment is *not* one of the many identified factors that the Commission has traditionally considered or should consider in determining an appropriate penalty level. The Commission should be cognizant of Wall Street expectations only to the extent they may affect the company's financial health to such an extent that they affect utility ratepayers. Indeed, this is the reason why Overland used key financial

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[119] For example, Exh. Jt. 67, p. 20, quoting J.P. Morgan, November 21, 2011, p. 4. See, also 14 RT 1526-1528 (Fornell/PG&E).

[120] TURN notes that we have never seen an *ex parte* notice in these enforcement proceedings. Given the fact that banks hold PG&E stock, they should arguably be considered as an "interested person" pursuant to Rule 8.1(d)(2), subject to ex parte restrictions and reporting requirements.

[121] The investment bankers may work for the same corporate entity as the research analysts, but are walled off from communicating. 14 RT 1533-1534 (Fornell/PG&E).

metrics (market to book, dividend payout) to analyze the impact of share dilution. But the mere fact that investors (and shareholders) may be disappointed is *not* a reason to limit fines to stay within Wall Street analyst expectations.

d. Analyst Forecasts of Total Fines and Penalties Is Entirely Consistent with the Overland Financial Analysis

While much of the debate focused on the potential "fine," it is critical to note that "a fine of $500 million" is not the number to compare to Overland's estimate of $2.45 billion financial ability to pay. While these terms are often used interchangeably, leading to some confusion, both CPSD and PG&E completely agree that the "total financial consequences" include at least two distinct components –fines and other remedies.

A fine payable to the State General Fund is not tax deductible and has an after-tax impact on the utility equal to the fine.[122] Other remedies include Commission disallowances of costs that would otherwise be included in rates, and potentially other unrecovered costs. As discussed in Section II.C above, a disallowance has a very different tax impact than a fine, and to compare a "cost disallowance" to a fine, one has to gross-up the penalty for taxes.[123]

Overland is clear that its estimate of $2.25 billion includes fines as well as other potential disallowances.[124] This number is absolutely within the range of forecasts by equity analysts of the total "fines and penalties." As illustrated in several exhibits in the record, several equity analysts are forecasting total financial consequences (including fines and disallowances) in the

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[122] 14 RT 1491-1492 (Fornell/PG&E). Mr. Fornell estimated the tax impact at 37% of the cost of a disallowance that is written off. Mr. Fornell is correct in concept, though the actual tax impact on PG&E is the sum of state and federal taxes, and is different for expense versus capital cost disallowances. Gross-up for taxes is a routine component of utility ratemaking.

[123] For example, a disallowance of $1,000 million in expenses is roughly equivalent financially to a fine of $600 million due to the tax impacts. (1000=600/ (1-0.40))

[124] See, for example, Exh. Jt. 52, p. 6. Explaining that penalties do not include third party liabilities covered by insurance. This distinction was clarified several times during cross examination. See, for example,

range of $1.25 billion to $2.5 billion.[125] Mr. Fornell agreed that investor expectations of total financial consequences were "in the range of a billion and a half to two [billion]."[126] One recent analyst forecast, made after the PSEP proposed decision was released, estimated a disallowance of $2.1 billion on top of a fine of $400-500 million.[127] PG&E's current stock price appears to reflect an expected total cost of $1.6 to $2.0 billion.[128]

While there is considerable interest in the amount of the actual "fine" imposed by the Commission, there is also consensus that what matters most to the market is the total financial consequences imposed upon PG&E shareholders, taking into account the fact that fines have different tax consequences from disallowances.[129]

The only conclusion that can be drawn from all of these market reports is that Overland's estimate of PG&E's ability to pay fines and penalties is entirely reasonable. Indeed, PG&E already sold two issuances of common stock in March 2012 and February 2013 without appreciable negative impact on stock prices.[130]

e. Most Importantly, Even If One Assumes There Might Be An Increased Cost Of Capital, Such A Cost Will Only Affect Current Shareholders, Not Utility Ratepayers

In any utility discussion of debt or capital costs, the underlying assumption is that increasing such costs is bad for both the utility and its ratepayers, since the authorized rate of return reflects the forecast cost of debt and equity capital. However, the evidence in this case

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[125] Exh. Jt. 54, p. 26-27. See, also, Exhs. Jt. 70, p. 9; Jt. 71; Jt. 72, p. 2; Jt. 73; 14 RT 1472-1480 (Fornell/PG&E).
[126] 14 RT 1617:25-27.
[127] Exh. Jt. 79, Bernstein, November 29, 2012. See, also, 14 RT 1625-28 (Fornell/PG&E).
[128] Exh. Jt. 54, p. 26.
[129] Exh. Jt. 67, p. 2 ("What the investment community is interested in is the financial impact of the accident on the Company rather than the label applied to the cost.") Mr. Fornell clarified during cross examination that tax consequences do matter. See, for example, 14 RT 1469:10-23, 1475, 1490-1491 (Fornell/PG&E).
[130] See, 14 RT 1451:2-23 and 15 RT 1572:19-22 (Fornell/PG&E).

shows that, even if one accepts PG&E's contention that there will be an increase in the actual cost of equity capital, the impact of this cost will fall primarily on existing shareholders, not on utility ratepayers. The financial viability of the company, or its ability to raise necessary capital, will not be impacted. In reaching its decision concerning a fine and penalty, the Commission should not be concerned about short-term impacts on shareholders due to a temporary decrease in stock price.

Ratepayers are insulated from the impacts of short term increases in capital costs due to the time lag between the issuance of equity for fines and remedies and the setting of the authorized return on equity in the next cost of capital proceeding, as Mr. Fornell readily admitted during cross-examination:

> Q Who is impacted by the increase in the cost of equity capital?
>
> A Well, no one is impacted until PG&E comes in for another rate case. And then whether the Commission decides whether they want to consider the actual cost of equity of PG&E in setting the allowed ROE. And that's clearly up to the Commission to decide.[131]

The Commission just recently authorized a return on equity for PG&E for the years 2013-2015. Any increase in the cost of capital during these three years will not impact the authorized return included in utility rates. The next cost of capital proceeding will be filed in April 2015 and will set an authorized return for TY 2016.[132] That ROE will be based on modeling results as well as Commission judgment regarding future risks. The most critical inputs for models such as the discounted cash flow are *analyst forecasts of future* dividend growth rates.[133]

[131] 14 RT 1504:15-22 (Fornell/PG&E). See, also, Exh. Jt. 76, p. 2-3.
[132] See, D.13-03-015, Ordering Paragraph No. 4, p. 10.
[133] See, for example, D.12-12-034, p. 26-27.

Assuming that the Commission issues a fines and remedies decision sometime in 2013, it is likely that market reaction, including any potential decreases in stock price, will be felt in 2013-2014. Mr. Fornell agreed that a stock price reduction due to equity issuances or other market reactions will need to last at least "a year, year and a half" to impact the cost of capital.[134] Mr. Fornell admitted that he did not know how long a stock price discount due to a higher than expected fine would last.[135] There is no evidence that any impact on the "actual cost of equity capital" would persist long enough to affect forecasts of equity returns for 2016.

Thus, the primary conclusion that can be drawn from the Wells Fargo Report is that the impact of any increased cost of capital (due to disappointed investor expectations and decrease in share price) will be on current shareholder value.[136] Current shareholders in fact include Wells Fargo Securities, the author of the testimony sponsored by Mr. Fornell for PG&E.[137] The utility's financial viability or its ability to raise necessary capital will not be materially harmed. But financial harm to current shareholders should not be a reason for reducing an appropriate fine amount. In fact, one of the primary – if not the only – ways that a fine can achieve "deterrence" is if shareholder value is impacted so as to cause stockholders to influence utility management.

4. The Ability To Pay Remaining Fines And Penalties Can Be Calculated By Subtracting Disallowances Imposed In Decision 12-12-030

Overland calculated a total ability to pay, or financial limit, of $2.25 billion in fines and other financial consequences, though this number is in addition to PG&E's expectation of a fine

[134] 14 RT 1502:21 – 1503:3 (Fornell/PG&E); See, also, Exh. Jt. 76, p. 6.
[135] 14 RT 1519:22-25 (Fornell/PG&E).
[136] See, for example, Exh. Jt. 76, p. 5-6, 8.
[137] Wells Fargo owns over 764,498 shares of PCG stock. Exh. Jt. 68. Wells Fargo has earned over $9 million in fees from PCG and PG&E in the past five years. Exh. Jt. 69. And Wells Fargo Securities plans to to underwrite PCG's future equity offerings. Exh. Jt. 76, p. 11. Most investor analysts work for large banks that hold and trade PCG stock.

of $200 million.[138] Thus, PG&E could issue total incremental equity of approximately $2.45 billion.

Mr. Lubow of Overland clarified during cross examination that Overland used the term "fines and penalties" to denote both fines payable to the General Fund as well as specific cost disallowances ordered by the Commission.[139] Thus, in order to determine PG&E's remaining ability to pay fines and remedies imposed in these proceedings, it is necessary to subtract from the $2.5 billion the amount of disallowances already imposed by the Commission in D.12-12-030. In that decision, PG&E requested spending of $2.184 billion, and the Commission authorized spending of $1.169 billion, resulting in a mathematical difference of $1.015 billion.[140]

However, and most importantly for the relevant calculation, not all of this difference reflects a disallowance. The Commission did not authorize PG&E's requested contingency of $380.5 million *not* because it disallowed it, but because it found that the cost estimate *without* the disallowance was a reasonable total cost for the scope of work.[141] In other words, the Commission did not disallow a portion of the cost but simply found a lower cost estimate to be the more reasonable forecast of the cost.[142] Thus, the actual PSIP disallowance based on forecast costs deducts the contingency from the amount authorized, resulting in **a disallowance of $634.6**

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[138] Exh. Jt. 53, p. 7:9-14 and 22:17-19 (Lubow and Malko/CPSD).
[139] See, for example, 14 RT 1369 (Lubow/CPSD). Mr. Lubow also explained that "other unrecovered costs," for example due to cost overruns or other work, are not the same as disallowances since the utility can include them in rates.
[140] D.12-12-030, Tables E-2 and E-3.
[141] D.12-12-030, p. 97-100 ("Therefore, we conclude that PG&E has not shown by a preponderance of the evidence that its generous base cost forecasts require a supplemental contingency cost allowance to be just and reasonable.")
[142] This is analogous to any rate case authorized cost that is lower than the utility forecast based on an evaluation of the "reasonableness" of the cost forecast. A lower forecast is not a disallowance unless the Commission accepts the utility forecast as accurate and specifically disallows a cost based on a valid rationale.

million.[143] This disallowance includes both the $369.1 million of expenses PG&E forecast for 2011-2012[144] as well as the $265.5 million in costs for the records integration program.[145]

PG&E's witness Yura presented data showing that PG&E will have spent $603 million for PSIP-related work and $179 million for non-PSIP work in 2011-2012.[146] Thus, Ms. Yura concludes that shareholders have paid $782 million in 2011-2012 expenses, a number significantly higher than the PSIP disallowance of $369.1 million in forecast 2011-2012 expenses.

Ms. Yura's numbers must be adjusted to calculate any disallowances incremental to the $369.1 million already included in the numbers presented above. First, the $179 million in non-PSIP work should not be counted, as this amount does not represent any disallowance imposed by the Commission, but is simply the cost of work PG&E had to undertake to respond to the San Bruno explosion. These costs were not "disallowed" from rates, and the utility used available funding for the work. These costs should be treated just like any other cost overrun between utility rate cases.[147]

Second, the $603 million in actual PSIP expenses for 2011-2012 includes spending for contingency, so the numbers are not directly comparable to the $369.1 figure. Even more

[143] (2183.9-1168.8)-380.5=634.6.

[144] D.12-12-030 disallowed all expenses incurred prior to the effective date of the decision. Approximately $369.1 million is the disallowance of all 2011-2012 expenses, excluding contingency expenses (which were not disallowed). TURN used PG&E's requested costs as presented in PG&E's testimony in R.11-02-019 this number. D.12-12-030 (at pages 21-22) describes total requested costs but does not itemize them by year.

[145] It is relevant to note that PG&E had originally proposed that the entire $222.1 million of 2011 expenses be paid by shareholders as the "shareholder cost responsibility."D.12-12-030, p. 24. So this amount could technically not be counted as a disallowance. However, TURN conservatively (i.e., in PG&E's favor) includes this amount in calculating a total D.12-12-030 disallowance for purposes of the financial analysis.

[146] I.12-01-007, Exh. PG&E-1A, p. 13-16 and ch. 13, Appendix C (Yura/PG&E). Ms. Yura used recorded spending through 2012 Q3 to forecast the totals for 2011-2012.

[147] In fact, there is no evidence that the "integrity management" numbers were not already included in authorized integrity management revenue requirements.

importantly, the difference between these recorded 2011-2012 costs and forecast costs disallowed in D.12-12-030 represent cost overruns. Arguably, such cost overruns should be shareholder responsibility, just like any other cost overruns. However, in the interest in adopting a conservative estimate of PG&E's financial limit, TURN suggests that PG&E be given credit for the actual 2011-2012 costs that are incremental to the forecast disallowance of 2011-2012 expenses ($369.1 million). When properly adjusted to include contingencies in both cases, the resulting disallowance of 2011-2012 expenses due to cost overruns is increased by $150.2 million, as illustrated in Table 2 below.

Table 2: Forecast versus Actual Expenses for 2011-2012[148]

	2011 actual	2011 Forecast	2012 actual	2012 forecast
Strength Testing	228	122.7	123	94.9
MAOP/GTAM/Other PSEP	96	58.9	138	95.2
Contingency	7	39.1	10	41
Total	331	220.7	271	231.1
Difference (actual-forecast)		**110.3**		**39.9**
Total Difference (2011+2012)				**150.2**

Giving PG&E credit for the cost overruns in 2011-2012 thus results in a **total PSIP disallowance of $784.8 million (**$634.6 million plus $150.2 million**).** PG&E could still raise between $1.46 and $1.72 billion to pay for a fine and other remedies without financial impairment. For purposes of TURN's recommended disallowance, we conservatively assume the lower limit of $2.25 billion, resulting in **a remaining financial limit of $1.465 billion**.

[148] These forecast numbers are from PG&E's PSIP testimony in R.11-02-019; the forecast numbers are from Appendix C to Exh. PG&E-1A in I.12-01-007.

5. Conclusion: Overland Correctly Calculated PG&E's Ability to Issue New Equity, and Subtracting the D.12-12-030 Disallowances and PSIP Cost Overruns of $785 Million Yields a Conservative Estimate of PG&E's Financial Limit of $1.46 Billion

In summary, Overland found that PG&E can issue incremental equity to pay at least $2.25 billion for fines and remedies, not accounting for amounts already allocated to that purpose. PG&E's rebuttal did not demonstrate any errors in Overland's analysis. Rather, PG&E showed that current *shareholder* value may be reduced if the market is "disappointed." However, it is not even clear what will disappoint the market, since Overland's amount is within the estimates of total costs made by equity analysts. Nevertheless, even if there is market disappointment, the evidence shows that it will not impair the utility's financial health, and that any potential increase in the cost of equity will not affect utility ratepayers. The Commission should base its decision regarding a proper penalty on the valid public policy objectives that the Commission has previously elucidated, not on a concern about short term shareholder value.

TURN conservatively calculates PG&E's financial limit by taking the lower end of the financial ability to pay ($2.25 billion), and subtracting both the D.12-12-030 disallowance and PG&E's actual cost overruns for PSIP work in 2011-2012, which total $785 million. The Commission should order fines and remedies that total to the remaining $1.465 billion, properly reflecting the tax benefits of any disallowances, since $1.465 billion reflects the potential to pay a fine, which is not tax deductible.

V. OTHER REMEDIES ARE NECESSARY TO ENSURE THAT PG&E'S GAS TRANSMISSION SYSTEM IS SAFE

The briefs of TURN, CPSD, the City of San Bruno, the City and County of San Francisco that have been filed to date in these proceedings show that PG&E's wide-ranging violations reflect a serious failure to make safety PG&E's highest priority. Ordinarily, the Commission

would defer to the utilities it regulates to devise the necessary policies, programs and practices to ensure pipeline safety. However, these cases show that PG&E does not warrant such deference. TURN expects that CPSD, as the division of the Commission most responsible for enforcing safety obligations, will propose a comprehensive and appropriately prescriptive set of minimum measures that PG&E must follow in order to ensure the safety of its gas transmission system. Other parties are also likely to propose remedies central to the issues they pursued. To avoid duplication of effort, TURN will address selected remedies that relate to issues on which TURN focused its efforts.

With respect to re-used or otherwise reconditioned pipe, the following key changes are needed to PG&E's insufficient practices documented in the record of these cases:

- PG&E should be required to track in a centralized database where it has placed re-used or otherwise reconditioned pipe in its system. For each such segment, the database should show the date of manufacture of the segment, if known. If this date is unknown, the database should so indicate, to ensure that the segment is given appropriate attention in integrity management. The database should include a link to reliable and readily accessible documentation showing, for each re-used or otherwise reconditioned pipe segment, that all steps necessary to prepare the segment for installation were performed and inspected. If such documentation is unavailable, the centralized documentation should so indicate so that the segment will be given appropriate attention in integrity management.

With respect to the vital MAOP Validation Project[149] that PG&E is conducting at the Commission's directive, including the creation of the associated Pipeline Features List, the Commission should require the following:

[149] Ex. PG&E-61 (I.11-02-016), pp. 1-23 to 1-26 (Singh/PG&E).

- As required by Ordering Paragraph 1 of D.11-06-017, PG&E shall fully document any engineering-based assumptions it makes for data that is missing, incomplete or unreliable. Such assumptions must be clearly identified and justified and, where ambiguities arise, the assumption allowing the greatest safety margin must be adopted.
- PG&E shall pay for the costs of a qualified independent auditor, retained by the Commission, to: (a) audit PG&E's MAOP Validation results for accuracy, reliability, and compliance with the requirements of D.11-06-017, and (b) to prepare a full report to the Commission and available to interested parties of its conclusions and recommendations for remediation of any observed deficiencies.

With respect to PG&E's Project Mariner, the key four-year program that PG&E describes as an effort to improve the accessibility and reliability of its pipeline information,[150] the Commission should require the following:

- PG&E shall pay for the costs of a qualified independent auditor, retained by the Commission, to (a) examine the new systems developed in Project Mariner, including observations of the systems in operation, to ensure that they result in accurate, reliable, and accessible pipeline data that meets all safety operational needs, and (b) to prepare a report to the Commission and available to interested parties of its conclusions and recommendations for remediation of any observed deficiencies.

Finally, TURN fully supports DRA's recommendation[151] that the Commission establish an independent monitor to oversee and report to the Commission and the public regarding among other things, PG&E's PSIP work and the remediation of PG&E's recordkeeping efforts and its integrity management program. TURN expects that TURN and other parties advocating an independent monitor will present a complete recommendation in their briefs. For now, TURN

[150] Ex. PG&E-61 (I.11-02-016), pp. 1-27 to 1-28 (Singh/PG&E).
[151] DRA Op. Br. (I.12-01-007), pp. 64-66; DRA Op. Br. (I.11-02-016), pp. 23-25.

notes that, if an independent monitor is appointed, the duties of such a monitor could include the audits recommended above of the MAOP Validation Project and Project Mariner.

VI. CONCLUSION

For the reasons set forth in this brief and in TURN's opening and reply briefs in I.11-02-016 and I.12-01-007, TURN urges the Commission to adopt each of the recommendations summarized in TURN's Summary of Recommendations.

Date: May 6, 2013

Respectfully submitted,

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ATTACHMENT A

PG&E Pressure Test Recordkeeping Violations

Analysis of Minimum and Maximum Fines

Installation Year	Line Segments	Pipe Miles	Minimum Fine (millions)	Maximum Fine (millions)
1956	653	24.12	$6,522	$99,950
1957	1,354	37.34	$13,329	$206,964
1958	964	33.52	$9,219	$145,157
1959	503	8.58	$4,755	$75,655
1960	530	4.22	$4,918	$79,518
1961	605	9.20	$5,488	$90,002
1962	792	20.12	$7,025	$117,104
1963	823	9.95	$7,190	$121,707
1964	388	9.79	$3,296	$56,761
1965	995	11.54	$8,301	$145,222
1966	924	10.55	$7,544	$134,748
1967	1,115	9.43	$8,904	$161,213
1968	613	4.52	$4,791	$88,279
1969	600	2.46	$4,565	$85,781
1970	539	4.70	$4,026	$77,147
1971	526	4.46	$3,816	$74,610
1972	453	3.18	$3,229	$64,483
1973	496	0.64	$3,423	$69,568
1974	352	0.72	$2,360	$49,343
1975	233	0.75	$1,515	$32,227
1976	119	0.94	$757	$16,434
1977	134	0.26	$822	$18,346
1978	123	0.59	$731	$16,779
1979	190	1.21	$1,097	$25,752
1980	112	0.14	$631	$15,147
1981	151	2.11	$817	$20,282
1982	99	0.17	$521	$13,220
1983	146	0.52	$743	$19,369
1984	205	0.63	$1,004	$27,152
1985	181	1.07	$846	$23,879
1986	184	0.92	$831	$24,061
1987	141	0.98	$611	$18,437
1988	237	1.49	$973	$30,513
1989	341	2.89	$1,348	$43,699
1990	188	0.84	$718	$24,120
1991	241	2.00	$863	$30,570
1992	215	0.88	$741	$27,457
1993	147	0.49	$475	$18,515
1994	189	0.24	$577	$23,080
1995	78	0.21	$225	$8,984
1996	176	1.90	$475	$19,012
1997	83	0.09	$210	$8,393
1998	135	0.82	$315	$12,586
1999	50	0.12	$105	$4,214

2000	93	0.10	$177	$7,069
2001	227	0.91	$403	$16,130
2002	39	0.03	$62	$2,471
2003	79	0.10	$111	$4,452
2004	121	0.75	$149	$5,962
2005	142	0.13	$150	$6,005
2006	50	0.05	$42	$1,682
2007	156	0.32	$104	$4,177
2008	87	0.07	$45	$1,809
2009	73	0.03	$21	$830
2010	120	0.29	$15	$597
Blank Installation Date	1,041	12.13	$10,474	$158,880
Grand Total	**19,551**	**246.20**	**$142,406**	**$2,675,500**

Notes:

(1) Above calculations are based on the HCA segments lacking pressure test records shown in Exhibit TURN-4 and do not include non-HCA segments for which PG&E also lacks such records.

(2) Segments with a blank installation date in Exhibit TURN-4 are assumed to be missing records from January 1, 1956.