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) (Not Consolidated)
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) (Not Consolidated)
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)

PUBLIC VERSION
COORDINATED REMEDIES BRIEF OF PACIFIC GAS AND ELECTRIC COMPANY

(PG&E IS FILING THE CONFIDENTIAL VERSION OF THIS BRIEF UNDER SEAL. NO MOTION IS REQUIRED BECAUSE THE MATERIAL THAT PG&E HAS REDACTED FROM THE PUBLIC VERSION OF THIS BRIEF WAS PREVIOUSLY DESIGNATED AS CONFIDENTIAL DURING THE HEARINGS IN THESE PROCEEDINGS.)

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EXECUTIVE SUMMARY

PG&E deeply regrets the loss of life, injuries, and the effect on the San Bruno community caused by the September 9, 2010 pipeline rupture and explosion. PG&E recognizes how terrible the San Bruno tragedy was and has made extraordinary efforts to prevent another tragedy from occurring. The steps PG&E has taken since the accident will make its gas system safer than any state or federal regulation has ever required. PG&E is committed to implementing every NTSB recommendation and Commission directive, and to remedy deficiencies it has independently identified. PG&E shareholders have spent $900 million[1] and expect to spend an additional $1.3 billion more on these safety improvement efforts.

In the wake of the accident, PG&E has made real and lasting changes to enhance the safety of its gas system. PG&E changed the management and structure of the company, hired more than 300 new employees, expects to complete 9 of the 12 NTSB recommendations by the end of the year, validated the maximum allowable operating pressure for all 6,750 miles of transmission pipelines, and hydro tested an unprecedented number of transmission pipeline miles in the last two years.

PG&E has fully accepted moral and legal responsibility for this tragic accident and acknowledges that there should be penalties. However, the proposed penalty of $2.25 billion ignores the fundamental truth of this tragedy: this accident was not the result of willful or knowing violations of state law, federal standards, or Commission orders, policies or directives. The evidence does not show that PG&E could have known or should have detected that defective pipe had been erroneously installed in 1956. The evidence does not show that any integrity management program, even one that was perfectly implemented based on federal and state regulations, would have discovered the defective pipe or prevented the accident. The parties offer no legitimate rationale for the disproportionate and excessive size of the recommended penalties based on evidence of culpability, Commission precedent or comparison with any prior penalty imposed in the history of the U.S. Assessing a maximum penalty amount ignores these and other factors that the Commission is required to consider.

[1] The $900 million represents actual shareholder expenditures through the end of 2012 on gas safety-related activities. This is a portion of the previously publicly-reported $1.4 billion in shareholder dollars attributable to matters related to the San Bruno accident through the end of 2012.

Setting a penalty entirely on the basis of a consultant's analysis of PG&E's "ability to pay" is wrong as a matter of law, Commission policy and in terms of public safety. Longstanding Commission policy holds that penalties against a utility should be constructed as a deterrent against activities and behavior that could result in future accidents. Given the fact that PG&E has already completely restructured its gas operations, replaced senior management and invested more in safety than any utility in the history of the gas industry, no additional penalty of any amount could have a greater deterrent effect.

It is a dangerous policy for the Commission to assess penalties against a utility that are designed to test the upper limit of how much shareholders can absorb before the penalty compromises public safety. A penalty that, *by design*, would place at risk a company's ability to raise capital for investments in safety on behalf of customers runs counter to the Commission's obligation to ensure public safety. No penalty should be based on the deeply flawed analysis of one consultant.

The Commission should apply the unrecovered amounts that shareholders have spent and plan to spend on gas system safety to any penalty. Customers will not pay for these investments even though these safety-related costs would typically be recoverable. PG&E's swift actions since the accident should be acknowledged, not punished. Failure to recognize these investments would send the message that this safety work is not important when exactly the opposite is true. These investments are critical to making PG&E's gas system the safest in the nation.

As the CPUC's Safety and Enforcement Division has concluded, the public interest is best served by improvements to the system funded by shareholders, not a punitive fine that threatens PG&E's ability to finance safety improvements. Those who argue that the Commission should impose the most extreme penalty possible, or add additional fines on top of shareholder penalties, should be required to demonstrate how this approach will not harm the very customers the Commission is sworn to protect.

I. INTRODUCTION AND SUMMARY RESPONSE TO PENALTY PROPOSALS[2]

The Commission has long held that the purpose of a penalty is to go beyond restitution to the victim and to effectively deter further violations by the specific utility or others.[3] "Effective deterrence creates an incentive for public utilities to avoid violations. Deterrence is particularly important against violations which could result in public harm, and particularly against those where severe consequences could result."[4] Setting an appropriate penalty requires that the Commission "specifically tailor the package of sanctions . . . to the unique facts of the case. The Commission will review facts which tend to mitigate the degree of wrongdoing as well as any facts which exacerbate the wrongdoing."[5]

Under its long-standing approach to penalties, the Commission takes into account all factors identified in Public Utilities Code Section 2104.5 and D.98-12-075 in determining the appropriate penalty.[6] Stated generally, these factors are (1) the severity of the offense; (2) the good faith of the utility in attempting to achieve compliance (including the conduct of the utility before, during and after the offense to prevent, detect, disclose and rectify a violation); (3) the size of the business (including its financial resources); (4) the totality of circumstances in furtherance of the public interest; and (5) the role of precedent.

In the case of the San Bruno accident, the severity of the alleged violations cannot be measured in the same terms as the tragedy that resulted. PG&E accepted full responsibility for the accident from the beginning without hesitation. There is no evidence in the record that PG&E knowingly or willfully violated the law or Commission directives in any way that led to this tragic accident. The severity of the alleged violations must be considered in this context. If the Commission imposes the "the maximum penalty" that PG&E can afford to pay, as CPSD

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[2] Pursuant to *England v. La. State Bd. of Med. Exam'rs*, 375 U.S. 411 (1964), PG&E expressly reserves its federal constitutional and any other federal claims and reserves its right to litigate such claims in federal court following any decision by the Commission, if necessary. While PG&E cites federal cases, including Supreme Court decisions, in this brief, they are cited only to the extent that they provide analogous authority for construing the California Constitution and/or California law.

[3] *See e.g., Rulemaking re the Enforcement of the Standards of Conduct Governing Relationships Between Energy Utils. & Their Affiliates*, D.98-12-075, 1998 Cal. PUC LEXIS 1016, at *70; *Util. Consumers' Action Network v. Pac. Bell*, D.01-09-058, 2001 Cal. PUC LEXIS, at *126.

[4] *Rulemaking re the Enforcement of the Standards of Conduct Governing Relationships Between Energy Utils. & Their Affiliates*, D.98-12-075, 1998 Cal. PUC LEXIS 1016, at *71.

[5] *Rulemaking re the Enforcement of the Standards of Conduct Governing Relationships Between Energy Utils. & Their Affiliates*, D.98-12-075, 1998 Cal. PUC LEXIS 1016, at *76.

[6] *See, e.g., Investigation into the Gas Explosion and Fire in Rancho Cordova*, D.11-11-001, 2011 Cal. PUC LEXIS 509, *51-53; Res. ALJ-277 at 14 (April 19, 2012).

recommends,[7] what would the penalty be for a company that knowingly and willfully violated the law or directly disregarded Commission orders where the violations can be directly connected to the resulting tragedy?

Regarding the conduct of PG&E before, during and after the accident, the Commission should consider the entire company and its employees. The men and women of the company know that they not only provide a vital public service but that the commodities they deliver – electricity and natural gas – have inherent risks. The mission of our employees is to provide safe, reliable and affordable electric and gas service. The San Bruno explosion, the deaths of innocent people and the destruction of the community has had a profound impact on the company and its people. This tragedy represents a fundamental blow to the sense of mission that has driven those who work for PG&E since the founding of the company more than 100 years ago. The people of PG&E, from field employees to senior leadership, never want to see another San Bruno accident or anything like it. No penalty at any level can affect the company's behavior more than the tragedy itself already has. No penalty at any level can influence the commitment the company has already made on its own to ensure that PG&E's system is the safest possible. Our actions have demonstrated that, at shareholder expense, we are making this right. After that commitment, which is demonstrated not by words, but by actions, simply penalizing the company out of anger is not going to impel any improvement of greater value to our customers or the victims.

Immediately following the accident, PG&E employees were providing assistance to the residents of the Crestmoor neighborhood. In addition to PG&E personnel on the ground, PG&E immediately made available, without condition, emergency assistance and relief checks to make sure residents had the food, shelter and other goods and services to meet basic needs. PG&E worked with the City of San Bruno to establish programs through which PG&E committed to fill gaps in insurance coverage, guarantee the market value of homes, and to rebuild or purchase homes. PG&E committed $50 million to fund a trust for the benefit of the City of San Bruno to pay for costs related to the accident, including infrastructure repair and replacement, reimbursed the City and other government agencies for emergency response expenses, and paid $70 million to the City of San Bruno to establish a non-profit entity for the community's longer term benefit.

[7] CPSD Remedies OB at 4.

PG&E's commitment to help San Bruno and its residents recover and rebuild continues and has not wavered.

Since the accident, PG&E has made and continues to make unprecedented investments in far-reaching changes designed to make PG&E's gas system the safest in the nation. PG&E immediately began reviewing its pipeline records, creating asset-specific pipeline features lists for the three Peninsula gas transmission pipelines. In January 2011, that effort evolved into the MAOP validation project recommended by the NTSB and directed by the Commission. PG&E has validated the maximum allowable operating pressure for all 6,750 miles of its transmission pipelines, and hydro tested an unprecedented number of transmission pipeline miles in the last two years.

PG&E has new leadership drawn from the best of the industry, a new organizational structure, and has hired more than 300 new Gas Operations employees through 2012. Through 2014, PG&E has plans to hire an additional 1,400 gas employees. PG&E made organizational and personnel changes to clarify roles and responsibilities, provide for effective governance and facilitate improvement initiatives, including creating separate divisions for gas and electric operations and establishing a dedicated Quality and Improvement department within gas operations. PG&E reviewed and revised work policies and procedures, and the associated training, and wrote and implemented a new emergency response plan based on industry best practices and employee input.

PG&E also promptly acted on (and continues to act on) Commission directives, NTSB recommendations, and most of CPSD's recommendations, as well as recommendations from consultants PG&E retained to help improve its Integrity Management program, gas system control and recordkeeping, among others. Through these and other actions, PG&E has made and continues to make substantial progress toward being a nationwide industry leader in safe and reliable gas operations. Whether in response to a Commission directive, a CPSD or NTSB recommendation, or an internally-identified improvement initiative, the record demonstrates that PG&E has moved aggressively to improve its gas operations and to make PG&E's gas system the safest in the country.

As part of its consideration of the totality of the circumstances, the Commission must consider the alleged violations in connection with the cause of the accident: In 1956, a PG&E crew unknowingly installed a section of pipe that contained six 4-foot pieces of pipe ("pups") that never should have been put into service. PG&E has admitted that the installation of the pipe containing these pups was negligent. On September 9, 2010, one of the pups ruptured, causing an explosion and fire that killed eight people, injured dozens of others and damaged a large part of the Crestmoor neighborhood in San Bruno. The uncontroverted testimony of Robert Caligiuri, Ph.D., an expert metallurgist, establishes that the pipe failure resulted from a sequence of three things, all of which together led to the September 9, 2010 rupture: (1) a missing interior long seam weld; (2) a ductile tear likely caused by a post-construction hydro test; and (3) fatigue cracking that grew from the ductile tear slowly over time, reducing the pressure that could trigger a failure at that location to about 386 psig – below the 400 psig MAOP of Line 132.[8]

The San Bruno accident was the product of PG&E's erroneous use of a section of pipe containing six unknown pups in the 1956 construction of Segment 180. Once installed, without knowledge of the defective pups, any reasonable efforts to maintain the safety of the pipeline under the regulatory schemes in effect through September 2010 would not have prevented the accident. Had PG&E known about the defective pups, it would not have performed integrity management differently, or conducted a hydro test on Segment 180, or corrected its records from seamless pipe to DSAW pipe, or taken any of the other actions CPSD asserts should have been taken before September 9, 2010. Rather, it would have immediately cut the defective pups out and replaced them with properly manufactured pipe.[9]

It is a hindsight judgment not supported by the facts to claim that PG&E should have seen some document or taken some action that would have prevented this terrible accident, and that the failure to do so was a violation of law. Once the defective pipe section was installed in 1956, the evidence shows that prudent pipeline management would not have prevented this accident without some knowledge of the latent defect.

[8] San Bruno Ex. PG&E-1 at 3-4 to 3-17 (PG&E/Caligiuri).

[9] Joint R.T. 337-38 (PG&E/Harrison).

Industry experts rejected any connection between the alleged or admitted violations and the accident itself: In these OIIs, PG&E has confronted a lengthy list of alleged violations dating back as far as the 1930s.[10] In years of CPUC audits of PG&E's gas transmission operations and Integrity Management program, the Commission did not identify an extensive list of violations. In fact, the vast majority of the alleged violations are not actual violations, and CPSD has failed to prove otherwise.

To respond to the allegations in the San Bruno OII, PG&E turned to the leading experts in the pipeline industry. These experts concluded that PG&E's practices were consistent with pipeline safety regulations and industry standards of the time. As a result of this accident and others, new regulations have been put in place, which PG&E fully supports, requiring higher safety standards including mapping, testing and monitoring of the entire gas transmission system.

The Records OII delved into PG&E's recordkeeping practices dating back to the 1930's, requiring the Commission to have a historical perspective of records management going back to the days of carbon paper and manual typewriters. To provide that perspective, PG&E again turned to some of the leading experts in the gas and records management industries. These witnesses confirmed that the company's historic recordkeeping practices were consistent with then-existing regulatory standards and industry practices.

PG&E accepts responsibility for the Line 132 rupture. PG&E acknowledges that its lack of information about the defects in the pipe installed in 1956 resulted in the tragic accident of September 9, 2010. PG&E cannot agree, however, that its records or integrity management practices violated applicable regulations or laws in place at the time, nor should PG&E be punished based on changed expectations, post-accident information or hindsight judgments. PG&E's briefs on the merits in the Records and San Bruno OIIs demonstrate, with extensive citations to the record, how CPSD – which alone has the burden of proof in these proceedings – has failed to prove the vast majority of its alleged violations, and has proven no connection between the alleged violations and the cause of the pipeline rupture. PG&E will not repeat those discussions here.

[10] CPSD alleges violations in the three OIIs as follows: San Bruno OII – 55 alleged violations, exceeding 300,000 violation days (CPSD Remedies OB at 14); Recordkeeping OII – 35 alleged violations, exceeding 400,000 violation days (CPSD Remedies OB at 32-33); Class Location OII – more than 3,000 alleged violations, totaling over 15.8 million violation days (CPSD Remedies OB at 34-36; Class Location Ex. CPSD-1 (CPSD May 25, 2012 Investigative Report, p. 58, Table 12)).

PG&E has acknowledged that certain of its actions or practices fell short of regulatory requirements:

- In the Class Location OII, PG&E acknowledged that its patrolling, class location, and continuing surveillance processes failed to maintain complete, up-to-date class locations for its entire gas transmission system. PG&E agreed that its procedures were not consistently followed and, as shown by PG&E's own reports, approximately 140 of PG&E's 5,767[11] miles of transmission pipelines (approximately 2.4%) were erroneously designated as a lower class location than they should have been, and approximately 9 miles (less than 0.2%) had maximum allowable operating pressures (MAOPs) that were not commensurate with their class location. In addition, PG&E's patrolling practices failed to prevent unacceptable structure and vegetation encroachments along PG&E's gas transmission pipeline rights-of-way.

- In the San Bruno OII and the Records OII, PG&E acknowledged that PG&E's Work Procedure for preparing the clearance form for the Milpitas Terminal electrical work is part of the operations and maintenance procedural manual required by 49 C.F.R. § 192.605. Although oral communications between Gas Control and the individuals doing the work at Milpitas Terminal supplied all the necessary information, the clearance form prepared for the work did not meet the requirements of PG&E's Work Procedure. That amounts to a violation of 49 C.F.R. § 192.13(c), which requires following those procedures.

- In the San Bruno OII, PG&E acknowledged that PG&E did not test personnel at Milpitas for alcohol within the time required by 49 C.F.R. § 199.225.

Any penalty should be directed to safety investment: PG&E acknowledges that a penalty is appropriate. Notwithstanding that any violation is unacceptable – which PG&E does not dispute – the fact is that none of the alleged violations caused or contributed to the tragic San Bruno accident.

PG&E agrees with CPSD's recommendation that whatever penalty the Commission adopts be directed to activities and projects that enhance gas transmission safety. As discussed in Section II.B, the Commission has the discretion under Public Utilities Code Section 701 to adopt the form of penalty that is appropriate under the circumstances. While in some enforcement cases the Commission has chosen to direct such penalties to be paid to the State General Fund, it would not serve the Commission's safety purpose to do so in this case. As CPSD recognizes, it "does not make sense"[12] to pay a penalty to the State General Fund, when

[11] PG&E's description of its transmission network in the Class Location OII identified pipeline that met the Department of Transportation definition for transmission pipe. In other contexts, PG&E refers to its transmission system as all pipeline that operates above 60 psig, which is greater mileage of pipe.

[12] CPSD Remedies OB at 5.

deterrence can as effectively be achieved by having PG&E remedy and improve its gas transmission operations while relieving customers of the cost burden of those actions.

The proposed $2.25 billion penalty is excessive, disproportionate and ignores precedent: The $2.25 billion penalty CPSD recommends is far beyond anything that could be considered proportionate. The constitutional touchstone that must guide the Commission in setting an appropriate penalty is proportionality, not the maximum amount the utility can bear without permanent financial harm.[13] The penalty the Commission adopts in these proceedings must not be grossly disproportionate to the penalties in other accidents. CPSD and Intervenors generally assert that no prior accident compares to San Bruno, and therefore explicitly abandon any adherence to precedent or how their recommended penalty can be viewed in the context of past Commission decisions. This approach leaves the proposed $2.25 billion penalty to be evaluated in isolation, based solely on the parties' own view of the facts and "what PG&E can afford."

We know there are no perfect parallels. There are, however, two gas pipeline accidents that provide the Commission precedents when considering San Bruno. These are the 2000 El Paso Carlsbad, New Mexico accident that led to the passage of the Pipeline Safety Improvement Act of 2002, and the 2011 Allentown, Pennsylvania pipeline rupture and fire. The Carlsbad accident killed 12 people – three generations of a single family. The total penalty in that case was $101.5 million, representing the largest penalty assessed under the federal Pipeline Safety Act. The Allentown accident happened in a residential neighborhood and resulted in five deaths, three serious injuries and eight homes destroyed or significantly damaged. The total penalty in that case was $25.25 million.

PG&E does not suggest that any penalty here be limited to those in the Carlsbad or Allentown accidents. But, the $2.25 billion penalty CPSD proposes is about 90 times the Allentown penalty and more than 20 times the Carlsbad penalty. Under any reasonable definition of "grossly disproportionate," the proposed $2.25 billion is just that.

CPSD bases the recommended penalty amount entirely on a report by Overland Consulting. Overland calculated the $2.25 billion as the "threshold level" of equity it believes PG&E could issue to fund a penalty. Overland's "threshold level" represents a theoretical

[13] Section IV discusses the Commission's traditional penalty factors. As shown there, those factors do not justify a $2.25 billion penalty either.

maximum that it derived through a flawed methodology lacking any grounding in the reality of the equity markets. Among other things Overland took no account of the very substantial amounts of equity PG&E must issue over the next several years to fund ongoing investment in gas and electric infrastructure.[14] There is no basis in law or commission precedent to assess the level of a penalty based on a theoretical "maximum amount a utility can afford."

The amounts that PG&E has already spent and will spend on system safety should be applied to the penalty: Even Overland recognizes that all unrecovered costs need to be financed with its "threshold level" of equity.[15] As detailed in PG&E's May 16, 2013 response to CPSD Director Hagan's request for information, through the end of 2012, PG&E's shareholders have already paid more than $640 million in PSEP expense and capital costs and PG&E forecasts that its shareholders will spend another $610 million on phase I of PSEP.[16] PG&E's shareholders have also paid and are incurring other gas transmission safety-related costs that should be applied to any penalty the Commission orders. Through the end of 2012, these costs totaled more than $260 million for safety-related items such as increased integrity management work, enhanced pipeline and station maintenance, emergency preparedness, pipeline improvements, and leak survey and repair. Over the next several years, PG&E forecasts that its shareholders will spend an additional approximately $700 million for safety-related work, with $500 million of it going to right-of-way management.

Failure to recognize these unrecovered safety-related costs as part of the penalty would send the opposite message on safety from the one the Commission wants to send. If the Commission does not allow recovery of these expenses and also does not consider them part of the total penalty imposed on PG&E, the message is that these investments in safety are not important. PG&E believes these costs are necessary to achieve its goal of making its gas system the safest in the nation.

PG&E is already addressing most remedies proposed by parties: CPSD and Intervenors also propose numerous remedial actions. Cast as "remedies" for violations of law, PG&E does not believe the Commission need adopt any of them both because the violations they purport to remedy were not proven and because PG&E is already taking action to improve in

[14] *See infra* Section IV.D.2.b.

[15] Joint R.T. 1370 (CPSD/Overland).

[16] A copy of PG&E's response, along with General Hagan's request, is attached as Appendix A. *See also*, Section II.A. (table entitled, "Shareholder Funded Gas Transmission Safety-Related Costs").

each of these areas. Nevertheless, PG&E agrees with many of the recommendations CPSD has proposed, which are in large part consistent with actions PG&E is already taking and, as described in Section V, Appendix B and Appendix C, embraces them as operational commitments.

In its opening remedies brief, CPSD reiterates the recommendations previously outlined in its January 12, 2012 report in the San Bruno OII. As described in its June 26, 2012 testimony, PG&E has acted on most of CPSD's San Bruno OII recommendations. The same is true for the recommendations CPSD made in the Class Location OII – PG&E has previously indicated its general agreement with CPSD's proposals and implementation is underway.[17] In its opening remedies brief, CPSD recommends actions in the Records OII. PG&E is in essential agreement with the majority of those recommendations as well, many of which PG&E is already implementing.

If the Commission adopts any of these remedies, CPSD should be granted the authority to adjust parameters, as necessary in practice. Appendix B contains PG&E's response to all proposed remedies, in many instances suggesting revised language that would allow CPSD to audit PG&E's actions. Some of the parties' remedial recommendations are not appropriate or necessary, such as Intervenors' proposal regarding a third-party monitor. In that instance, rather than usurp CPSD's authority and autonomy, PG&E suggests that CPSD conduct audits as it finds reasonable.

* * *

This is the final phase in two-and-a-half years of Commission enforcement proceedings into PG&E's historic gas transmission operations and the September 9, 2010 San Bruno accident. Because these are adjudicatory proceedings, the Commission must act in a judicial capacity and determine – based solely on the evidence in the records before it – first, whether CPSD has proven the violations it alleges, and then, what is an appropriate penalty. The amounts proposed by parties are excessive, disproportionate and ignore precedent. Whatever penalty amount the Commission decides is appropriate, the Commission should apply the amounts that PG&E shareholders have paid and are forecast to pay for gas transmission safety without recovery from customers.

[17] PG&E Class Location OB at 8-11.

II. ALL UNRECOVERED PIPELINE SAFETY COSTS SHOULD BE APPLIED TO ANY PENALTY

PG&E agrees that a penalty is appropriate. As discussed in more detail in Sections III and IV, PG&E strongly disagrees that the $2.25 billion penalty proposed by CPSD is appropriate. Whatever the amount of the penalty, however, the Commission should apply all PG&E's unrecovered gas pipeline safety costs to that penalty.

A. PG&E's Shareholders Have Already Paid And Will Pay More Than $2.2 Billion For Gas Transmission Safety-Related Work Since The San Bruno Accident

PG&E's unrecovered and unrecoverable costs resulting from the San Bruno accident represent a penalty.[18] The CPSD penalty recommendation specifically recognizes that, as do Intervenors' recommendations. As shown in the following chart, PG&E has incurred more than $900 million in shareholder costs to improve its gas transmission system since San Bruno and forecasts an additional $1.3 billion in unrecoverable gas transmission costs in 2013 and beyond.[19]

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[18] Joint Sealed R.T. 1432 (CPSD/Overland); Ex. Joint-66 at 19 (PG&E/Fornell) ("Investors consider non-recovered expenses, non-recoverable capital expenditures and fines all to be 'penalties' for the San Bruno accident."). Ex. Joint-51 (August 21, 2012 report of Overland Consulting) and Ex. Joint-53 (February 8, 2013 rebuttal testimony) represent the joint written testimony of Mr. Lubow and Professor Malko. Mr. Lubow and Professor Malko also were cross-examined together on March 4, 2013. For simplicity, PG&E refers to Overland Consulting, Mr. Lubow and Professor Malko individually and collectively as "Overland." In citing without redaction in the public version of this brief either the sealed (confidential) portion of the transcript ("Joint Sealed R.T.") or exhibits that have been designated as confidential, PG&E is neither disclosing confidential information nor waiving confidentiality protection for any other materials in the sealed portion of the transcript or in confidential exhibits.

[19] *See* Appendix A, May 16, 2013 letter from Anthony F. Earley, Jr. to Brigadier General Emory J. Hagan, III, Director of the Safety and Enforcement Division (formerly the Consumer Protection and Safety Division or CPSD), California Public Utilities Commission, Table 1.

Shareholder Funded Gas Transmission Safety-Related Costs[20]

(In Millions of Dollars)

	2010-2012[21]	2013 and Beyond Forecast (Estimated)[22]	Total
Pipeline Safety Enhancement Plan (PSEP)			
PSEP Expense			
Pipeline Modernization	356.6		
Pipeline Records Integration	215.7		
Valve Automation	0.4		
Interim Safety Measures	2.4		
Other	24.5		
Total PSEP Expense	**$599.5**	**~$300**	
PSEP Capital			
Pipeline Modernization	2.1		
Valve Automation			
Pipeline Records Integration	36.1		
Other	3.0		
Total PSEP Capital	**$41.1**	**~$310**	
Total PSEP	**$640.6**	**~$610**	**$1,250.6**
Gas Accord V Expenses[23]			
Pipeline Integrity Management	63.4		
Pipeline and Station Management	55.1		
Transmission Mark and Locate	3.6		
Right of Way Maintenance	10.4		
Gas Transmission Safety Work	131.7		
Total Gas Accord V	**$264.2**	**~$700**	**$964.2**
Total Shareholder Funded (PSEP and Gas Accord V)			**$2,214.8**

[20] For information regarding the related authorized amounts and a breakdown of shareholder costs by year, *see* Appendix A, Table 1.

[21] The costs listed here all were incurred in 2011 or 2012 except for $20.7 million (of the $131.7 million) in Gas Transmission Safety Work PG&E incurred in 2010, prior to the beginning of the Gas Accord V rate case period. *See* Appendix A, Table 1.

[22] The only shareholder costs shown in this table that extend beyond 2014 relate to Right of Way Maintenance, for which PG&E is forecasting $500 million in 2013 through 2017. *See* Ex. Joint-57 at 13.

[23] These amounts for 2010-2012 differ from those shown in San Bruno Ex. PG&E-1a, Chapter 13, Appendix C (PG&E/Yura) because the amounts in Appendix C did not include all shareholder-funded non-PSEP gas transmission expenses (and were not based on final 2012 amounts).

PSEP-Related Shareholder Costs: All PSEP costs have been or will be used to improve the gas transmission system. The PSEP shareholder costs relate to work completed or to be completed by PG&E to implement the Pipeline Safety Enhancement Plan approved and mandated by D.12-12-030.[24] The unrecovered PSEP expenses in 2011 and 2012 reflect actual costs over and above the amounts authorized for rate recovery. The unrecoverable expenses in 2013 and 2014 are based on forecasts of actual costs less authorized amounts (without any contingency). Similarly, the unrecovered and unrecoverable PSEP capital expenditures represent the amount of spent and forecast capital expenditures over and above the authorized amounts.

The PSEP costs are broken down into the following categories (shown in the table above).

- "Pipeline Modernization" costs (expense and capital) include pipeline replacement, strength testing, and in-line inspections (ILI) and upgrades to make pipelines piggable.

- The Pipeline Records Integration Program (expense and capital) provides for the continuing collection, review, and verification of gas transmission system records and their assembly into a new electronic records management system (the Gas Transmission Asset Management Project).[25] The goal is to provide improved access to detailed pipeline component information for PG&E's gas transmission system.

- "Valve Automation" (expense and capital) represents costs associated with PG&E's valve automation program.

- "Interim Safety Measures" include expense costs for interim safety enhancement measures directed by the Commission including pressure reductions and increased patrols and leak surveying of gas transmission pipelines.

- "Other" costs (expense and capital) include the program management office (PMO) and additional costs necessary to execute PSEP.[26]

Gas Accord V Shareholder Costs: Gas Accord V is PG&E's gas transmission and storage rate case, covering the period 2011 through 2014. In addition to the safety work that is part of the PSEP, PG&E has pursued gas transmission safety work through shareholder spending above the amounts authorized in Gas Accord V and will continue to do so through 2013 and 2014 (the end of the Gas Accord V rate case period). These costs are shown in the bottom half

[24] *Order Instituting Rulemaking*, D.12-12-030, 2012 Cal. PUC LEXIS 600.

[25] *See also infra* Section IV.C.4.c(iii), discussing Project Mariner.

[26] For further detail on the status of PSEP, *see* PG&E's Pipeline Safety Enhancement Plan (PSEP) Compliance Report dated April 30, 2013.

of the table above ("Gas Accord V Expenses"). Although cost increases above authorized amounts between rate cases are borne by shareholders as part of the forecast ratemaking paradigm, the costs PG&E's shareholders incurred, and continue to incur, were unforeseeable and in many cases, a response to heightened regulatory expectations. The following paragraphs describe in more detail these categories of costs.

Through the end of 2012 PG&E has spent substantially more on integrity management work than the amounts adopted in the Gas Accord V rate case. The Pipeline Integrity Management work that PG&E has undertaken includes:

- Industry benchmarking assessment to improve and enhance integrity management processes and implementation of recommended improvements developed from this benchmarking assessment;
- Monthly aerial "reliability" patrols of PG&E's intrastate pipeline system that carries gas supplies into California from the Oregon and Arizona borders;
- Identifying more than 1,600 miles of transmission pipeline to be upgraded to accommodate ILI tools (or "smart pigs") by the end of 2024; and
- Completing analysis of nearly 2,500 additional miles of pipeline for ILI upgrades.

"Pipeline and Station Maintenance Work" is another category in which PG&E has spent much more than adopted in Gas Accord V. PG&E's work in this area includes updating policies and procedures to create specific, standardized procedures for employees to follow during emergencies and conducting a two-year assessment of the accuracy of every critical gas transmission station document (including more than 5,700 drawings and manuals). Based on this document assessment, PG&E has identified the following projects for 2013 and 2014:

- Station Condition Assessment project: Assess the condition of all transmission stations by April 2014;
- Station Critical Document Review project: Generate and update documents to meet the Station Critical Documentation Standard, which defines minimum requirements for the safe and reliable operation of transmission station assets (with 2013 work focusing on addressing compliance-related critical documentation); and
- Station Strength Test Pressure Review project: Review station strength test documentation to ensure that they meet the traceable, verifiable and complete standard and validate maximum allowable operating pressure at the Piping & Instrumentation Diagrams (P&ID) level by the end of 2014 with a focus on Class 3 and 4 and High Consequence Area 1 and 2 stations first.

Another category of spending above the amounts adopted in the Gas Accord V rate case involves improvements to PG&E's gas transmission mark and locate work. "Right of Way Maintenance" expenses for PG&E's "centerline" survey project include (1) conducting a centerline survey of its entire gas transmission pipeline system in 2013 using precise mapping tools with GPS coordinates; (2) locating, staking, and mapping the center of the pipeline and checking the area above the pipeline for any structures or vegetation that could interfere with PG&E's ability to maintain, inspect and safely operate the pipeline; followed by (3) remediation of any such encroachments deemed unacceptable to the safe maintenance and operation of the pipeline. PG&E anticipates these costs will total about $500 million through 2017.[27] Most of PG&E's gas transmission pipelines were installed before the widespread use of GPS. Consequently the location of the pipe within PG&E's right-of-way is only approximate. The centerline survey will improve safety by facilitating ready access to the pipelines for maintenance, testing and monitoring, and allowing PG&E to work more efficiently with first responders. In particular, recording the exact GPS location of the center of a pipeline ultimately will enable PG&E to use state-of-the-art software tools to maintain the pipeline system. This will be important whether personnel are checking pipeline attribute information in a computer system, conducting a leak survey, or patrolling in the field.

Finally, PG&E has spent significantly more than the Gas Accord V adopted amounts on "Gas Transmission Safety Work" including emergency preparedness, pipeline improvements, and leak survey and repair. PG&E's accomplishments to date in this area include:

- Equipping employees with advanced technology and equipment, including gas crew trucks with new safety features and laptop computers to make real-time data and pipeline maps readily accessible to PG&E field personnel;

- Enhancing emergency preparedness and public access to safety information by, among other things, creating public web pages for customers with detailed gas system and safety information, including the location of gas transmission lines; partnering with first responders, community leaders and public safety officials to increase practice drills, training programs, workshops and educational resources (PG&E conducted 411 workshops with first responders in 2012 and is planning an additional 500 workshops in 2013); developing a comprehensive contact list in 2012 for all local first responders; developing a dedicated public safety website, giving first responders online access to valuable pipeline data, including pipeline location, pressure, and other related information; adding six new Mobile Command Center vehicles with the

[27] Ex. Joint-57 at 13.

tools crews need to address emergencies from the field; and introducing a mobile application for use on iPads and iPhones that will allow PG&E employees and first responders to view emergency response materials in the field;

- Introducing and using cutting-edge pipeline survey tools including a new wireless, self-propelled pipeline in-line inspection tool in February 2013 that can detect small pipeline features and anomalies; aerial technology on helicopters to survey the pipeline system, especially in more remote and rugged areas; and rolling out an advanced leak-detection instrument called Detecto Pak-Infrared (DP-IR) that uses infrared technology to pinpoint methane gas without false alarms from other gases and detects and grades leaks at the same time;

- Improving class location verification by conducting annual system-wide review of transmission pipeline class location designations, updating the digitized structural layer based on aerial photography and reviewing the results and finalizing map updates, revising the standards and procedures for pipeline patrolling and continuous surveillance of class locations, implementing new guidelines for aerial patrols and reporting, and increasing and enhancing employee training on all class location procedures and reporting methods; and

- Making a number of improvements to Gas Control, including: implementing new 911 notification procedures to ensure Gas Control immediately calls the appropriate local emergency agency during any incident that may affect public safety, public property or the environment; conducting alarm management training workshops with employees; creating instructions on automated pipeline segment shutdowns and linking to SCADA screens so they are readily available during emergencies; developing and implementing Gas Control Operator best practices and updated clearance processes and training; and co-locating the Transmission Control Center with the Distribution Control Center and Gas Dispatch by mid-2013 to increase system knowledge and situational awareness and facilitate better emergency response coordination. The Control Centers are planned to have sufficient redundancy such that no single point of failure will affect operations. They also incorporate many emergency-related features such as backup power supplies.

As a result of ALJ-274 self-reports of individual incidents, PG&E has pursued comprehensive, system-wide improvements at shareholder cost. These have been included as part of PG&E's spending above the amounts adopted in the Gas Accord V rate case. These improvements include, among others, transmission system-wide quality reviews pertaining to cathodic protection, use of new software for integrity management scheduling, leak survey planning tools, revising work procedures for pipeline proximity reviews for electric transmission towers and mitigation, and enhancing design and review processes for station components.

In addition, as discussed previously and as detailed in Appendix B, PG&E already has completed or is in the process of completing, at shareholder expense, the necessary work to implement many of the NTSB and CPSD's operational recommendations, including:

- revisions to integrity management (Operational Commitments 4.B.2, 4.B.4[28]);
- population of GIS with leak history tracking (4.B.3);
- revision to threat identification and assessment procedures (4.B.6, 4.B.9, 4.B.10, 4.B.12, 4.B.13);
- revisions to risk ranking algorithms (4.B.11, 4.B.12);
- SCADA reevaluations (4.B.16);
- revisions to emergency response procedures and responsibilities (4.B.26, 4.B.28, 4.B.29);
- seven of the 12 NTSB recommendations (4.B.38);
- use of new software for class location information (4.D.1); and
- improvements to patrol procedures (4.D.2, 4.D.3, and 4.D.4).[29]

Costs for these activities are included in the shareholder-funded Gas Accord V expenses shown in the previous chart.

B. The Commission Has The Authority To Apply Unrecovered Gas Safety Costs To Any Penalty

Applying all these shareholder unrecovered and unrecoverable costs to a penalty is within the Commission's discretion. The Commission has the authority to direct penalties under Public Utilities Code Section 2107 toward paying for gas safety projects and activities.[30] Section 701 empowers the Commission to "do all things, whether specifically designated in this part or in addition thereto, which are necessary and convenient in the exercise of such power and jurisdiction."[31] As the California Supreme Court recognized in *Assembly v. Public Utilities Commission*, 12 Cal. 4th 87 (1995), Section 701 authorizes the Commission to shape appropriate

[28] These references correspond to the numbering of CPSD's proposed recommendations. *See* Appendix B.

[29] For more information about these projects or initiatives, *see* Appendix B.

[30] CPSD Remedies OB at 6.

[31] Pub. Util. Code § 701.

remedies so long as the remedy does not contravene "*express* legislative directives and restrictions."[32] The Supreme Court reaffirmed this proposition in *Southern California Edison Co. v. Peevey*, 31 Cal. 4th 781 (2003), stating that, where the Commission has authority under Section 701, only "specific statutory limit[s] on [its] power" bar it from acting.[33] Section 2107, under which CPSD is proceeding here, does not specify the disposition of penalties the Commission assesses. To the contrary, the court of appeal has construed the statute to authorize the Commission to impose penalties on its own authority and without invoking the state's power through the judicial process.[34] As CPSD notes, the Commission enforces the pipeline safety regulations "using its own enforcement mechanisms, such as Public Utilities Code Section 2107 and 2108 or through its injunctive powers."[35]

In contrast to Section 2107, "[s]everal statutes authorizing the imposition of penalties by the Commission under a variety of circumstances *expressly require* that any monies collected pursuant to these provisions be deposited in the General Fund."[36] The express inclusion of this requirement in other provisions of the Code (including other provisions of the chapter of which Section 2107 is part) shows that the Legislature knows how to limit the Commission's discretion when it wants. *See Wells Fargo Bank v. Superior Court*, 53 Cal. 3d 1082, 1096-97 (1991) (where the Legislature has "employed a term in one place and excluded it in another, it should not be implied where excluded"); *see also Russello v. United States*, 464 U.S. 16, 23 (1983) ("[W]here Congress includes particular language in one section of a statute but omits it in another section of the same Act, it is generally presumed that Congress acts intentionally and purposely in the disparate inclusion or exclusion."). There is no requirement that Section 2107 penalties be paid to the General Fund and the Commission has authority under Section 701 to order that they be invested in pipeline safety.

San Bruno's argument to the contrary is incorrect. San Bruno contends that California law is "crystal clear" that all penalties must be paid to the General Fund.[37] For support, it cites

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[32] *Assembly*, 12 Cal. 4th at 103 (emphasis added); *see also Pac. Gas & Elec. Corp. v. Pub. Utils. Comm'n*, 118 Cal. App. 4th 1174, 1199 & n.24 (2004).

[33] *See S. Cal. Edison Co.*, 31 Cal. 4th at 792 (citing *Assembly*, 12 Cal. 4th at 103).

[34] *See Pac. Bell Wireless, LLC (Cingular) v. Pub. Utils. Comm'n*, 140 Cal. App. 4th 718, 735-37 (2006).

[35] CPSD Remedies OB at 36.

[36] *Assembly*, 12 Cal. 4th at 103 n.10 (emphasis added).

[37] San Bruno Remedies OB at 8-9. Despite arguing that the Commission may not direct payment of any penalty to be spent on pipeline safety, San Bruno recommends that the Commission direct PG&E to pay $150 million to

two authorities: Public Utilities Code Section 2104.5 and the *Assembly* case. Section 2104.5 is one of the penalty statutes that expressly requires payment to the General Fund. The language on which San Bruno relies is: "All fines and penalties *recovered by the state in any such action* . . . shall be paid into the State Treasury to the credit of the General Fund."[38] The "action" referred to is defined in an earlier sentence in Section 2104.5 as "a *civil action in the name of the People of the State of California in the superior court*. . . ."[39] Because CPSD's recommendation is a penalty under Section 2107, this is not a case in which the State has recovered fines and penalties through an action in superior court in the name of the People, and Section 2104.5 does not apply.

Nor does the *Assembly* case dictate that penalties for Section 2107 violations must be paid to the General Fund. *Assembly* decided an issue – the Commission's authority to allocate rate refunds – that is not germane here. As San Bruno correctly notes, *Assembly* set aside a Commission order allocating a rate refund because it "was in direct violation of the strict language of section 453.5."[40] Section 453.5 mandates a specific procedure for distributing rate refunds; it does not inform how to construe the Commission's authority to assess penalties under Section 2107.[41] In fact, the *Assembly* court cites Section 2107 as one of "a number of penalty provisions that do not specify the use of the penalty funds. . . ."[42] The *Assembly* court pointed out that the Commission "on occasion has recognized that in accordance with the legislative policy expressed in sections 2100 and 2104, the penalties assessed under these provisions [including 2107] must be deposited in the General Fund."[43] That the Commission has in prior cases ordered penalties to be deposited in the General Fund does not convert an exercise of its discretion into a statutory mandate. Nor does it deprive the Commission of its authority under

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establish a "Peninsula Emergency Response Fund" for the benefit of "cities on the Peninsula in San Mateo County." *Id.* at 50.

[38] Pub. Util. Code § 2104.5 (emphasis added).

[39] Pub. Util. Code § 2104.5 (emphasis added).

[40] San Bruno Remedies OB at 9 n.34.

[41] The *Assembly* case contains broad *dicta*, to which San Bruno apparently refers, that the statutory provisions "require that any penalty be deposited in the General Fund." 12 Cal. 4th at 102-03. Aside from being *dicta*, this statement is qualified as discussed above in the footnote attached to the broad statement. Moreover, the rationale of *Assembly*, as described above, is that Section 701 gives the Commission authority to shape remedies absent "express legislative directives [or] restrictions" limiting that authority. *Id.* at 103. Because Section 2107 is silent as to the use of penalty funds, the Commission has authority under Section 701 to decide this issue.

[42] *Assembly*, 12 Cal. 4th at 103 n.10.

[43] *Assembly*, 12 Cal. 4th at 103 n.10.

Section 701 to fashion an appropriate remedy in what all parties recognize is an important set of cases.

In short, the issue of the form of any penalty assessed under Section 2107 is one committed to the Commission's sound discretion, and as part of its exercise of that discretion, the Commission may apply unrecovered gas safety costs to the penalty. The Commission has the power to assess the penalty without asking the state to invoke the judicial process, and absent express legislative direction to the contrary, the power to assess includes the power to determine the form of the penalty. This proceeding presents several compelling policy reasons for the Commission to direct that any penalties instead be invested in pipeline safety. The unprecedented size of the penalty sought, the overriding public importance of pipeline safety, and the fact that PG&E has finite resources to spend on these projects and activities before rate recovery is required[44] all weigh in favor of directing any penalty to be invested in the system and override an argument for directing payment of penalties to the General Fund.

III. ANY PENALTY MUST BE PROPORTIONATE

While there are no perfect parallels, the Commission cannot legally ignore the penalties assessed in other pipeline accidents. The following table summarizes the penalties in pipeline accidents involving fatalities:

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[44] As CPSD explains:

> Because PG&E only has a finite amount of money, which it can afford to pay for penalties, and its ratepayers would have to pay the remaining amount of dollars required to repair PG&E's natural gas transmission system, the Commission should use its equitable powers to order PG&E to pay for remedies that will ensure that its system will be safe without putting the entire burden on ratepayers.

CPSD Remedies OB at 5. Given this reality, ordering PG&E to pay money to the General Fund "does not make sense" in this case. *Id.*

Utility	Date	Description	Penalty (in millions)	Ratio of $2.25 Billion to Penalty
Olympic Pipeline Co.[45] Bellingham, WA	June 10, 1999	Pipeline rupture and ignition; loss of three lives.	$28.5	79:1
El Paso Corporation Carlsbad, NM[46]	August 19, 2000	Natural gas pipeline rupture and explosion; loss of 12 lives.	$101.5	22:1
Kinder Morgan Energy Partners[47] Walnut Creek, CA	November 9, 2004	Gasoline pipeline explosion after being punctured by backhoe due to failure to properly locate and mark; loss of five lives, four injured.	$41.6[48]	54:1
Public Service Enterprise Group[49] Bergenfield, NJ	December 13, 2005	Pipeline rupture and explosion; loss of three lives, five people hospitalized and an apartment building destroyed.	$0.4	5,625:1

[45] Ex. Joint-66 at 21 (Fig.10) (PG&E/Fornell).

[46] Ex. Joint-66 at 21 (Fig.10) (PG&E/Fornell).

[47] PG&E's Request for Official Notice, Ex. 4 (California Office of the State Fire Marshal, Pipeline Failure Investigation Report (June 20, 2005)); PG&E's Request for Official Notice, Ex. 10 at 26 (Kinder Morgan Energy Partners, L.P., Quarterly Report (Form 10-Q) (Nov. 7, 2007)); PG&E's Request for Official Notice, Ex. 11 at 226 (Kinder Morgan, Inc., Annual Report (Form 10-K) (Mar. 1, 2007)).

[48] This total includes a $15 million criminal and civil settlement with the Contra Costa County District Attorney, a CalOSHA civil fine of approximately $0.1 million, a civil penalty of $0.5 million imposed by the California State Fire Marshal, and an estimated $26 million in remedial costs to comply with a consent agreement with PHMSA stemming from a corrective action order issued in response to several Kinder Morgan pipeline accidents, including the Walnut Creek explosion. *See* PG&E's Request for Official Notice, Ex. 10 at 26 (Kinder Morgan Energy Partners, L.P., Quarterly Report (Form 10-Q) (Nov. 7, 2007)); PG&E's Request for Official Notice, Ex. 11 at 226 (Kinder Morgan, Inc., Annual Report (Form 10-K) (Mar. 1, 2007)).

[49] Ex. Joint-66 at 21 (Fig.10) (PG&E/Fornell). The NTSB reported that the probable cause of the explosion and fire was the failure to protect the line from shifting soil during excavation, which resulted in damage to the line and the release of gas into the building. Ex. Joint-85 (NTSB Pipeline Accident Brief, DCA-06-MP-001, Bergenfield, NJ).

Utility	Date	Description	Penalty (in millions)	Ratio of $2.25 Billion to Penalty
Dominion Peoples Nat. Gas Co.[50] Plum Borough, PA	March 5, 2008	Natural gas pipeline explosion; loss of one life and one serious injury.	$0.1	22,500:1
PG&E Rancho Cordova, CA[51]	December 24, 2008	Gas leak and explosion; loss of one life and five people injured.	$38	59:1
Kleen Energy Plant[52] Middletown, CT	February 7, 2010	Plant explosion during natural gas pipeline purging; loss of six lives and 50 injured.	$16.0	141:1
UGI Corporation Allentown, PA[53]	February 9, 2011	Gas leak and explosion; loss of five lives, three serious injuries, and eight homes destroyed or significantly damaged.	$25.25[54]	89:1

[50] Ex. Joint-66 at 21 (Fig.10) (PG&E/Fornell). The NTSB reported that the probable cause of the leak, explosion and fire was excavation damage to the distribution pipeline that made the pipe susceptible to corrosion and failure. Ex. Joint-84 (NTSB Pipeline Accident Brief, DCA-08-FP-006, Gas explosion, Plum Borough, Pennsylvania).

[51] *Investigation into the Gas Explosion and Fire in Rancho Cordova*, D.11-12-021, 2011 Cal. PUC LEXIS 531; *Investigation into the Gas Explosion and Fire in Rancho Cordova*, D. 11-11-001, 2011 Cal. PUC LEXIS 509.

[52] Ex. Joint-66 at 21 (Fig.10) (PG&E/Fornell). OSHA found workplace safety violations relating to a gas blow operation in which flammable natural gas was pumped under high pressure through new fuel gas lines to remove debris. Ex. Joint-86 (OSHA News Release, Aug. 5, 2010).

[53] PG&E's Request for Official Notice, Ex. 5 at 3-4 (Joint Settlement Petition, *Pa. Pub. Util. Comm'n Bureau of Investigation & Enforcement v. UGI Utils., Inc.* (Oct. 3, 2012)); Ex. Joint-66 at 21 (Fig.10) (PG&E/Fornell).

[54] On January 24, 2013, after the Wells Fargo Report was submitted, the Pennsylvania Public Utilities Commission increased the penalty from $386,000 to $500,000 in approving the settlement as in the public interest. *See* PG&E's Request for Official Notice, Ex. 5 at 35-36 (Opinion and Order, *Pa. Pub. Util. Comm'n Bureau of Investigation & Enforcement v. UGI Utils., Inc.* (Jan. 24, 2013)). In addition to this monetary penalty, the approved settlement requires UGI to implement remedial measures for which it may not seek rate recovery for two years. *See* PG&E's Request for Official Notice, Ex. 5 at 10 (Joint Settlement Petition, *Pa. Pub. Util. Comm'n Bureau of Investigation & Enforcement v. UGI Utils., Inc.* (Oct. 3, 2012)). UGI estimates that these measures will cost shareholders $24.75 million. *See id.* Appendix A at 5 (Bureau of Investigation and Enforcement Statement in Support of Joint Settlement Petition). Thus, the total estimated penalty is $25.25 million.

As this table shows, the proposed $2.25 billion penalty ranges from a high of 22,500 to a low of 21 times the penalty assessed in any of these prior fatal pipeline accidents. The California Constitution prohibits "excessive fines." Cal. Const. art. I, § 17. This prohibition aims to limit the state's power to punish and therefore imposes a substantive constitutional limit on the state's power to extract civil penalties. *Austin v. United States*, 509 U.S. 602, 609-10 (1993); *People ex rel. Lockyer v. R.J. Reynolds Tobacco Co.*, 37 Cal. 4th 707, 726-32 (2006) (reversing imposition of a $14.8 million civil penalty because triable issues of fact existed as to whether the penalty violated the state and federal Excessive Fines Clauses); *see also Investigation of S. Cal. Edison Co.*, D.04-04-065, 2004 Cal. PUC LEXIS 207, at *65 (acknowledging that excessive fines limitations circumscribe the Commission's authority to impose penalties on utilities). Similarly, due process requires the invalidation of "oppressive" or "unreasonable" statutory penalties.[55] Cal. Const. art. I, § 7(a). When assessing the constitutionality of civil penalties, the limitations imposed by the Excessive Fines and Due Process Clauses are coextensive.[56]

The "'touchstone of the constitutional inquiry under the Excessive Fines Clause is the principle of proportionality.'"[57] In conducting this proportionality inquiry, courts examine three general criteria: (1) the defendant's culpability; (2) the relationship between the penalty and the harm; and (3) "the sanctions imposed in other cases for comparable misconduct."[58] The first two of these constitutional criteria overlap with factors the Commission considers when determining penalties and are addressed in Section IV below. PG&E separately addresses here the third constitutional criterion because, although the Commission has an analogous factor, the parties misapply it in a manner that the Constitution forbids.

The constitutional imperative to consider comparable cases is not satisfied by merely addressing prior Commission decisions. Cases and statutes from other jurisdictions must also be taken into account. *See BMW of N. Am., Inc. v. Gore*, 517 U.S. 559, 583-84 (1996) (examining the sanctions authorized in numerous different states in determining that an Alabama jury verdict

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[55] *Hale v. Morgan*, 22 Cal. 3d 388, 399 (1978).

[56] *R.J. Reynolds*, 37 Cal. 4th at 728. Thus, by addressing the excessiveness of the proposed penalties primarily through an excessive fines rubric, PG&E does not waive, and expressly preserves, the contention that the proposed penalties are also oppressive and arbitrary in violation of due process. Cal. Const., art. I, § 7(a). Moreover, because the analysis is the same, due process and excessive fines precedents may be cited interchangeably in this context. *See id.* at 728-31 (applying *Hale* and *Walsh v. Kirby*, 13 Cal. 3d 95 (1974), both due process cases, in assessing a civil penalty under the Excessive Fines Clause).

[57] *R.J. Reynolds*, 37 Cal. 4th at 728 (quoting *United States v. Bajakajian*, 524 U.S. 321, 334 (1998)).

[58] *Cooper Indus., Inc. v. Leatherman Tool Grp., Inc.*, 532 U.S. 424, 434 (2001).

was excessive); *Hale*, 22 Cal. 3d at 403 (finding it constitutionally "significant" that no other state appeared to authorize a penalty as severe as California for similar conduct).

CPSD and the Intervenors agree, at least in principle, that the Commission should consider "precedential cases in setting the penalty level."[59] With exceptions noted below, however, they confine their comparisons to prior Commission decisions. To be sure, language in the Commission's decision D.98-12-075 placed emphasis on the role of the Commission's own precedent in the penalty analysis.[60] Regardless, the Constitution mandates a broader review.

CPSD cites the Commission's decision concerning the Rancho Cordova accident.[61] CPSD discounts the comparison because the Rancho Cordova accident was not comparable "in size, scope or severity."[62] CPSD also looks to Commission decisions in the Edison PBR fraud OII and the PacBell Wireless OII, but finds those comparisons unsatisfactory because "none of these cases involved deaths or severe damage to property."[63] For the most part, Intervenors similarly confine their inquiry to prior Commission decisions.[64] Finding none they deem comparable, they urge the Commission to move past this criterion and focus on other factors.[65]

The efforts to direct the Commission's attention away from comparable penalty cases in other jurisdictions should raise a red flag. The greater the disparity between the threatened sanction here and those imposed in comparable cases, the more this criterion indicates constitutional excessiveness. *See Gore*, 517 U.S. at 584 ("Moreover, at the time BMW's policy was first challenged, there does not appear to have been any judicial decision in Alabama or

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[59] CPSD Remedies OB at 56; DRA Remedies OB at 18; San Bruno Remedies OB at 37-40.

[60] *See Rulemaking re Enforcement of the Standards of Conduct Governing Relationships Between Energy Utilities and their Affiliates*, D.98-12-075, 1998 Cal. PUC LEXIS 1016, at *59-60.

[61] CPSD Remedies OB at 56-57.

[62] CPSD Remedies OB at 56.

[63] CPSD Remedies OB at 57. CPSD compares the San Bruno accident to just one matter outside of the Commission's jurisdiction, the BP Oil Spill. CPSD acknowledges that the circumstances of that accident "differ in many ways" from the San Bruno accident and thus cautions the Commission in making comparisons. CPSD Remedies OB at 57. Indeed, the BP oil well blowout polluted much of the U.S. Gulf coast and the $4 billion criminal plea bargain amounted to about one-third of BP's 2012 net after-tax income. The proposed $2.25 billion penalty against PG&E amounts to 2.7 times PG&E's entire 2012 net after-tax income. A penalty representing the same percentage of PG&E's net after-tax income as the BP penalty relative to BP's net income would be a little more than $275 million.

[64] *See* DRA Remedies OB at 35 (addressing only the Rancho Cordova accident); CCSF Remedies OB at 7-8 (summarily concluding there are no comparable cases). The City of San Bruno and TURN also focus on past Commission decisions, but go farther and respond to PG&E testimony discussing six natural gas pipeline explosions. *See* TURN Remedies OB at 29-30; San Bruno Remedies OB at 39-40.

[65] CCSF Remedies OB at 7-8; DRA Remedies OB at 35.

elsewhere indicating that application of that policy might give rise to such severe punishment."). TURN, for instance, points to five Commission decisions "above $20 million" as an illustration "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."[66] Putting aside the fact that one of those five cases (Rancho Cordova) involved a fatality, the argument highlights the excessiveness problem. Penalties of $2.25 billion are more than 100 times penalties "above $20 million."[67] It would be one thing to justify a penalty twice what the Commission had imposed before on the grounds that the severity of the offense was without precedent. When, however, the proposed penalty is of a magnitude 100 times the Commission's other large penalty cases, the Commission has to ask whether the penalty lacks reasonable proportion to what has been done before. Given that CPSD and Intervenors assert there has been no prior Commission enforcement action of comparable magnitude to these three OII proceedings, it is particularly important for the Commission to consider penalties imposed by courts and other enforcement agencies in connection with natural gas pipeline accidents in other jurisdictions.

In evaluating the proportionality of any penalty, the Commission should look primarily to other cases involving fatal natural gas pipeline accidents because they provide "reasonably comparable factual circumstances."[68] From the table above, the two most comparable are the natural gas pipeline rupture and fire near Carlsbad, New Mexico in August 2000, and the 2011 Allentown gas line rupture and explosion. The Carlsbad accident was one of two (the 1999 Olympic Pipeline accident being the other) that led to the passage of the Pipeline Safety Improvement Act of 2002 that required pipeline operators to establish integrity management programs.[69] There, a 30-inch outside diameter, grade X52 pipe installed in 1950 ruptured, killing

[66] TURN Remedies OB at 29-30.

[67] The largest safety-related penalty the Commission has ever imposed was $38 million in the Rancho Cordova case. CPSD's proposed penalty here is approximately 60 times greater.

[68] *Investigation of S. Cal. Edison Co.*, D.04-04-065, 2004 Cal. PUC LEXIS 207, at *64.

[69] The factual details set forth here are drawn from the NTSB's report. *See* PG&E's Request for Official Notice, Ex. 1 (NTSB, Pipeline Accident Report: Natural Gas Pipeline Rupture and Fire Near Carlsbad, New Mexico, August 19, 2000 (Feb. 11, 2003)).

12 members of an extended family camping near a bridge that supported the pipeline.[70] The accident also caused approximately $1 million property damage to nearby steel suspension bridges.[71] The NTSB investigated and found that the pipe ruptured because of severe internal corrosion that caused a reduction in pipe wall thickness to the point that the remaining metal could no longer withstand pressure within the pipe.[72] The NTSB made numerous findings about inadequacies in El Paso's gas safety program, including its failure to have "in place an internal corrosion control program that was adequate to identify or mitigate the internal corrosion that was occurring in its pipelines."[73]

No comparison will be perfect, and in drawing a comparison to the Carlsbad accident PG&E does not in any way wish to minimize the severity of the harm caused by either the San Bruno or the Carlsbad accidents. Nonetheless, what makes the Carlsbad accident an apt comparator is that it approximates the San Bruno accident in what CPSD terms "size, scope [and] severity."[74] There, as here, there was a rupture of 30-inch transmission pipe installed more than 50 years ago. There, 12 people died as a direct result of the rupture and ensuing fire. And, while PG&E disagrees with CPSD's allegations that deficiencies in PG&E gas operations contributed to the San Bruno accident, if true that fact only draws tighter the comparison to the Carlsbad accident. In the case of the Carlsbad accident, the NTSB's probable cause determination indicated that the severe corrosion had occurred because the operator's "corrosion control program failed to prevent, detect, or control internal corrosion within the company's pipeline."[75] Without mentioning the Carlsbad accident, DRA contends this proceeding is exceptional because PG&E did not "know where its gas pipelines were located, how they were

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[70] PG&E's Request for Official Notice, Ex. 1 at 1, 16 (NTSB, Pipeline Accident Report: Natural Gas Pipeline Rupture and Fire Near Carlsbad, New Mexico, August 19, 2000 (Feb. 11, 2003)).; Consent Decree at 1, *United States v. El Paso Natural Gas Co.* No. Civ. 07-715 (D. N.M. Oct. 5, 2007), *available at* http://primis.phmsa.dot.gov/comm/reports/enforce/documents/420011004/420011004_Final%20Consent%20Decree_10052007.pdf .

[71] PG&E's Request for Official Notice, Ex. 1 at 1 (NTSB, Pipeline Accident Report: Natural Gas Pipeline Rupture and Fire Near Carlsbad, New Mexico, August 19, 2000 (Feb. 11, 2003)).

[72] PG&E's Request for Official Notice, Ex. 1 at 49 (NTSB, Pipeline Accident Report: Natural Gas Pipeline Rupture and Fire Near Carlsbad, New Mexico, August 19, 2000 (Feb. 11, 2003)).

[73] PG&E's Request for Official Notice, Ex. 1 at 49 (NTSB, Pipeline Accident Report: Natural Gas Pipeline Rupture and Fire Near Carlsbad, New Mexico, August 19, 2000 (Feb. 11, 2003)).

[74] CPSD Remedies OB at 56 (opining that "there is one case [Rancho Cordova] that is similar, although not comparable in size, scope, or severity").

[75] PG&E's Request for Official Notice, Ex. 1 at 50 (NTSB, Pipeline Accident Report: Natural Gas Pipeline Rupture and Fire Near Carlsbad, New Mexico, August 19, 2000 (Feb. 11, 2003)).

constructed, or what condition they were in."[76] Again, the allegations are unproven, but even assuming their truth they do not materially differentiate the allegations made in the Carlsbad accident. There, the NTSB determined that the operator had "[v]ery little useful information concerning what was entering the pipeline, where it was entering, and what materials were accumulating in the pipeline."[77] Among other things, the operator had experienced an internal corrosion rupture in 1996 and undertaken a metallurgical study, but did not take additional steps to determine "if similar conditions existed in other pipelines."[78] DRA maintains that "[n]othing compares" to the violations alleged here, "many committed over a fifty year time frame."[79] But again, the deficiencies cited by the NTSB in its Carlsbad accident report did not arise overnight. Safety concerns included the design and construction of the pipe – which was installed in 1950 – and the adequacy of company's internal corrosion control program dating back many years.

The parallels between the Carlsbad and San Bruno accidents do not end there. CPSD writes in its brief that the "Commission itself must recognize its contribution to the lax safety culture, at least prior to the Rancho Cordova OII proceeding. . ."[80] CPSD is quick to emphasize this is not a mitigating fact, but even so it is a fact that finds parallel in the NTSB's Carlsbad accident report. The NTSB determined that a contributing cause of the Carlsbad accident was "ineffective Federal preaccident inspections" of the operator.[81] In the case of the Carlsbad accident, the NTSB's accident report recommended changes to federal safety regulations for natural gas pipelines. In fact, the Carlsbad accident, together with the Bellingham accident, led to legislative and regulatory changes that affected the entire natural gas industry – specifically, the adoption of Integrity Management rules. Similarly here, the NTSB's report of the San Bruno

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[76] DRA Remedies OB at 35.

[77] PG&E's Request for Official Notice, Ex. 1 at 44 (NTSB, Pipeline Accident Report: Natural Gas Pipeline Rupture and Fire Near Carlsbad, New Mexico, August 19, 2000 (Feb. 11, 2003)).

[78] PG&E's Request for Official Notice, Ex. 1 at 49 (NTSB, Pipeline Accident Report: Natural Gas Pipeline Rupture and Fire Near Carlsbad, New Mexico, August 19, 2000 (Feb. 11, 2003)). CPSD maintains that PG&E's failure to keep traceable, verifiable and complete records "in such a systemic and widespread fashion is unprecedented." CPSD Remedies OB at 58. It submitted no testimony about industry practices in this regard, and does not identify what records it deems subject to a traceable, verifiable and complete records requirement. What testimony exists in the record confirms that the entire natural gas industry has struggled to meet the traceable, verifiable and complete requirement. *See* Records Ex. PG&E-61 at 1-12 to 1-14 (PG&E/Howe).

[79] DRA Remedies OB at 35.

[80] CPSD Remedies OB at 34. DRA similarly writes: "The Commission is clearly at fault with regard to its lax oversight of PG&E's recordkeeping practices." DRA Remedies OB at 13.

[81] PG&E's Request for Official Notice, Ex. 1 at 50 (NTSB, Pipeline Accident Report: Natural Gas Pipeline Rupture and Fire Near Carlsbad, New Mexico, August 19, 2000 (Feb. 11, 2003)).

accident questioned the adequacy of federal safety regulations, including the grandfather clause.[82] As was true in the case of the Carlsbad accident, San Bruno and other accidents have led to statutory and regulatory changes affecting how, among other things, MAOP is determined. These changes affect all operators in California, and, at a federal level, will affect the entire natural gas transmission industry.

In 2007, a U.S. District Court entered a consent decree in which El Paso Natural Gas Company agreed to pay $101.5 million – consisting of a $15.5 million civil penalty and $86 million to implement program improvements.[83] The penalties and other relief remain the largest combined penalties for a natural gas transmission pipeline accident.[84] CPSD's proposed penalty of $2.25 billion is approximately 20 times the penalty and other relief imposed for the Carlsbad accident. Claims by DRA and others that no other prior cases raise the kind of programmatic deficiencies that have been alleged here are untrue. The NTSB determined that the causes of the Carlsbad accident were programmatic failings (indeed they led the NTSB to recommend, and Congress and PHMSA to adopt, the TIMP rules). The complaint filed concurrently with the settlement agreement alleged that the operator failed to employ personnel qualified in corrosion control methods, failed to investigate and mitigate internal corrosion in two of its pipelines transporting corrosive gas, and failed to suitably monitor those pipelines to determine the effectiveness of steps taken to minimize internal corrosion.[85] The consent decree required the operator to implement "widespread and comprehensive modifications of its natural gas pipeline system.[86]

CPSD does not address the Carlsbad accident, and thus does not acknowledge these and other parallels between the two accidents. The City of San Bruno acknowledges that the Carlsbad accident also involved a large diameter natural gas transmission pipe, but does not

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[82] San Bruno Ex. CPSD-9 (NTSB Report) at 129.

[83] Ex. Joint-66 at 21 (Fig.10) (PG&E/Fornell); *see also* Consent Decree, *United States v. El Paso Natural Gas Co.,* No. Civ. 07-715 (D.N.M. Oct. 5, 2007), *available at* http://primis.phmsa.dot.gov/comm/reports/enforce/documents/420011004/ 420011004_Final%20Consent%20Decree_10052007.pdf.

[84] Ex. Joint-66 at 21 (Fig.10) (PG&E/Fornell).

[85] PG&E's Request for Official Notice, Ex. 9 at 6, 8, 9 (Complaint, *United States v. El Paso Natural Gas Co.*, No. Civ. 07-715 (D. N.M. July 26, 2007)).

[86] Consent Decree, *United States v. El Paso Natural Gas Co.,* No. Civ. 07-715 (D. N.M. Oct. 5, 2007), *available at* http://primis.phmsa.dot.gov/comm/reports/enforce/documents/420011004/420011004_Final%20Consent%20Decree_10052007.pdf.

address other similar facts and circumstances.[87] It articulates a single distinguishing fact: The Carlsbad accident occurred in a "different, rural area."[88] But that fact, which is dissimilar, does not lessen the fact that 12 people lost their lives in the Carlsbad accident. And, this dissimilarity does not justify the imposition of a penalty 20 times the Carlsbad penalty, especially when so many similarities exist between the circumstances of that accident and the allegations here.

Another case of reasonably comparable "size, scope and severity" is the February 9, 2011 natural gas explosion in Allentown, Pennsylvania. The explosion and fire in that case killed five people, seriously injured three others, and destroyed eight homes in a residential neighborhood.[89] The explosion occurred when a 12-inch cast-iron natural gas main circumferentially fractured.[90] The Pennsylvania PUC enforcement staff agreed to settle its complaint, which alleged numerous ongoing violations of law, for a $386,000 civil penalty and agreed-upon remedial actions.[91] These included the gas utility accelerating its replacement program for cast-iron mains from 50 to 14 years.[92] The utility agreed not to seek rate recovery for these remedial measures for two years, which it estimated would cost an additional $24.75 million.[93] In their Joint Motion seeking, among other things, to increase the penalty from $386,000 to $500,000 the Chairman and Vice Chairman of the Pennsylvania PUC stated:

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[87] San Bruno Remedies OB at 40. The City of San Bruno also argues "PG&E's own witness [Mr. Fornell] disavowed each of the 'precedent penalties' within his own report when he stated that the above listed matters were 'very different circumstances.'" San Bruno Remedies OB at 39. That misstates the record. The City of San Bruno questioned Mr. Fornell about four of the six accidents described in Figure 10 of his report, but it did not question him about the Carlsbad accident. Joint R.T. 1575-85 (PG&E/Fornell). The City of San Bruno also exaggerates the significance of Mr. Fornell's statement. He did not elaborate in what ways he believed those four examples to be "very different circumstances." He could have been referring to innumerable differences that do not matter for purposes of constitutional proportionality analysis, and thus his statement sheds no light on that analysis. Indeed, both the Carlsbad and Allentown accidents are reasonably comparable along the dimensions CPSD identifies as most critical: size, scope, and severity. San Bruno's counsel did not question Mr. Fornell about Carlsbad at all and only asked about the statutory penalty cap applicable to Allentown.

[88] San Bruno Remedies OB at 40.

[89] PG&E's Request for Official Notice, Ex. 5 at 3-4 (Joint Settlement Petition, *Pa. Pub. Util. Comm'n, Bureau of Investigation & Enforcement v. UGI Utils., Inc.* (Oct. 3, 2012)); Ex. Joint-66 at 21 (Fig.10) (PG&E/Fornell).

[90] PG&E's Request for Official Notice, Ex. 5 at 3 (Joint Settlement Petition, *Pa. Pub. Util. Comm'n, Bureau of Investigation & Enforcement v. UGI Utils., Inc.* (Oct. 3, 2012)).

[91] PG&E's Request for Official Notice, Ex. 5 at 9-10 (Joint Settlement Petition, *Pa. Pub. Util. Comm'n, Bureau of Investigation & Enforcement v. UGI Utils., Inc.* (Oct. 3, 2012)).

[92] PG&E's Request for Official Notice, Ex. 5 at 9 (Joint Settlement Petition, *Pa. Pub. Util. Comm'n, Bureau of Investigation & Enforcement v. UGI Utils., Inc.* (Oct. 3, 2012)).

[93] PG&E's Request for Official Notice, Ex. 5 at 10 (Joint Settlement Petition, *Pa. Pub. Util. Comm'n, Bureau of Investigation & Enforcement v. UGI Utils., Inc.* (Oct. 3, 2012)); *see also id.* Appendix A at 5 (Bureau of Investigation and Enforcement Statement in Support of Joint Settlement Petition).

> [W]e want to emphasize that UGI's compliance history related to gas safety issues is patently unacceptable. This is the eighth time in slightly more than four years that this Commission has adjudicated a matter containing allegations of gas safety violations by a UGI-owned gas distribution utility. This goes beyond cause for concern; it is downright alarming.[94]

The Pennsylvania PUC approved the Joint Motion 5-0, thereby increasing the civil penalty to the statutory maximum of $500,000.[95]

At the time of the Allentown accident the statutory maximum per accident civil penalty in Pennsylvania was $500,000. *See Hale*, 22 Cal. 3d at 403 (finding it "significant" that the penalty at issue was harsher than that authorized in other states). In light of the Allentown accident, the Pennsylvania Legislature considered this maximum to be inadequate and increased the maximum statutory per accident civil penalty for utility safety violations to $2 million.[96] Similarly, at the time of the San Bruno accident, federal law capped civil administrative penalties for "a related series" of pipeline safety violations at $1 million.[97] Last year Congress raised the cap to $2 million.[98] CPSD's proposed penalty is 1,125 times the statutory cap fixed by Congress and the Pennsylvania Legislature **after** the San Bruno and Allentown accidents, 2,250 times the federal cap at the time of the accidents, and 4,500 times Pennsylvania's cap at the time of the Allentown accident. The Constitution forbids such extreme disparities.

While the Allentown and San Bruno accidents share many similarities, the amount of the penalty imposed there and the recommended penalty here bear no similarity at all. Including the estimated cost of the Allentown utility's remedial measures, the total penalty in Allentown was

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[94] PG&E's Request for Official Notice, Ex. 7 at 1-2 (Joint Motion of Chairman Robert F. Powelson and Vice Chairman John F. Coleman, Jr., *Pa. Pub. Util. Comm'n, Bureau of Investigation & Enforcement v. UGI Utils., Inc.* (Jan. 24, 2013)).

[95] PG&E's Request for Official Notice, Ex. 6 at 35-36 (Opinion and Order, *Pa. Pub. Util. Comm'n, Bureau of Investigation & Enforcement v. UGI Utils., Inc.* (Jan. 24, 2013)).

[96] Ex. Joint-87 (2011 Pa. House Bill No. 1294).

[97] 49 U.S.C. § 60122 (2006). The federal Pipeline Safety Act (PSA), 49 U.S.C. § 60101 *et seq.*, itself acts as a constraint on the Commission's exercise of its authority to enforce gas safety standards through injunctive relief and civil penalties. The PSA provides, among other things, that states shall certify that they enforce safety standards "under a law of the State by injunctive relief and civil penalties *substantially the same* as provided [in the PSA]." 49 U.S.C. § 60105(b)(7) (emphasis added). The maximum civil administrative penalties allowed by the PSA for violations occurring prior to January 3, 2012, were $100,000 per violation per day, except that the "maximum civil penalty may not exceed $1,000,000 for any related series of violations." 49 U.S.C. § 60122 (2006).

[98] Pipeline Safety, Regulatory Certainty, and Job Creation Act of 2011, Pub L. No. 112-90, § 2, 105 Stat. 1904, 1905 (2012) (amending 49 U.S.C. § 60122).

$25.25 million.[99] CPSD's recommended penalty is about 90 times larger.[100] There is no persuasive or constitutionally sufficient justification for punishing PG&E 90 times what UGI was punished for Allentown. The assertion by CPSD and others that PG&E knew about its deficiencies, and that those deficiencies extend back decades, are not true, as the evidence showed. But even if they were, they are not distinguishing. In the decades prior to the February 2011 accident, UGI had experienced significant safety problems with its cast-iron main system. In 1976, a break in one of its cast-iron mains, also in Allentown, caused an explosion that killed two firemen, injured 14 people, and destroyed four buildings.[101] In response, the NTSB issued safety recommendations that the utility should revise its emergency response plans and expedite development of techniques for identifying sinkholes near its cast-iron mains.[102] In 1990, another one of the utility's cast-iron mains in Allentown failed, causing an explosion that killed one person, injured nine (including two firefighters), destroyed two homes, and damaged others.[103] The NTSB issued several safety recommendations in response, including that the utility implement a cast-iron replacement program.[104] The Pennsylvania PUC staff pointed to these prior explosions involving cast iron mains in its complaint, indicating they provided "ample warning signs regarding the integrity of its cast-iron mains in the Allentown area."[105]

To be clear, PG&E does not advocate that the Commission treat PG&E precisely the same as the pipeline operators in Carlsbad or Allentown. The Constitution does not require that kind of exactitude and the Commission may conclude that the strength of the factual comparisons does not warrant it. Nevertheless, these prior accident cases share enough similarities to raise constitutional concerns about the proportionality of the proposed penalties CPSD and others advocate here.[106] CPSD's proposal is 20 times the amount of the penalty in

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[99] This total includes a $500,000 penalty and estimated $24.75 million in remedial measures for which the utility may not seek rate recovery. *See supra* note 48.

[100] Had the post-accident increased penalty cap been in effect, the total penalty in Allentown would have been $26.75 million. The CPSD proposed penalty is still 84 times that amount.

[101] PG&E's Request for Official Notice, Ex. 3 at 1 (NTSB, Safety Recommendations to UGI Corp. (June 8, 1977)).

[102] PG&E's Request for Official Notice, Ex. 3 at 2 (NTSB, Safety Recommendations to UGI Corp. (June 8, 1977)).

[103] PG&E's Request for Official Notice, Ex. 3 at 1 (NTSB, Pipeline Accident Brief No. DCA90FP001 (Aug. 6, 1991)).

[104] PG&E's Request for Official Notice, Ex. 2 at 3 (NTSB, Pipeline Accident Brief No. DCA90FP001 (Aug. 6, 1991)).

[105] PG&E's Request for Official Notice, Ex. 8 at 8-10 (Formal Complaint, *Pa. Pub. Util. Comm'n Bureau of Investigation & Enforcement v. UGI Utils., Inc.* (June 11, 2012)).

[106] *Cooper Indus.*, 532 U.S. at 435.

Carlsbad and nearly 90 times the penalty in Allentown. Both of those accidents were large in their scope and severity and both involved the same kinds of elements that CPSD asserts exist here, *e.g.*, programmatic deficiencies, and utility notice of similar prior deficiencies.

IV. APPLICATION OF THE COMMISSION'S TRADITIONAL FACTORS DOES NOT SUPPORT THE PROPOSED PENALTY AMOUNT

Under its traditional approach, the Commission takes into account all factors identified in Public Utilities Code Section 2104.5 and D.98-12-075 in determining the appropriate penalty.[107] Stated generally, these factors are

- the severity of the offense;
- the good faith of the utility in attempting to achieve compliance (including the conduct of the utility before, during and after the offense to prevent, detect, disclose and rectify a violation);
- the size of the business (including its financial resources);
- the totality of circumstances in furtherance of the public interest; and
- the role of precedent.

CPSD and Intervenors discuss these factors, but do not address PG&E's good faith efforts to enhance the safety of its gas transmission system after the accident. As discussed below, balanced consideration of these factors shows that they do not support the proposed $2.25 billion penalty.

A. Severity Of The Offense

There is no question that the San Bruno accident was horrific and severe. PG&E deeply regrets the accident and the loss of life and human suffering the accident caused. However, when the Commission considers the severity of the harm, the correct focus is on the nature of the violations. CPSD failed to prove most of its alleged violations, thus the basis for the sizeable proposed penalty is lacking from the outset. PG&E will not reiterate here the substantial record evidence refuting CPSD's allegations, as PG&E's discussion and citation to supporting testimony and evidence in its merits briefing thoroughly demonstrated this conclusion. As a

[107] *See, e.g., Investigation into the Gas Explosion and Fire in Rancho Cordova*, D.11-11-001, 2011 Cal. PUC LEXIS 509, at *51-53; Res. ALJ-277, at 14 (April 19, 2012).

result, the evidence shows that the unprecedented penalty CPSD proposes is not justified by the violations it has established.

Nonetheless, without citing the evidentiary record, CPSD and Intervenors make many misstatements about the facts and evidence regarding PG&E's conduct. For instance, CPSD alleges PG&E intentionally designed Segment 180 to be constructed from substandard pipe, requisitioned pipe that did not meet any standard for transmission pipeline, knowingly installed short pup sections with glaring long seam defects, haphazardly fabricated the girth welds that joined the pups together, then covered the pipe with dirt and turned a blind eye to the potential for the defective pipe to rupture in an effort to save money.[108] Such inflammatory assertions are not based on one shred of evidence. In fact, CPSD contradicts its own claim by asserting that PG&E's lack of knowledge of the defective pups supports a large penalty.[109] Contrary to CPSD's claim, the evidence demonstrates that PG&E was not aware of the presence of the defective pups in Segment 180 at any time prior to the rupture. David Harrison, a PG&E engineer with many years of experience in pipeline engineering and construction, explained that the pups most likely were delivered to the 1956 job site as part of an already-welded and wrapped 30- or 60-foot length of pipe.[110] The Segment 180 construction drawings were sufficiently detailed to show other applications of short lengths of pipe, such as the pieces used to tie in Segment 180 to the existing sections of Line 132 to the north and south. The absence of the pups on the construction drawings reinforces the conclusion that PG&E was unaware of the presence of the pups.[111] The external wrapping would have obscured indications that the longer length was comprised of short pups.[112] Defects on the internal longitudinal seam would not have been visible unless they were located at either end of the longer joint. There was no indication that this particular 30- or 60-foot length of pipe (itself part of an 1,800 foot construction project) was anything other than new, 30-inch diameter, X52 DSAW pipe, the type specified and

[108] CPSD Remedies OB at 2-3.

[109] CPSD Remedies OB at 2.

[110] San Bruno Ex. PG&E-1 at 2-1 (PG&E/Harrison); Joint R.T. 342-44 (PG&E/Harrison).

[111] Joint R.T. 325 (PG&E/Harrison).

[112] Joint R.T. 536-38 (PG&E/Harrison).

requisitioned for the construction of Segment 180,[113] and confirmed to have been installed in the remaining length of Segment 180 during a post-rupture camera inspection.[114]

Further, CPSD misstates the evidence relating to its integrity management allegations. CPSD asserts that PG&E "ignor[ed] the category of DSAW as one of the weld types potentially subject to manufacturing defects . . . in violation of 49 C.F.R. Part 192.917(e)(3)."[115] Contrary to CPSD's suggestion that PG&E intentionally disregarded an integrity management obligation, the record shows that there is no requirement in 49 C.F.R. § 192.917(e)(3) that operators consider DSAW pipe as potentially subject to a manufacturing threat. In fact, CPSD's characterization of the regulatory requirement ignores testimony from John Zurcher, a respected gas pipeline industry veteran and drafter of the ASME B31.8S integrity management standard, that DSAW was not considered to be subject to potential manufacturing threats.[116] Similarly, CPSD's allegations regarding cyclic fatigue assume (incorrectly) that operators must conduct a fatigue analysis on a segment-by-segment basis in order to eliminate the threat.[117] CPSD does not address the research and testimony of Dr. John Kiefner, an unquestioned leader in the field of pipeline cyclic fatigue, showing that PG&E's consideration of cyclic fatigue, and the conclusion that cyclic fatigue did not pose a threat to pipe in PG&E's system, was consistent with industry knowledge[118] (and approved by CPSD during two integrity management program audits)[119] prior to San Bruno.

CPSD also misstates the facts and circumstances surrounding violations alleged in the Records OII. For example, CPSD asserts that "[t]he best available evidence now remaining, strongly suggests that the pipe that failed was salvaged and possibly junked, but then reused."[120] This is contrary to the testimony and records from the Segment 180 job file that demonstrate the use of new pipe,[121] and the lack of any indication in the job file that the pipe used to construct

[113] Joint R.T. 379, 389, 393 (PG&E/Harrison).
[114] San Bruno Ex. CPSD-9 (NTSB Report) at 71.
[115] CPSD Remedies OB at 10.
[116] Joint R.T. 673 (PG&E/Zurcher); Joint R.T. 967-69 (PG&E/Keas).
[117] CPSD Remedies OB at 10.
[118] San Bruno R.T. 716-17 (PG&E/Kiefner).
[119] San Bruno Ex. PG&E-7 (Tabs 4-13, 4-25).
[120] CPSD Remedies OB at 15.
[121] Joint R.T. 389 (PG&E/Harrison).

Segment 180 was reused.[122] CPSD also attempts to link the failed section of pipe to the reuse of a 90-foot length of Line 132 installed in 1948 across the San Bruno Creek canyon,[123] despite a camera inspection (performed at CPSD's direction) and hearing testimony that confirmed the pipe that spanned the canyon was not reused, but is instead abandoned in place, where it remains today under 30 to 40 feet of dirt.[124]

There are many more inaccurate assertions and mischaracterizations of evidence in CPSD and Intervenors' opening remedies briefs, which taken together suggest that PG&E actively avoided its pipeline safety obligations and intentionally ignored the flashing lights and exclamation points that CPSD and Intervenors' hindsight approach finds to be obvious. PG&E will not address them all here because the evidentiary record and PG&E's post-hearing merits briefs comprehensively deconstruct such misstatements.[125]

CPSD and Intervenors wrongly equate the consequences of the rupture with the severity of the violations and underlying conduct alleged in the investigations. PG&E does not dispute that physical harm is one factor that to be considered in determining the severity of the offense. However, the fact that physical harm occurs does not mean that the harm was caused by the alleeged violation. As the Commission has explained, violations that *caused* actual physical harm are generally considered the most severe.[126] The fact that CPSD has alleged violations in a proceeding relating to the San Bruno accident does not mean that the alleged conduct caused (or is even related to) the rupture. While the consequences of the rupture are undeniably severe, an unrelated alleged offense (*e.g.*, incorrect class designations on segments other than Segment 180) is not necessarily a severe offense, and does not support a severe penalty.

Many of the violations alleged in the three proceedings are unrelated to the San Bruno rupture. For example, in the Class Location OII CPSD alleges that PG&E misclassified 843 segments, failed to perform class location studies, did not maintain a procedure referencing

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[122] Joint R.T. 434-35 (PG&E/Harrison).

[123] CPSD Remedies OB at 16.

[124] Joint R.T. 222-23 (PG&E/Harrison).

[125] One additional misstatement requires mention. DRA makes the false accusation that PG&E "even destroyed evidence" during these proceedings. DRA Remedies OB at 22. DRA's accusation is premised on CPSD Violation 12 in the Records OII. CPSD did not allege that PG&E destroyed records, but faulted PG&E for allegedly failing to *attempt to preserve* a video recording at the Brentwood back-up control room. More importantly, CPSD's opening remedies brief acknowledges that PG&E did not destroy or even fail to preserve any evidence relating to the Brentwood recording – CPSD withdrew the alleged violation. CPSD Remedies OB at 21.

[126] *Rulemaking re the Enforcement of the Standards of Conduct Governing Relationships Between Energy Utils. & Their Affiliates,* D.98-12-075, 1998 Cal. PUC LEXIS 1018, *54-55.

continuing surveillance requirements, and failed to adequately maintain pipeline patrol records.[127] None of these allegations relate to Segment 180 or the cause of the rupture, however; PG&E correctly identified Segment 180 as being in a Class 3 location. In the Records OII, CPSD's allegations include the claim that PG &E's Operations and Ma intenance Instruction manual at the Milpitas Terminal was out of date, that PG&E failed to maintain backup software at the terminal for valve controllers that were not involved in the unplanned pressure increase, that PG&E's data responses relating to a security camera at the alternate gas control facility (that was not controlling gas operations at the time of the rupture) were misleading, and that PG&E's data responses relating to the identification of personnel at the Milpitas Terminal on the day of the rupture were misleading.[128] Again, none of these alleged violations caused or was related to the rupture, or caused physical harm. CPSD's allegations in the San Bruno OII include the claims that PG&E's integrity management risk ranking algorithm (which determines *when* a segment is assessed, relative to other segments, rather than *if* or *how* the segment is assessed) was deficient, that PG&E failed to educate the public and agencies on hazards associated with natural gas pipeline releases, and that PG&E failed to timely perform alcohol testing on employees at the Milpitas Terminal and failed to record the reasons for not administering the test in time.[129] These alleged violations are also unrelated to the San Bruno rupture, and similarly did not cause physical harm.

The allegations that PG&E has admitted (erroneous class location designations in the Class Location OII, failure to follow company procedures in creating a clearance for the Milpitas Terminal UPS replacement, failure to timely perform alcohol testing) did not contribute to the cause of the accident. CPSD has not alleged that the failure to properly classify segments in PG&E's transmission system contributed to the rupture, or caused physical harm, and Segment 180 was properly classified. With regards to the clearance documentation, PG&E acknowledges that the written clearance did not meet company standards. However, adequate or even overly-detailed clearance documentation could not have prevented the electrical problem that led to the unplanned pressure increase, which resulted from the failure of two power supplies not involved

[127] CPSD Remedies OB at 34-36.
[128] CPSD Remedies OB at 33.
[129] CPSD Remedies OB at 10-13.

in the UPS clearance work.[130] CPSD cannot validly assert that a violation of company procedure that occurred at the same location as equipment involved in the unplanned pressure increase, but was unrelated to the equipment that caused the pressure increase, caused physical harm.

While, on the surface, some allegations appear related to the San Bruno rupture, closer evaluation reveals they are only superficially related, at best, and cannot reasonably be construed to have caused physical harm. For example, CPSD asserts that PG&E failed to maintain a record of a post-installation hydro test on Segment 180.[131] CPSD does not explain how a failure to maintain a record of a hydro test led to the rupture, in particular on a segment of pipeline explicitly exempted from hydro testing requirements under 49 C.F.R. § 192.619(c) (the so-called "grandfather clause").[132]

In another example, CPSD alleges that PG&E failed to maintain pipeline history files.[133] CPSD does not demonstrate how this alleged violation relates to the San Bruno rupture. Pipeline history files were not collections of original source records relating to the pipeline; they were copies of pipeline records, compiled locally in Division and/or Department offices.[134] Pipeline history files were created pursuant to a PG&E internal standard practice, not in response to a regulatory requirement in General Order 112 or 49 C.F.R. Part 192.[135] There was no regulatory violation by the discontinuation of the PG&E internal standard practice in 1987, nor did a regulatory violation result from the destruction of the files themselves, as they were duplicative of other records maintained in job files.[136]

While the consequences of the rupture were unquestionably severe, the conduct underlying the alleged violations was not intentional and is unrelated to the cause of the rupture. The alleged violations do not merit a correspondingly severe penalty.

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[130] PG&E Records OB at 75; Joint R.T. 92, 115, 150-51 (PG&E/Kazimirsky).

[131] CPSD Remedies OB at 33.

[132] At the time of installation, no existing pipeline safety regulations required operators to conduct post-installation hydro tests, or maintain records of such testing. *E.g.,* Records Ex. PG&E-61 at 4-6 (PG&E/Harrison); PG&E Records OB at 69. PG&E recognizes that CPSD and Intervenors contend that Section 451 made existing industry standards legally mandatory in 1956. PG&E fully responded to that erroneous contention in its merits briefing in the San Bruno and Records OIIs. PG&E San Bruno OB at 28-39; PG&E Records OB at 24-39. Post-installation hydro testing was not commonplace, and did not become an accepted practice industry-wide until several years following the construction of Segment 180. *E.g.,* Joint R.T. 354-57 (PG&E/Harrison).

[133] CPSD Remedies OB at 33.

[134] PG&E Records OB at 106-08.

[135] PG&E Records OB at 106.

[136] PG&E Records OB at 106.

Duplicative And Overlapping Alleged Violations: The Commission also considers the number of violations when determining the severity of the offense.[137] CPSD has alleged numerous duplicative violations both within and across these proceedings that inflate the total number of "separate" offenses and purportedly support a finding that the violations are severe. Additionally, CPSD has improperly transformed single categories or courses of conduct into numerous individual alleged violations.

CPSD alleges the same violation, or violations arising out of the same conduct, in multiple proceedings. For example, CPSD alleges that PG&E improperly used assumed SMYS values greater than 24,000 psig in the San Bruno, Records, and Class Location OIIs.[138] CPSD asserts that PG&E violated industry standards for failing to conduct and document a hydrostatic test on Segment 180 in the San Bruno and Records OIIs.[139] CPSD alleges that PG&E did not account for the pups in establishing the Line 132 MAOP in the San Bruno and Records OIIs.[140] CPSD alleges that PG&E's clearance documentation did not meet company standards in the San Bruno and Records OIIs.[141] CPSD alleges that PG&E's SCADA system was inadequate in the San Bruno and Records OIIs.[142] CPSD alleges deficiencies in PG&E's emergency response plans in the San Bruno and Records OIIs.[143] CPSD alleges deficiencies in PG&E's GIS data in the San Bruno and Records OIIs.[144] CPSD alleges that PG&E failed to retain pipeline patrol reports in the Records and Class Location OIIs.[145] These and other duplicative (and at times conflicting)[146] violations do not constitute separate offenses, as they are based on the same alleged conduct.

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[137] *Rulemaking re the Enforcement of the Standards of Conduct Governing Relationships Between Energy Utils. & Their Affiliates,* D.98-12-075, 1998 Cal. PUC LEXIS 1018, *56.

[138] CPSD Remedies OB at 9 (San Bruno OII (SB) Violations 8 and 14), *id.* at 26, 32 (Records OII (Records) Violation 24), and *id.* at 34 (Class Location OII (Class) Violation 1). All violations are listed as numbered in CPSD's Remedies OB.

[139] CPSD Remedies OB at 8, 15-16 (SB Violation 4, Records Violation 3).

[140] CPSD Remedies OB at 9, 17 (SB Violations 12-13, Records Violation 4).

[141] CPSD Remedies OB at 11, 18 (SB Violations 29-30, Records Violation 5).

[142] CPSD Remedies OB at 11, 19-20 (SB Violation 33, Records Violations 7 and 9).

[143] CPSD Remedies OB at 11-13, 20 (SB Violations 33-51, Records Violation 10).

[144] CPSD Remedies OB at 9, 26-27 (SB Violations 15-16, Records Violations 24-25).

[145] CPSD Remedies OB at 29, 35-36 (Records Violation 30, Class Violation 6).

[146] For example, CPSD alleges 133 instances in which PG&E used assumed SMYS values above 24,000 psig in the Class Location OII, and over 2,500 instances in the Records OII. *See* CPSD Remedies OB at 32, 34.

CPSD also has alleged multiple violations from a single act or omission within the same proceeding. Nowhere is this clearer than in the Class Location OII, where CPSD counted a single course of conduct, failure to properly implement patrol, class location and continuing surveillance procedures, as thousands of separate violations based on arbitrary pipeline segment designations.[147] CPSD then multiplied each of these artificial sub-violations by thousands of days.

In the San Bruno proceeding, CPSD expanded the number of violations from 18 identified in its January 2012 report to the 55 allegations identified, for the first time, in Appendix C of CPSD's post-hearing opening brief. The majority of the newly-raised offenses are the product of rewording and splitting what was previously a single violation into several new violations. For example, CPSD's January 2012 report noted deficiencies in the girth welds associated with the pups in Segment 180.[148] CPSD's San Bruno OII and Remedies opening briefs doubled this violation, asserting that the allegedly deficient girth welds violated Section 811.27(E) of ASME B31.1.8-1955 and, in a separate offense, API 1104.[149] CPSD also raises generic violations, followed by more specific violations that are within the scope of the broader violation. For example, CPSD raises the generic violation that PG&E installed pipeline sections that were not suitable or safe for the conditions under which they were used.[150] CPSD then breaks this down into multiple allegations that PG&E installed short pipe sections[151] that did not meet minimum SMYS specifications[152] with deficient girth welds[153] that did not meet API 1104 standards[154] and had an incompletely welded interior longitudinal seam[155] that were therefore not suitable or safe for conditions under which they were used. In this way, CPSD has transformed one alleged violation into multiple violations, each of which CPSD then increases exponentially

[147] PG&E Class Location OB at 5-8; PG&E Class Location RB at 2-5. PG&E identified pipeline segments by pipe characteristics and other criteria that change over time, resulting in segments as short as a couple feet and as long as several miles.

[148] San Bruno Ex. CPSD-1 at 162 (CPSD/Stepanian).

[149] CPSD Remedies OB at 9 (SB Violations 9 and 10).

[150] CPSD Remedies OB at 8 (SB Violation 3).

[151] CPSD Remedies OB at 8 (SB Violation 6).

[152] CPSD Remedies OB at 8 (SB Violation 7).

[153] CPSD Remedies OB at 9 (SB Violation 9).

[154] CPSD Remedies OB at 9 (SB Violation 10).

[155] CPSD Remedies OB at 9 (SB Violation 11).

by improperly counting each as a "continuing violation" for each day from 1956 to September 9, 2010.

CPSD also asserts duplicative, overlapping violations within the Records OII. For example, CPSD asserts two separate violations that fault PG&E for operating Line 132 above 390 psig.[156] CPSD asserts two separate violations relating to the existence and availability of PG&E's leak records, making an arbitrary division in 1970 to create two separate, continuing offenses.[157] CPSD creates a third violation out of the same underlying conduct by asserting another violation relating to the retrievability of leak records.[158] These three violations are premised on the same course of conduct, namely PG&E's historic leak recordkeeping practices, and are only properly presented as a single alleged violation. In another example, CPSD alleges that the failure to maintain pipeline history files[159] is a separate offense from the alleged failure to retain design and pressure test records,[160] leak records,[161] and complete and accurate job files.[162] CPSD ignores the fact that the old pipeline history files contained duplicate copies of the other categories of records identified in CPSD's duplicative alleged violations.

By employing this methodology, CPSD arrives at a total potential penalty against PG&E that even CPSD and Intervenors recognize is unrealistic, which itself demonstrates the defect in the methodology.[163] In addition to generating impossibly large and unsupportable penalties, CPSD's approach is contrary to Commission precedent. When presented with alleged violations that are not discrete or easily quantified, the Commission has focused on categories of omissions, or courses of conduct. In *Utility Consumers' Action Network ("UCAN") v. SBC Communications ("AT&T")*, D.08-08-017, 2008 Cal. PUC LEXIS 302, UCAN alleged that AT&T was committing numerous continuing violations of regulations requiring telecommunications carriers to provide access to 911 emergency services from certain California residential units. AT&T's alleged violations flowed from its "official warm line policy" and

[156] CPSD Remedies OB at 17, 20-21 (Records Violations 4 and 11).

[157] CPSD Remedies OB at 25 (Records Violations 21 and 22).

[158] CPSD Remedies OB at 31-32 (Records Violation C.3).

[159] CPSD Remedies OB at 22-23 (Records Violation 17).

[160] CPSD Remedies OB at 23-24 (Records Violation 18).

[161] CPSD Remedies OB at 25 (Records Violations 21 and 22).

[162] CPSD Remedies OB at 22 (Records Violation 16).

[163] *See, e.g.*, CPSD Remedies OB at 5 (recognizing that the alleged violations "would result in tens of billions of dollars" in penalties, and that there is "a limit on how much PG&E can afford to pay . . .").

continued for a period of over nine years.[164] Rather than analyzing each act or omission individually, each with a specific tenure and each potentially violating multiple regulations, the Commission approached AT&T's ongoing policy or practice as a single course of conduct.[165] "While we have determined that AT&T has violated two subsections of section 2883, the company pursued essentially one course of conduct: a failure to comply with the warm line policies enacted by the legislature." *UCAN*, 2008 Cal. PUC LEXIS 302, at *40, *50-51; *see also UCAN v. Pac. Bell*, D.01-09-058, 2001 Cal. PUC LEXIS 914, at *130 (treating numerous violations of Commission orders, Public Utilities Code provisions, and the utility's tariff as "two distinct offenses which occurred daily over a period of two years"); *Application of Pac. Gas and Elec. Co.*, D.99-06-080, 1999 Cal. PUC LEXIS 430, at *127-128 (faced with a record that did not permit the Commission to quantify the extent or duration of individual acts, the Commission grouped thousands of continuous violations into three broad categories).

Were the Commission to jettison this precedent in favor of the approach advocated by CPSD and Intervenors, it would violate due process, in addition to creating patently unreasonable results. *See* Cal. Const. art. I, § 7(a). Due process prohibits "double penalties for the same conduct."[166] As the court of appeal has explained: "A defendant has a due process right to be protected against unlimited multiple punishment for the same act. . . . [O]verlapping damage awards violate that sense of 'fundamental fairness' which lies at the heart of constitutional due process."[167] Consistent with its prior decisions and due process, the Commission should group alleged violations by category for the purpose of finding violations and calculating any penalties.

B. The Good Faith Of The Utility

In determining an appropriate penalty, the Commission considers the good faith of the utility in attempting to achieve compliance, before and after notification of a violation.[168] This element allows consideration of the utility's actions to prevent a violation (including a past

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[164] *Utility Consumers' Action Network v. SBC Commc'ns*, D.08-08-017, 2008 Cal. PUC LEXIS 302, at *40.

[165] *Utility Consumers' Action Network v. SBC Commc'ns*, D.08-08-017, 2008 Cal. PUC LEXIS 302, at *40.

[166] *De Anza Santa Cruz Mobile Estates Homeowners Ass'n v. De Anza Santa Cruz Mobile Estates*, 94 Cal. App. 4th 890, 912 (2001).

[167] *Troensegaard v. Silvercrest Indus., Inc.*, 175 Cal. App. 3d 218, 227-28 (1985) (internal quotation marks omitted).

[168] Pub. Util. Code § 2104.5; *Investigation into the Gas Explosion and Fire in Rancho Cordova*, D.11-11-001, 2011 Cal. PUC LEXIS 509, at *51-53.

record of compliance), the utility's actions to detect a violation, and the utility's actions to disclose and rectify violations once they receive notice of the violation.[169] Here, PG&E's conduct both before and after the San Bruno accident support a finding of good faith and mitigation of any penalty.

Prior to the accident, PG&E's belief that its gas transmission operations conformed to law was repeatedly confirmed by CPSD. CPSD conducted multiple audits of, among other things, PG&E's Integrity Management program, emergency plans, and maintenance and operations at gas division and district offices. PG&E acknowledges that CPSD audits are not comprehensive and cannot be expected to identify every instance in which company practices and records do not meet regulatory requirements. However, the audits and audit reports stand in stark contrast to CPSD's current claims that PG&E's practices have violated the law for the past 50 to 80 years. PG&E reasonably understood positive audit findings as approval of PG&E's general practices. For example, CPSD's audits of PG&E's Integrity Management program found that PG&E's practices, including data gathering, data quality measures, and threat identification (including cyclic fatigue) satisfied regulatory requirements.[170] PG&E's efforts to rectify the minor shortcomings identified in these audits and to remedy weaknesses identified in its own internal audits[171] are evidence that PG&E was attempting to achieve, and believed it was achieving, compliance with regulatory requirements and CPSD's expectations. Even assuming CPSD's audits were insufficiently thorough, or its resources inadequate to perform comprehensive audits, that is not a valid aggravating factor in penalizing PG&E, which reasonably concluded that its audited practices were appropriate (and certainly not pervasively deficient as now alleged).

The Commission must also moderate the total penalty amount in consideration of PG&E's good faith efforts to improve the safety of its gas transmission system immediately following the accident,[172] both in response to directives or recommendations and on its own initiative, even before it was given notice of alleged violations. Following the rupture, PG&E

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[169] *E.g., Application of Yak Commc'ns (Am.), Inc.*, D.07-05-004, 2007 Cal. PUC LEXIS 163, *15-16.

[170] *E.g.,* San Bruno Ex. PG&E-7 (Tabs 4-13, 4-25).

[171] PG&E's internal Integrity Management program audits are also an example of PG&E's attempts to detect potential violations.

[172] Many of these efforts are described in Chapter 13 of PG&E's June 26, 2012 San Bruno OII (I.12-01-007), Chapter 1.D of PG&E's June 26, 2012 Records OII (I.11-02-016) testimony, and the testimony of Jane Yura in the Class Location OII and are presented in Section IV.C, *infra*.

implemented pipeline pressure reductions on more than 1,000 miles of transmission pipeline, undertook an accelerated direct assessment of transmission lines in San Bruno, and completed an accelerated leak survey of the entire gas transmission system.[173] PG&E undertook to verify pipeline specifications on a component-by-component level even before being ordered to do so by the Commission. This effort would later become the MAOP Validation project, which has validated pipeline MAOP for all HCA and non-HCA pipeline segments, and will complete the review of this effort by the summer of 2013. PG&E began to strength test pipelines without records of a post-construction hydro test, completing testing or records verification for over 435 miles through March 2013.[174] PG&E automated 67 valves across the system and retrofitted more than 78 miles of pipeline to accommodate in-line inspection equipment.[175] PG&E has increased the frequency of its aerial and HCA segment patrols, and increased public outreach and enhanced education opportunities for first responders.[176] PG&E became the first utility to use the Picarro car-mounted leak detection device, which is many times more sensitive than traditional instruments.[177] At the organizational level, PG&E separated its gas and electric business units, and designated separate leadership for each organization.[178] PG&E has installed a leadership team in the Gas Operations organization with extensive industry expertise and has increased the size of the workforce to implement PG&E's enhanced focus on safety. By the end of 2014, PG&E expects to have increased its Gas Operations staffing by more than 1,700 employees in emergency response, leak survey and repair, pipeline replacement, new pipeline installation, quality assurance/quality control, investment planning, and other functions directed toward providing safe, reliable natural gas service.

PG&E's efforts to rectify recordkeeping shortcomings, improve asset management, and update its Integrity Management program to reflect the lessons learned and changed regulatory and industry expectations from the San Bruno accident are strong indicators of PG&E's determination to ensure it has done everything possible to regain public trust. The Commission should consider these efforts in mitigating any potential penalty assessed in this matter.

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[173] San Bruno Ex. PG&E-1a at 13-8 (PG&E/Yura).

[174] PG&E's Pipeline Safety Enhancement Plan Compliance Report, dated April 30, 2013.

[175] PG&E's Pipeline Safety Enhancement Plan Compliance Report, dated April 30, 2013.

[176] San Bruno Ex. PG&E-1a at 13-9 (PG&E/Yura).

[177] San Bruno Ex. PG&E-1a at 13-9 (PG&E/Yura).

[178] San Bruno Ex. PG&E-1a at 13-2 (PG&E/Yura).

In addition to generally minimizing PG&E's efforts, CPSD attempts to discredit PG&E's post-accident good faith by falsely claiming that PG&E withheld evidence of errors in its GIS.[179] CPSD raised this argument in its Records OII opening brief, and PG&E refuted CPSD's allegations in its Records OII reply brief at pages 131-36. In the remedies phase, CPSD repeats the discredited argument (as if PG&E had made no response) that PG&E's HCA audit change log is a list of errors in GIS, and that PG&E withheld the existence of the HCA audit change log from CSPD until shortly before the conclusion of the evidentiary proceedings. CPSD's repetition of this false allegation shows that CPSD simply ignores any evidence contrary to the violations it is pursuing.

As PG&E explained at length in data responses, written and oral testimony, and post-hearing briefing, the HCA audit change log is a list of *all* changes made to pipeline attribute fields in GIS that have the potential to affect whether a pipe segment is located in a high consequence area.[180] The changes occur due to new pipe installation, hydro testing, changes made to more precisely reflect the location of the pipeline, and changes to pipe attribute information (including corrections to pipe attributes identified through normal course of business and records research).[181] The HCA audit change log does not identify the reason for the change, and there is insufficient information in the HCA audit change log to otherwise identify the cause.[182] The HCA audit change log *is not* a list of errors, and contrary to CPSD's assertions, the fact that many changes have occurred following the San Bruno rupture is due in large part to the significant increase in pipeline replacement and hydro testing resulting from regulatory decisions in California to eliminate the grandfather clause and require strength tests to establish MAOP.[183]

CPSD's allegation that PG&E withheld the existence of the audit change log has been previously refuted. As PG&E discussed in its Records OII reply brief, CPSD should have been aware of the existence and purpose of the HCA audit change log on October 8, 2010, when PG&E provided HCA audit change log data to the NTSB investigation party participants, including CPSD.[184] CPSD also should have been aware of the HCA audit change log no later

[179] CSPD Remedies OB at 50-51.
[180] PG&E Records RB at 132.
[181] PG&E Records RB at 132.
[182] PG&E Records RB at 132.
[183] PG&E Records RB at 131.
[184] PG&E Records RB at 134-35.

than June 8, 2011, when the Commission-appointed Independent Review Panel released its final report, including a discussion of the HCA audit change log on page 59.

CPSD cannot deny that its consultants and attorneys were aware of the existence and purpose of the audit change log after a September 16, 2011 site visit to a PG&E facility.[185] During the site visit, PG&E personnel discussed the existence and purpose of the audit change log, and answered questions from CPSD's consultants regarding the log.[186] CPSD introduced the transcript of this site visit into the record as Records OII Exhibit CPSD-65. PG&E additionally provided a written description of the HCA audit change log and an excerpt of the log itself on September 29, 2011 in response to CPSD Records OII Data Request 3, Question 16.[187] PG&E provided similar information relating to Line 132, Segment 180 on November 16, 2011 in response to CPUC Data Request 216, Question 2 (cited by CPSD in its Records OII opening brief at page 177). At no point in time, including the data request that CPSD believes obligated PG&E to provide the HCA audit change log, did CPSD request production of the HCA audit change log.

Moreover, CPSD's assertion that the timing of production of the entire HCA audit change log hindered its investigation is misleading. PG&E provided CPSD with a complete copy of the GIS database on January 20, 2012, including information sufficient to easily identify any pipeline segment with an assumed SMYS value greater than 24,000 psig.[188] CPSD used this copy of the database in support of its claim that PG&E's GIS contained many blank and assumed values.[189] Given CPSD's ability to manipulate this database and identify assumed values, it is unclear how the HCA audit change log would have provided information relating to assumed SMYS values not otherwise available to CPSD.

The Commission should view CPSD's remaining allegations regarding PG&E's post-accident conduct with skepticism. CPSD asserts:

> PG&E *should have* known about the flawed pups; and thus, PG&E should have disclosed and rectified the mistake prior to the explosion, but did not. CPSD acknowledges that there is no direct evidence that PG&E intended to violate safety regulations; but for

[185] PG&E Records RB at 134-35.

[186] PG&E Records RB at 134-35.

[187] Records Ex. CPSD-18 (PG&E Response to Data Request 3, Question 16).

[188] PG&E Records RB at 135.

[189] Records Ex. CPSD-2 at 47 n.191.

> all intents and purposes, PG&E's actions were deliberate, in that it is highly implausible that PG&E remained *actually* ignorant of the lack of testing, design flaws, or missing records, in light of the warnings from high level employees.[190]

In addition to being unsupported by the evidentiary record, CPSD's allegations are made with the clarity of hindsight. Prior to the rupture, there was no indication that Segment 180 was constructed from anything other than the properly manufactured DSAW transmission pipe requisitioned for the job, and the lack of pressure testing records, or even pressure testing, was permissible for Segment 180 under the grandfather clause. CPSD's assertion that GIS was somehow deficient because it did not contain all transmission leaks ignores that GIS was not PG&E's system of record for leak data, which was maintained in hard copy in local offices and, starting in the 1970s, entered into central computer databases for ease of retrieval. CPSD's claims about PG&E's lack of knowledge of the pups or distributed storage of leak records do not demonstrate a lack of good faith on PG&E's part to discover, disclose, and remedy violations.

C. Conduct Of The Utility

1. Prior To The San Bruno Accident

PG&E knows and has publicly acknowledged that prior to the San Bruno accident its gas system operations were not what the company, the Commission or PG&E's customers expect. The fact that PG&E's practices fell short in at least some aspects does not, however, mean that PG&E's practices were in violation of regulatory requirements. Considerable evidence in the record, including testimony from gas pipeline industry and technical research leaders, demonstrates that while PG&E had room for improvement, its practices met regulatory requirements and were consistent with accepted industry practices. The San Bruno rupture caused a sea change in how regulators and the industry view gas transmission pipeline safety, but that change underscores that pipeline safety standards needed to be raised.

PG&E acknowledges that its recordkeeping practices have fallen short of expectations, and is taking steps to improve its asset knowledge and records management practices, including the quality of data in its GIS system. James Howe testified that industry has acknowledged that it faces significant gas records challenges in locating records..[191] Cesar De Leon, a former head

[190] CPSD Remedies OB at 50 (emphasis in original).

[191] Records Ex. PG&E-61 at 1-12 to 1-15 (PG&E/Howe).

of the Federal Office of Pipeline Safety (now PHMSA) explained how federal pipeline safety regulations and guidance have historically recognized and accommodated pipeline construction and maintenance record gaps among natural gas pipeline operators.[192] Recordkeeping expert Maura Dunn testified that PG&E's decentralized approach to records management, assigning responsibility for managing records to the divisions and departments who used the records to conduct local operations best served the needs of PG&E engineers and local service areas.[193] John Zurcher, an ASME B31.8 Committee member and drafter of the ASME B31.8S integrity management standards, testified that the creation of PG&E's GIS met regulatory expectations, and that the quality of data therein, though not completely accurate, was consistent with conditions throughout the industry.[194] PG&E's recordkeeping challenges are common to the industry and do not represent violations of law or regulations.

PG&E's Integrity Management program was compliant with regulatory requirements, as confirmed by repeated CPSD program audits[195] third-party audits[196] and a post-accident review by Mr. Zurcher.[197] PG&E acknowledges that the rupture of Line 132 has called into question industry and regulatory understanding of manufacturing threats, particularly the threat of cyclic fatigue (though it must be recognized that the pipe that ruptured was not properly manufactured pipe, but was severely defective pipe that was abnormally susceptible to cyclic fatigue). Prior to San Bruno, using DOT-sponsored research and industry experience,[198] PG&E evaluated cyclic fatigue and did not consider it to be a threat to its pipeline system.[199] As explained by Dr. Kiefner, an industry leader in cyclic fatigue research, this approach was a valid method for an operator to evaluate the threat.[200] While PG&E has changed its approach to manufacturing threat identification, including cyclic fatigue, these changes were made not in an attempt to bring the

[192] Records Ex. PG&E-61 at 1-4 to 1-8 (PG&E/De Leon).

[193] Records Ex. PG&E-62 at MD-17 to MD-19 (PG&E/Dunn).

[194] Joint R.T. 663 (PG&E/Zurcher). To the extent the current view is that past regulatory approaches were misguided, that is a changed perspective and not a valid basis to judge PG&E's past practices.

[195] San Bruno Ex. PG&E-7 (Tabs 4-13, 4-25).

[196] San Bruno Ex. PG&E-1c at 4-34 n.19 (PG&E/Keas).

[197] Joint R.T. 797-98 (PG&E/Zurcher).

[198] San Bruno Ex. PG&E-7 (Tabs 4-21, 4-23); San Bruno Ex. PG&E-3 (August 10, 2009, PHMSA Letter to NTSB Re Cyclic Fatigue).

[199] Joint R.T. 1000-02 (PG&E/Keas).

[200] San Bruno R.T. 716-17, 719-20 (PG&E/Kiefner).

Integrity Management program into compliance, but instead to reflect new information learned from the accident.

PG&E's emergency response plan complied with applicable regulations, as CPSD's pre-San Bruno audits concluded. While CPSD criticizes the alleged slowness of PG&E's response to the rupture on September 9, 2010, Mr. Zurcher testified that PG&E's 95-minute response time in shutting off the gas was faster than the average two hours experienced in similar situations.[201] Following the San Bruno accident, PG&E has acknowledged that it can improve emergency response, and PG&E has taken steps to accomplish that objective, including implementing a new emergency plan based on industry best practices, and increasing its ability to remotely isolate pipelines by installing automated valves across its transmission network. As TURN recognizes, there were no regulatory requirements regarding the use of automated valves prior to San Bruno.[202]

As explained in the following sections, PG&E has taken substantial steps to implement industry-leading safety improvements. However, these improvement efforts are not proof that PG&E's pre-rupture practices constituted violations of law; rather, they demonstrate responsible action in the face of increased safety expectations, changed understandings and, in some instances, acknowledged shortcomings in PG&E's past operations.

2. PG&E's Actions Immediately After The Accident

Within hours of the accident, PG&E began taking action to assist the residents and City of San Bruno. Briefly summarized, in addition to PG&E employees being on the ground helping provide necessities to residents in the immediate aftermath, PG&E has provided $70 million to the City of San Bruno to establish a non-profit public purpose entity to benefit the community, committed $50 million to a trust for the benefit of the City, and disbursed more than $55 million in assistance to San Bruno residents. PG&E's efforts include:

- Supporting San Bruno through the Employee Volunteer Program, through which PG&E personnel donated more than 1,200 hours at PG&E's customer outreach center, helping to meet residents' immediate needs for food, clothing and shelter, and support the American Red Cross' relief efforts.

[201] Joint R.T. 821 (PG&E/Zurcher).

[202] TURN Remedies OB at 8 n.23 (stating that PSEP cost recovery should not be denied for automated valves because their installation was not previously required).

- Providing $3 million immediate "liquidity" to assist the City of San Bruno with costs related to emergency response efforts in the days following the accident.

- Committing $2.5 million to support the Ready Neighborhoods Program, which aims to strengthen emergency preparedness in San Bruno and across PG&E's service area.

- Committing up to $1 million to the American Red Cross to support the community.

- Reimbursing government entities for the costs of emergency response to the accident.

- Disbursing approximately $55 million to provide affected residents with:

    - Immediate relief checks and goods and services, including $500,000 in pre-paid Visa cards to cover lodging, clothing and meals;

    - Funds to cover property damage or gaps in insurance;

    - Rebuild or Purchase Program;[203]

    - Neighborhood Restoration Plan;[204] and

    - Value Assurance Program.[205]

- Providing $70 million to the City of San Bruno to establish a non-profit public purpose entity with autonomy to determine how to spend the money for the community's benefit.

- Establishing a trust for the benefit of the City of San Bruno to be funded up to $50 million to cover any costs that are directly related to the fire and the cost of recovery:

    - Initially funded with $12 million, with future deposits to be made without question as the funds are needed by the City; and

    - Provides funds to the City for infrastructure repair and replacement, additional staffing, costs of participation in regulatory proceedings, and the costs of legal and other experts as needed.

- Committing to resolve claims fairly and promptly to get the victims of the San Bruno accident the compensation to which they are entitled.

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[203] The Rebuild or Purchase Program helps homeowners in the Glenview Subdivision rebuild their home in its current location or sell the property.

[204] The Neighborhood Restoration Plan offered to reimburse homeowners (or pay licensed contractors directly) for expenses, up to $10,000, related to exterior home improvements and landscaping/hardscaping that were not covered by insurance and not related to the September 9, 2010 accident.

[205] The Value Assurance Program was established to protect homeowners against the loss of value in their homes. The program ensures that eligible homeowners will be able to sell their property with the assurance that PG&E will pay the difference, if any. between the actual gross sales price of the home and the fair market value at the time of sale, without the influence of any real or perceived devaluation related to the September 9, 2010 accident.

PG&E took these actions from its sense of responsibility, not in response to Commission directives or any other mandate. CPSD and Intervenors attempt to marginalize PG&E's efforts to help the residents and City of San Bruno in order to secure the harshest penalty they can, but the record demonstrates that PG&E took these steps, and continues taking them, out of an earnest desire to help make better a tragic situation.

3. PG&E's Response To Directives And Recommendations

PG&E also has acted in good faith on the Commission's directives, and the recommendations issued by the CPSD and the NTSB. While CPSD and Intervenors attempt to minimize PG&E actions in this regard, portraying PG&E's cooperation as forcefully obtained, the record shows that PG&E readily accepted Commission directives and CPSD and NTSB recommendations, thoughtfully evaluated how they could be implemented, and then undertook to carry them out.[206]

In the days after the accident, the Commission issued several directives to PG&E with which PG&E complied promptly and fully. For example, PG&E immediately reduced pressure on pipelines throughout its transmission system, conducted a system-wide leak survey, and completed a feasibility study regarding the increased use of automated valves throughout its gas transmission system.[207] When the Commission initiated the gas pipeline safety rulemaking, PG&E filed comments supporting the elimination of grandfathering of MAOPs. Later, PG&E developed and is now implementing a comprehensive multi-year plan (the PSEP) to test pipe, replace pipe, install approximately 300 automated valves, and track pipeline assets with modern recordkeeping capabilities, among other operational and records-based improvement initiatives.[208] PG&E conducted a class location review and analysis that identified a small percentage of PG&E's class designations (2.7% of its transmission pipeline) that had not been properly updated, which PG&E transparently reported to the Commission.[209] Throughout the

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[206] In a few instances, PG&E's evaluation led to the conclusion that a recommendation was not appropriate or necessary. In those situations, PG&E openly explained why it reached that conclusion. *See* San Bruno Ex. PG&E-1a, Chapter 13, Appendix A. (PG&E/Yura); Class Location Ex. PG&E-1, Appendix A (PG&E/Yura).

[207] San Bruno Ex. CPSD-78.

[208] *See Order Instituting Rulemaking*, D.12-12-030, 2012 Cal. PUC LEXIS 600.

[209] That study ultimately resulted in the Commission's opening of the Class Location OII. PG&E has forthrightly admitted to the identified class location inaccuracies in that proceeding, and taken action to implement CPSD's improvement recommendations. *See generally* PG&E Class Location OB; PG&E Class Location RB; Class Location Ex. PG&E-1, Appendix A (PG&E/Yura).

past two and a half years, as the Commission has issued additional directives, PG&E has continued to take timely and appropriate action.

During the course of its investigation, the NTSB issued several recommendations to PG&E (as well as to the Commission and PHMSA). The NTSB's recommendations included MAOP validation based on "traceable, verifiable and complete" pipeline records, revisions and updates to PG&E's Integrity Management program and emergency response plan, and gas control 911 notification, to name a few. While NTSB recommendations are not regulatory mandates, PG&E willingly accepted all the NTSB recommendations and implemented initiatives to address them. For instance, PG&E transformed its on-going Peninsula pipeline features list project into the broader MAOP validation effort in response to the NTSB's January 3, 2011 recommendation (which the Commission's Executive Director adopted as a directive on the same date). Though the scope of the NTSB's recommendation and Commission directive were limited to validating MAOP in Class 3 and 4 locations and HCA's in Class 1 and 2 locations, PG&E went beyond what was required and completed the MAOP validation process for its entire transmission system.[210] PG&E also developed and put into practice the recommended 911 notification policy for gas control, revised and improved its work clearance procedure, reassessed and revised its integrity and risk management procedures, and developed and implemented a comprehensive revised emergency response plan, all in response to NTSB recommendations.

In its January 12, 2012 report in the San Bruno OII, CPSD issued numerous recommendations to PG&E, which CPSD renewed as proposed remedies in its opening remedies

[210] *See* San Bruno Ex.PG&E-38. In its Reply Brief submitted in the Records OII proceeding, CPSD takes issue with PG&E's January 31, 2013 letter to the NTSB recommending that it close Safety Recommendation P-10-3 (MAOP Validation). CPSD Records RB at 3-6. The main thrust of CPSD's argument (PG&E is not done with MAOP Validation until the Commission says so) conflates the NTSB's Recommendations and Commission's December 20, 2012 Decision 12-12-030 approving PG&E's Pipeline Safety Enhancement Plan. The NTSB's Safety Recommendation P-10-3 (MAOP Validation) was addressed directly to PG&E. *See* San Bruno Ex. PG&E-38. The Commission's Decision 12-12-030 explained that it had required PG&E to conduct an expanded records validation effort beyond what had been recommended by the NTSB (as PG&E proposed to the Commission). *Order Instituting Rulemaking*, D.12-12-030, 2012 Cal. PUC LEXIS 600, at *163 ("the Commission expanded on the NTSB's records correction directives . . ."). The Commission's expanded directives include validating all 5,800 miles of PG&E transmission pipe where the NTSB's recommendations only related to pipe in Class 3 and Class 4 locations and Class 1 and Class 2 HCA locations. For these reasons, it is not contradictory for PG&E to have written to the NTSB in January 2013, recommending that the NTSB close Safety Recommendation P-10-3 (MAOP Validation), even if at the time of the letter PG&E had not completed the Commission's expanded directives on that same subject.

brief.[211] PG&E did not wait to be ordered to carry out those recommendations; PG&E has been acting on CPSD's recommendations in the San Bruno OII since CPSD first announced them in January 2012. PG&E addressed CPSD's San Bruno OII recommendations in detail in its June 26, 2012 testimony, explaining how PG&E was implementing each recommendation, or in the few instances where PG&E did not agree that the recommendation should or needed to be implemented, explaining why PG&E had reached that conclusion.[212] PG&E is submitting with this brief a table listing each CPSD recommended remedy in the San Bruno OII and PG&E's updated action in response (Appendix B, attached).

PG&E took the same good faith actions in response to CPSD's recommendations in the Class Location proceeding, which CPSD also renews as proposed remedies in its opening brief.[213] As a result, PG&E's operational commitments with respect to class location were also well underway even before reaching this remedies phase of the proceedings. The attached Appendix B addresses PG&E's actions in response to those recommendations, as well.[214]

In sum, the record underscores PG&E's willingness to accept and act on direction and recommendations from the Commission, CPSD and the NTSB following the San Bruno accident. Whether related to a directive, recommendation or internally-generated initiative, PG&E has remained focused on and has taken substantial action to achieve broad improvement and increased safety throughout its gas system and operations.

4. PG&E's Post-Accident Improvements

As noted, among the factors the Commission considers in determining the appropriate penalties is the good faith action that the utility took in attempting to achieve compliance, after receiving notification of the violation.[215] Since the San Bruno accident PG&E has made efforts to improve at every level of the company and in almost every facet of its records management

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[211] San Bruno Ex. CPSD-1 at 164-71 (CPSD/Stepanian); CPSD Remedies OB at 59-64.

[212] San Bruno Ex. PG&E-1a, Chapter 13 & Appendix A (PG&E/Yura) (and additional testimony cited therein).

[213] CPSD Remedies OB at 67-70; Class Location Ex. PG&E-1, Appendix A (PG&E/Yura).

[214] CPSD did not make recommendations to PG&E in the Records OII until its opening remedies brief. *See* CPSD Remedies OB at 64-67. PG&E's responses to CPSD's recordkeeping recommendations are also addressed in the attached Appendix B.

[215] *See* Pub. Util. Code § 2104.5; *see also Rulemaking re the Enforcement of the Standards of Conduct Governing Relationships Between Energy Utils. & Their Affiliates*, D.98-12-075, 1998 Cal. PUC LEXIS 1018, at *58-59.

and gas operations.[216] It made significant organizational changes in its senior management and it made other corporate-level changes. On the records management side, it has undertaken numerous efforts to improve its recordkeeping practices both at an enterprise level and within its gas transmission organization. The recordkeeping improvements initiated to date include changes to PG&E's corporate records management systems, the company's MAOP Validation project, and Project Mariner, which will integrate numerous existing data management tools into three coordinated document management systems (SAP, GIS, and Documentum). In terms of gas operations, PG&E has made improvements to its SCADA system, clearance procedures, emergency response procedures and its Integrity Management program, among others.

a. Corporate-Level Changes

PG&E underwent a major realignment in an effort to improve gas operations and performance standards, creating a separate division for its Gas Operations Organization and initiating new practices and activities in its gas transmission business. The leadership team recently hired for the Gas Operations Organization includes professionals with extensive industry expertise. A few examples include:

- Chairman, Chief Executive Officer and President of PG&E Corporation
- Executive Vice President of Gas Operations
- Senior Vice President of Gas Transmission Operations, Engineering and Pipeline Integrity
- Vice President of Public Safety and Integrity Management
- Vice President of Gas Investment Planning
- Vice President of Distribution Maintenance and Construction
- Senior Director of Gas System Operations
- Director of Distribution Engineering and Design

[216] PG&E explained its records management improvement efforts in Chapter 1.D of its June 26, 2012 written testimony in the Records OII proceeding. Records Ex. PG&E-61 at 1-19 to 1-29 (PG&E/Singh). PG&E explained its gas operations improvement efforts in Chapter 13 of its June 26, 2012 San Bruno written testimony. San Bruno Ex PG&E-1a at 13-1 to 13-16 , 13A-1 to 13A-16 (PG&E/Yura). PG&E's subject matter witnesses also addressed various improvement initiatives in their written testimony. *See* San Bruno Ex. PG&E-1 (PG&E/Various); San Bruno Ex. PG&E-1c (PG&E/Keas); Records Ex. PG&E-61 (PG&E/Various).

- Director of Transmission Operations and Maintenance
- Director of Transmission Integrity Management Program

PG&E's Gas Operations Organization also hired more than 300 new employees through 2012, and has plans to hire an additional 1,400 gas employees through 2014.[217]

In keeping with its efforts to improve gas operations and performance standards, PG&E's Board of Directors has focused on company-wide actions to improve safety and operational excellence. The Board established the Nuclear, Operations, and Safety Committee to provide oversight of PG&E's safety compliance and risk management policies and practices (including integrity management for gas operations).[218] It also expanded the role of the existing Risk Policy Committee.[219] The Committee's scope was expanded to consider public safety, reviewing key operational risks, risk response strategies, mitigation options and the overall progress of risk management activities.[220] In addition, Mr. Earley established the Chairman's Safety Review Committee to reinforce the role of safety in all aspects of the company's operations and relationships with customers, the public, employees and suppliers.[221] The Chairman's Safety Review Committee will review PG&E's overall safety strategy and its implementation.[222]

b. Company-Wide Enterprise Records Management Improvements

PG&E created a new Enterprise Records Management organization to develop and implement a company-wide Records Management policy.[223] The Enterprise Records Management organization was created to promote transparency and accountability for Records Management; protect vital records and enhance disaster planning; and ensure appropriate records retention practices.[224] A cross-organizational steering committee guides the development of standards and policies associated with records management.[225] The committee is co-led by the

[217] San Bruno Ex. PG&E-1a at 13-3 (PG&E/Yura).
[218] San Bruno Ex. PG&E-1a at 13-11 (PG&E/Yura); San Bruno R.T. 911-13 (PG&E/Yura).
[219] San Bruno Ex. PG&E-1a at 13-11 (PG&E/Yura); San Bruno R.T. 915-16 (PG&E/Yura).
[220] San Bruno Ex. PG&E-1a at 13-11 (PG&E/Yura).
[221] San Bruno Ex. PG&E-1a at 13-12 (PG&E/Yura); San Bruno R.T. 913-14 (PG&E/Yura).
[222] San Bruno Ex. PG&E-1a at 13-12 (PG&E/Yura).
[223] Records Ex. PG&E-61 at 1-19 (PG&E/Singh).
[224] Records Ex. PG&E-61 at 1-19 (PG&E/Singh).
[225] Records Ex. PG&E-61 at 1-19 (PG&E/Singh).

Senior Vice President and Chief Information Officer, and the Senior Vice President and General Counsel of PG&E Corporation.[226] Its members include Line of Business (LOB) representatives from Gas Operations, Electric Operations, Customer Care, Energy Supply, Regulatory Relations, Legal, Finance, Shared Services, Information Technology, and Human Resources.[227]

In April 2012, PG&E hired a Director of Information Management Compliance.[228] The Director formerly consulted with numerous large publicly-traded companies on records management practices.[229] The department, which ultimately reports to the General Counsel, is part of a company-wide effort to modernize PG&E's records management practices, the goal of which is to improve the retrievability of records, confirm their accuracy, and improve the records management systems themselves to help better manage PG&E's operations. In September 2012, the department issued a company-wide Records Management Corporate Standard that promotes accountability, protects vital records and ensures appropriate retention practices.

c. PG&E's Gas Organization Improvements And Initiatives

(i) PG&E's Initiatives To Improve Its Integrity Management Program

PG&E has reassessed every aspect of its Integrity Management program to identify the areas in which the company can improve.[230] The core of this effort was a major restructuring of the organization and personnel responsible for implementing PG&E's Integrity Management program, with a team now in place solely dedicated to transmission integrity management.[231] PG&E hired consultants recognized and respected in the industry as experts in integrity management to assist in an in-depth review of the program policies, procedures and tools.[232] Concurrently with this review, PG&E has taken additional actions to further improve it Integrity Management program. These actions included updating the company's risk assessment model and Risk Management Procedures ("RMPs").[233] Revisions included changing the weight of the

[226] Records Ex. PG&E-61 at 1-20 (PG&E/Singh).
[227] Records Ex. PG&E-61 at 1-20 (PG&E/Singh).
[228] Records Ex. PG&E-61 at 1-20 (PG&E/Singh).
[229] Records Ex. PG&E-61 at 1-20 (PG&E/Singh).
[230] San Bruno Ex. PG&E-1c at 4-36 (PG&E/Keas).
[231] San Bruno Ex. PG&E-1c at 4-37 (PG&E/Keas).
[232] San Bruno Ex. PG&E-1c at 4-37 (PG&E/Keas).
[233] San Bruno Ex. PG&E-1c at 4-37 (PG&E/Keas).

risk factors for existing threats to better reflect risk and threats related to pipeline information, and incorporation of additional historical leak records.[234] PG&E has further refined its risk model with respect to corrosion cracking, internal corrosion, equipment and incorrect operations threats.[235]

PG&E will also substantially enhance its integrity management process through Project Mariner, discussed in Section IV.C.4.c(iii). Through Project Mariner, PG&E will: (1) increase the amount, types, quality and accessibility of information collected and maintained electronically regarding its pipelines; (2) improve the systems for collecting, validating and retaining pipeline data; (3) increase the traceability of materials used in the construction and maintenance of transmission pipelines; and (4) enhance PG&E's ability to assess and mitigate potential public safety risks.[236]

PG&E also hired consultants to assist in creating new threat identification procedures related to manufacturing threats, construction threats, internal corrosion, stress corrosion cracking, fatigue (including cyclic fatigue) and interactive threats.[237] The company's consultants developed the procedures and analysis tools for manufacturing, construction, and interactive threats, which PG&E incorporated into is Integrity Management program in 2012.[238] Additional updates were made to threat identification procedures related to all other threats described in PG&E's Integrity Management program.[239]

(ii) PG&E's Comprehensive MAOP Validation Project

PG&E's MAOP Validation project aims to ensure safe operations and to restore public trust. Early efforts to evaluate pipeline data began prior to the NTSB's recommendations. Beginning in October 2010, the company analyzed all transmission lines on the Peninsula, including Lines 101, 132, 109, and cross-ties 132A and 147.[240] Following the NTSB's January 3, 2011 safety recommendation, PG&E expanded the effort system-wide. Through the course of the project, PG&E collected available records to validate the MAOP not only for the pipelines

[234] San Bruno Ex. PG&E-1c at 4-37 (PG&E/Keas).
[235] San Bruno Ex. PG&E-1c at 4-37 (PG&E/Keas).
[236] San Bruno Ex. PG&E-1c at 4-38 (PG&E/Keas).
[237] San Bruno Ex. PG&E-1c at 4-39 (PG&E/Keas).
[238] San Bruno Ex. PG&E-1c at 4-39 (PG&E/Keas).
[239] San Bruno Ex. PG&E-1c at 4-39 (PG&E/Keas).
[240] Joint R.T. 302, 425-26 (PG&E/Harrison).

associated with the NTSB recommendation and the Commission's resolution, but for PG&E's entire gas transmission system.[241]

PG&E completed its MAOP validation for gas transmission pipelines running through high-consequence areas on January 31, 2012.[242] On March 14, 2013, the NTSB declared its MAOP validation recommendation to PG&E "Closed – Acceptable Action."[243] In order to complete the MAOP Validation project in its entirety, PG&E will take the component level data from the pipeline features lists (PFLs), integrate the data with PG&E's enhanced GIS (Intrepid), and ensure geospatial alignment for the pipelines. PG&E expects to upload the data currently housed in PFLs into Intrepid, and once the data is uploaded into Intrepid, PG&E plans to conduct a thorough Quality Assurance/Quality Control (QA/QC) process before the data transfer can be deemed reliable. PG&E expects the QA/QC process to be completed this summer.[244]

(iii) Project Mariner

PG&E proposed Project Mariner as part of the company's continued effort to move away from reliance on paper records and toward robust electronic data management systems. Project Mariner is a four-year program to enhance the safety of the company's gas system by dramatically improving the accessibility and reliability of its pipeline information.[245] The final product of the PFLs built in PG&E's MAOP Validation effort will become the foundation of historical asset information on which Project Mariner will be based.[246]

Project Mariner has three strategic elements. First, it enhances how PG&E collects data in the field. Mobile data collection devices will reduce handoffs (the manual inputting of data) that increase the probability for data input error. Second, Project Mariner is consolidating all of PG&E's numerous information systems into three Enterprise Systems (SAP, Documentum, and

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[241] *See* PG&E's Pipeline Safety Enhancement Plan (PSEP) Compliance Report dated April 30, 2013. The NTSB recommendation addressed Class 3 and Class 4 locations, and HCAs in Class 1 and Class 2 locations. As PG&E suggested, the Commission subsequently directed that the MAOP validation be performed on the entire transmission system.

[242] Records Ex. PG&E-61 at 1-25 (PG&E/Singh).

[243] PG&E's Request for Official Notice, Ex. 11 in I.11-02-016 (Letter from NTSB to Christopher P. Johns, President of Pacific Gas and Electric Company (March 14, 2013)).

[244] CPSD's Request for Official Notice, Ex. 2 in I.11-02-016 (PG&E Pipeline Safety Enhancement Plan (PSEP) Expedited Application Workshop (March 26, 2013)).

[245] Records Ex. PG&E-61 at 1-27 to 1-28 (PG&E/Singh). This project was originally named Gas Transmission Asset Management (GTAM) Project.

[246] San Bruno Ex. PG&E-1c at 4-38 (PG&E/Keas).

Intrepid[247]). This consolidation will increase access and retrieveability of data, and eliminate the large number of disparate and largely uncoordinated data systems (*e.g.*, IGIS, GIS 2.0, EDMS, ECTS, PSRS, Gas FM, PLM) that exist within the company. Third, Project Mariner is integrating gas transmission pipeline data using linear referencing, a pipeline industry standard model. Where PG&E's current GIS system identifies pipelines in segments and two dimensions, linear referencing will identify pipelines in virtual segments and three dimensions, stationing pipeline assets and features according to their actual locations. This enhanced GIS will interface with the two other enterprise systems, SAP and Documentum, and link source documents and data to the respective asset.

(iv) The PwC Records Management Assessment

In its June 20, 2011, submission in the Records OII proceeding, PG&E made a commitment to seek assistance from industry experts to assist the company in addressing its record maintenance challenges. In November 2011, PG&E's gas organization retained PwC to address records-related findings, conclusions, and recommendations contained in the Independent Review Panel's June 2011 report.[248] PwC reported on its completed work in a document entitled "Gas Operations Records and Information Management Assessment" dated March 31, 2012.[249] PG&E considers the final PwC report a valuable source of records assessment information, and continues to implement and evaluate the recommendations in its ongoing initiatives addressing records and data management.[250] Many of PwC's recommendations will be addressed in the course of making and sustaining larger asset knowledge and records management initiatives currently underway at PG&E.

(v) GIS Data Clean Up

PG&E has conducted data cleanup to identify potential pipeline attribute issues in conjunction with development of the 2012 integrity management Baseline Assessment Plan. As part of this process, PG&E's Integrity Management group reviewed the current GIS database to

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[247] PG&E's enhanced GIS has been referred to in these proceedings as GIS 3.0 as well as Intrepid.

[248] Records Ex. PG&E-61 at 1-29 (PG&E/Singh).

[249] Records Ex. PG&E-61 at 1-28 to 1-29 (PG&E/Singh).

[250] PG&E's plans to address PwC's specific recommendations are set out in table form in Attachment 1D to Records Ex. PG&E-61.

identify potential inaccuracies in data categories relevant to the manufacturing threat identification process on HCA pipe segments.[251] For each discrepancy identified in this process, the Integrity Management group compared data in the current GIS with data in the pipeline features lists created through the MAOP Validation project to resolve the discrepancy.[252] PG&E does not plan or intend to migrate pipe attribute and operational data from its current GIS database to Intrepid.[253] However, PG&E is currently using some of the data from the current GIS (*e.g.*, class locations, HCAs and segment data) in order to ensure a clean transition between the systems as it continues to build Intrepid.[254] The company is evaluating what other data sets will need to be transferred to the new system.[255] Intrepid will be rolled out later this year.

(vi) Improvements To PG&E's SCADA System

PG&E is implementing significant projects that will expand the current SCADA capability to predict and proactively manage abnormal events on the company's transmission system, focused on the most densely populated areas of its service territory.[256] Upon completion of the first of these projects, the Automated Valve Program, PG&E will have real-time knowledge of pipeline pressures at least every five to eight miles on large diameter gas transmission pipelines located in Class 4 and Class 3 HCA areas.[257] Each automated valve will be equipped with automatic and/or remote control capability designed to expedite the isolation of a section of pipeline.[258] An alarm indicating rapid pressure drop beyond the established threshold will be received by the SCADA system and displayed in the control room (along with an audible alert).[259] Additionally, PG&E is investigating and pilot testing various available and in-development leak detection, pipeline damage and ground movement technologies that could

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[251] Records Ex. CPSD-64 (PG&E Supplemental Response to Joint Data Request No. 1, Question 2); Records R.T. 1605-07 (PG&E/Keas).

[252] Records Ex. CPSD-64 (PG&E Supplemental Response to Joint Data Request No. 1, Question 2); Records R.T. 1605-07 (PG&E/Keas).

[253] Records Ex. CPSD-66 (PG&E Response to CPSD Data Request No. 91, Question 11). Pipeline data compiled in the comprehensive MAOP Validation project serves as the source data on which Intrepid will be built.

[254] Records Ex. CPSD-66 (PG&E Response to CPSD Data Request No. 91, Question 11).

[255] Records Ex. CPSD-66 (PG&E Response to CPSD Data Request No. 91, Question 11).

[256] San Bruno Ex. PG&E-1 at 8-17 (PG&E/Slibsager and Kazimirsky).

[257] San Bruno Ex. PG&E-1 at 8-17 (PG&E/Slibsager and Kazimirsky); Joint R.T. 194-97 (PG&E/Slibsager).

[258] San Bruno Ex. PG&E-1 at 8-19 (PG&E/Slibsager and Kazimirsky).

[259] San Bruno Ex. PG&E-1 at 8-19 (PG&E/Slibsager and Kazimirsky).

be tied to the SCADA system, providing real-time information and proactive identification of developing risks.[260]

PG&E is evaluating information technology solutions to deliver the right information to gas operators to allow them to make prompt, informed decisions related to pipeline safety.[261] The company is working to integrate its OSIsoft PI Data Historian, SCADA and GIS systems to achieve an electronic platform designed to support the control room operators.[262] PG&E is incorporating Lean Six Sigma improvement processes[263] from a variety of internal stakeholders and industry consultants to ensure a solution focused on interoperability and usability.[264] Examples of these improvements include: (1) a SCADA enhancement that prioritizes alarms for appropriate operator action upon activation; (2) a geographical based operating system for the consoles used by PG&E's gas system operators; and (3) a new SCADA visual coding design.[265] PG&E is also building a new control center complex to co-locate transmission, distribution, gas dispatch and emergency response organizations.[266]

(vii) Improvements To Clearance Procedures

PG&E has revised its gas clearance procedure and is implementing additional tools and training to ensure compliance.[267] Work that has been identified as potentially impacting a station (or valve) control system or electrical supply is routed to the local facility/controls engineer for review to ensure the identified work will not pose a risk to the normal operations of the facility.[268] Gas Control's final approval process verifies that all work associated with control systems or electrical supplies have been properly reviewed and, if not, Gas Control routes the draft clearance to proper reviewers before issuing final approval.[269]

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[260] San Bruno Ex. PG&E-1 at 8-19 (PG&E/Slibsager and Kazimirsky); Joint R.T. 124-27 (PG&E/Slibsager and Kazimirsky).

[261] San Bruno Ex. PG&E-1 at 8-19 (PG&E/Slibsager and Kazimirsky).

[262] San Bruno Ex. PG&E-1 at 8-19 (PG&E/Slibsager and Kazimirsky).

[263] Lean Six Sigma is a synergized managerial concept the objective of which is to eliminate waste, reduce costs and increase efficiency within a business.

[264] San Bruno Ex. PG&E-1 at 8-19 (PG&E/Slibsager and Kazimirsky).

[265] San Bruno Ex. PG&E-1 at 8-19 to 8-20 (PG&E/Slibsager and Kazimirsky).

[266] San Bruno Ex. PG&E-1 at 8-20 (PG&E/Slibsager and Kazimirsky).

[267] San Bruno Ex. PG&E-1 at 8-21 (PG&E/Slibsager and Kazimirsky).

[268] San Bruno Ex. PG&E-1 at 8-21 (PG&E/Slibsager and Kazimirsky).

[269] San Bruno Ex. PG&E-1 at 8-21 (PG&E/Slibsager and Kazimirsky).

PG&E's Control Room Management process includes a change in management procedure that requires commissioning and functional check-out testing of all components at the field level connected to SCADA.[270] In addition, through site visits to more than a dozen major North American gas and electric facilities, PG&E has determined that the most effective clearance processes utilize an electronic platform that is accessible to all participants involved in a clearance.[271] PG&E's use of an electronic platform will ensure sustained conformance with the clearance procedure requirements and the completion of appropriate levels of review by engineering, maintenance and Gas Control before clearance work begins.[272]

(viii) Emergency Response Improvements

PG&E has made numerous changes to its emergency response procedures. The cornerstone of these improvements is the company's revised Gas Emergency Response Plan ("Plan"), which PG&E issued on September 30, 2011, after extensive research and evaluation.[273] The Plan: (1) identifies a single person to assume command over the emergency response, and designates specific duties for Gas Control personnel and other potentially involved company employees; (2) includes the development and use of trouble-shooting protocols and checklists to coordinate and focus on the company's response; and (3) requires periodic emergency response exercises to put the procedures in practice.[274] PG&E also formed a new Emergency Preparedness team within Public Safety & Integrity Management to be responsible for reviewing and maintaining the Plan, so that PG&E personnel will respond efficiently, safely and in a coordinated manner in the case of an emergency.[275] Additionally, the company has expanded its outreach to first responders and developed metrics to measure the effectiveness of its public awareness program.[276]

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[270] San Bruno Ex. PG&E-1 at 8-22 (PG&E/Slibsager and Kazimirsky).
[271] San Bruno Ex. PG&E-1 at 8-22 (PG&E/Slibsager and Kazimirsky).
[272] San Bruno Ex. PG&E-1 at 8-22 (PG&E/Slibsager and Kazimirsky).
[273] San Bruno Ex. PG&E-1 at 10-6 (PG&E/Dickson).
[274] San Bruno Ex. PG&E-1 at 10-6 (PG&E/Dickson); San Bruno R.T. 433-34 (PG&E/Dickson).
[275] San Bruno Ex. PG&E-1 at 10-6 to 10-7 (PG&E/Dickson); San Bruno R.T. 441-42 (PG&E/Dickson).
[276] San Bruno Ex. PG&E-1 at 10-10 (PG&E/Dickson); San Bruno R.T. 442-43, 450-51 (PG&E/Dickson).

d. CPSD's Dismissal Of PG&E's Improvements Misses The Mark

CPSD discounts PG&E's post-accident efforts to improve its records management and gas operations. In its view, PG&E's improvement initiatives merely comply with requirements that originated with the Commission and the Legislature, suggesting (erroneously) that PG&E would not have taken such action absent coercion:

> PG&E touts its Pipeline Safety Enhancement Plan (PSEP), but in fact the PSEP is mandated by R.11-02-019 and D.12.12-030. PG&E states that it has developed a plan that is consistent with best practices in the gas industry and with federal pipeline safety statutes. Both the R.11-02-019 and SB 705 (Leno, Ch522/2011) required PG&E to develop the plan.[277]

CPSD addresses the wrong question. The question is not whether the Commission mandated improvements. Even if they were mandated, Section 2104.5 presupposes that the improvements were required to achieve compliance with Commission rules and orders. The question is the good faith of the utility in attempting to achieve that compliance and whether the company embraced the spirit of change rather than grudgingly accepting a mandate.

CPSD does not address PG&E's good faith in making records management improvements because CPSD did not evaluate them. In CPSD's words, it has "not conducted discovery, analyzed or taken a position on PG&E's statements about improving its records management practices."[278] In the case of gas operations, CPSD raised criticisms in its testimony about PG&E's remedial actions, but most of those criticisms addressed the sufficiency of PG&E's corporate changes.[279] CPSD does not challenge, for example, the sufficiency of PG&E's PSEP plan. In R.11-02-019, CPSD approved of that plan with few objections. In this proceeding, CPSD advocates that the Commission apply to the penalty it imposes on PG&E the amount of PG&E's unrecovered PSEP expenditures. This position, with which PG&E agrees, only makes sense if CPSD credits PG&E's good faith in implementing its PSEP plan.

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[277] CPSD Remedies OB at 49; *see* San Bruno Ex. CPSD-5 at 63 (CPSD/Stepanian); *see also* TURN Remedies OB at 27 ("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.").

[278] Records Ex. CPSD-1 at 6 (CPSD/Halligan).

[279] San Bruno Ex. CPSD-5 at 55-61 (CPSD/Stepanian).

D. PG&E's Financial Resources And Ability To Pay

PG&E's financial resources and ability to pay should not be the starting point for setting a penalty. To the contrary, any penalty must be proportional based on proven violations and prior penalties in analogous circumstances and take into account the full extent of the costs that shareholders already have incurred or will incur to improve PG&E's gas transmission system. As CPSD and Intervenors recognize, however, once the Commission determines what an appropriate penalty otherwise would be, it must consider PG&E's financial condition as a check on the amount of the penalty. The discussion that follows assumes – contrary to the record, the law and the history of prior penalties – that PG&E has committed violations that could give rise to penalties in excess of any reasonable amount and addresses the question of what size penalty PG&E reasonably could bear without harming its financial condition. This is the issue that was addressed by CPSD's witnesses Mr. Lubow and Professor Malko[280] and PG&E's witness Mr. Fornell of Wells Fargo. The purpose of Overland and Mr. Fornell's testimony was not to advise the Commission how to calculate an appropriate fine.[281]

CPSD and Intervenors accept without question Overland's testimony that PG&E could raise $2.25 billion in new equity to pay a penalty without causing undue financial stress to the company.[282] To varying degrees, CPSD and Intervenors use $2.25 billion as a starting point for their proposed penalties.[283] Overland's testimony, however, conveys a false sense of precision in its "calculation" of the $2.25 billion amount. Even Overland cautioned that "[t]he actual amount of equity that the company could issue might be materially different than" Overland's "threshold level" of $2.25 billion.[284] Overland's "threshold level" is in fact essentially a made-up number based on two financial metrics that have nothing to do with market capacity for equity to be used to fund a penalty.

Furthermore, Overland's analysis disregards the implications of a $2.25 billion penalty that, if approved, would be unprecedented in scope and size. Overland's analysis also fails to

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[280] As noted above, PG&E refers to Mr. Lubow and Professor Malko individually and collectively as "Overland."

[281] Ex. Joint-53 at 27 (CPSD/Overland); Joint R.T. 1359 (CPSD/Overland); Joint R.T. 1522 (PG&E/Fornell).

[282] In this section of the brief, PG&E uses "PG&E" to refer either to the utility, Pacific Gas and Electric Company, or its parent, PG&E Corporation. PG&E Corporation would be the issuer of any equity to fund a penalty. The cited exhibits and testimony often refer to PG&E Corporation by its New York Stock Exchange symbol, "PCG."

[283] *See* CPSD Remedies OB at 52-53; DRA Remedies OB at 19-20; TURN Remedies OB at vii; CCSF Remedies OB at 15.

[284] Ex. Joint-51 at 11 n.23 (CPSD/Overland).

take into account PG&E's need to issue large amounts of equity to fund planned capital improvements during the same time that it would need to fund the penalty. CPSD and Intervenors' proposed remedies, which rely on Overland's analysis, would put at risk PG&E's planned capital expenditures.

Equity analysts immediately found that Overland's conclusions are unrealistic and lacking a market focus. According to ISI, Overland's analysis is:

> simplistic and may use circular logic in arguing in part that recent underperformance of the shares means the market is implying it will willingly absorb a significant equity issuance to fund fines/penalties. This reasoning implies, by extension, that the lower the stock price falls, the higher the receptiveness of the financial market to a large dilutive financing by the company. The analysis does not appear to address many salient issues pertaining to specific and non-specific capital markets risks that could impact the ability of PCG to finance such a large quantity of equity.[285]

Barclays highlighted additional weaknesses in Overland's analysis:

> We view this analysis as flawed. We believe it would be difficult for a company to raise 12% of its market capitalization as equity to investors while offering a 0% return on that investment capital.[286]

If the Commission ultimately concludes that a large penalty is appropriate, it should not take Overland's $2.25 billion "threshold level" as the gospel that CPSD and Intervenors do, but rather give full credit and consideration to PG&E's ongoing capital needs, the realities of the equities market in which PG&E would need to sell stock to fund a penalty and, most important, the more than $2.2 billion of unrecovered and unrecoverable gas transmission safety-related costs that PG&E's shareholders already have incurred or will incur.

1. CPSD And Intervenors Underestimate The Difficulty Of PG&E Issuing Equity To Fund Their Proposed Penalties And PG&E's Planned Infrastructure Improvements

a. Any Penalty Must Take Into Account PG&E's Planned Equity Issuances To Fund Capital Expenditures

To be realistic, any assessment of PG&E's ability to fund a proposed penalty needs to take into account PG&E's planned capital expenditures. As Overland explained, "The utility

[285] Ex. Joint-61 at 1.

[286] Ex. Joint-66 at 19 (PG&E/Fornell).

industry is one of the most capital intensive industries in the country. Large capital investments require financing, so access to the capital markets (both debt and equity) is critical."[287] This is especially true for PG&E. The company projects capital expenditures of approximately $5.1 billion in 2013, $4.5-$5.5 billion in 2014, $4.5-$6 billion in 2015, and $4.5-$6 billion in 2016.[288] These planned capital expenditures are necessary to make important infrastructure and safety-related improvements to PG&E's gas transmission system as well as to its other utility operations. A large portion of these capital expenditures will need to be financed externally. PG&E projects equity issuances of approximately $1 to $1.2 billion in 2013, [redacted][289] PG&E also projects debt issuances ranging from approximately [redacted][290]

PG&E intends to finance any penalty by issuing additional equity. Overland agrees that PG&E's stated plan to use equity to fund any penalty is "prudent."[291] Any equity that PG&E must issue to fund a penalty would be incremental to its planned equity issuances to fund infrastructure work for its operations. PG&E's planned equity issuances – before any equity to fund a penalty – are very substantial [redacted]. Only three of the 30 utility equity offerings since 2008 were larger than $600 million.[292] Any utility equity issuance of more than $500 million is unusual and will attract heightened investor scrutiny.[293] [redacted][294]

[redacted]

[287] Ex. Joint-53 at 4 (CPSD/Overland); *see also* Ex. Joint-66 at 4 (PG&E/Fornell).

[288] Ex. Joint-57 at 6, 11; Ex. Joint-66 at 17 (Fig. 7) (PG&E/Fornell).

[289] Ex. Joint-66 at 17 (Fig. 9) (PG&E/Fornell); Ex. Joint-57 at 9. The sentence above in text is redacted in the public version of this brief. PG&E is filing the confidential version of this brief under seal. No motion is required because the material that PG&E has redacted from the public version of this brief was previously designated as confidential during the hearings in these proceedings.

[290] Ex. Joint-66 at 17 (Fig. 8) (PG&E/Fornell).

[291] Ex. Joint-51 at 6 (CPSD/Overland) ("We believe the decision to utilize equity capital to fund these penalties is a prudent decision by the company, as it maintains the company's current capital structure without adding leverage that would increase the company's perceived financial risk.").

[292] Ex. Joint-66 at 25 (PG&E/Fornell).

[293] Ex. Joint-66 at 26 (PG&E/Fornell).

[294] Ex. Joint-66 at 27 (Fig. 12) (PG&E/Fornell).

[redacted][296].
There is no dispute that investors would prefer to buy equity used for an income-generating purpose than equity to fund a penalty.[297]

b. The Proposed Penalty, If Approved, Could Put At Risk PG&E's Planned Capital Expenditures

Raising sufficient equity to fund CPSD's or Intervenors' proposed penalties in addition to PG&E's planned capital expenditures is likely to pose enormous difficulties and could force PG&E to postpone planned infrastructure improvements. Investors' expectations and perceptions of risk are important factors determining the market's capacity for an equity issuance to fund a penalty. Utility investors, including PG&E's, tend to be relatively risk-averse and value-stable, predictable returns.[298] Utility investors focus on the utility's regulatory environment when valuing and selecting utility securities for investment. Utilities that operate in a regulatory environment where they are able to earn reliable returns on invested capital and recover prudently incurred costs are more likely to represent an attractive risk-return tradeoff for these types of investors.[299] Both Overland and Mr. Fornell agree that "[t]he perceived quality of the regulatory environment in which a utility operates is among the most important factors affecting the utility's ability to attract capital at reasonable rates."[300]

Adopting CPSD or Intervenors' proposed penalties would change investors' perception of the risk of investing in PG&E stock and send a negative signal to investors about the regulatory environment in which PG&E operates.[301] This is not to say that any penalty would cause investors to reassess the regulatory climate in California and the risk of investing in PG&E. A penalty that is proportional and understandable in relation to the facts and prior penalties in analogous situations and that incorporate the costs PG&E already has incurred and

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[295] Ex. Joint-66 at 26-27 (PG&E/Fornell).
[296] Ex. Joint-66 at 26-27 (PG&E/Fornell).
[297] Ex. Joint-53 at 9 (CPSD/Overland).
[298] Ex. Joint-66 at 6-7 (PG&E/Fornell).
[299] Ex. Joint-66 at 6, 9-10 (PG&E/Fornell).
[300] Ex. Joint-60.
[301] Ex. Joint-66 at 19, 21-22 (PG&E/Fornell); Joint R.T. 1448-49 (PG&E/Fornell).

will incur likely would not have such an effect.[302] CPSD and Intervenors make no attempt, however, to justify their proposed penalties in relation to the much smaller penalties that have been levied on utilities in other pipeline accidents or the huge amounts that PG&E's shareholders already have invested in improving its gas transmission system. Indeed, CPSD acknowledges that its proposed penalty would be "by far the largest penalty ever assessed against a public utility by a state regulatory commission in the United States, and among the largest penalties of any kind in the nation's history."[303]

If CPSD's or one of the Intervenors' proposed penalties is approved, the take-away for investors is likely to be that the current regulatory environment is less constructive than previously thought. And, if investors have a less favorable perception of the regulatory climate in California, it will be more difficult for PG&E to attract capital at competitive rates and to raise the equity it needs to fund planned infrastructure improvements.[304] Changes in investors' perceptions of the regulatory environment in California also could have spillover effects on other California utilities, raising their cost of equity along with PG&E's.[305] A penalty to be paid over time – if it is much higher than investors expect – will have the same consequence as a single lump sum penalty in terms of changing investors' perceptions of the risk of investing in PG&E.[306] The Commission also should consider that the proposed remedies exceed the expectations of the debt ratings agencies, which may change the agencies' perception of the regulatory environment in which PG&E operates.[307] Standard & Poors (S&P) explained that "regulatory risk is perhaps the most important factor" in assessing a utility's overall business risk.[308] And, although the ratings agencies may not lower PG&E's debt ratings unless PG&E is

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[302] *See* Joint R.T. 1601-02 (PG&E/Fornell) (explaining that disallowances and penalties are not necessarily contrary to a constructive regulatory environment if "they are applied in a rational, well explained way" and "are ideally also predictable").

[303] Appendix A (May 9, 2013 letter from Emory J. Hagan, III, Brigadier General (CA), Director of the Safety and Enforcement Division to Anthony F. Earley Jr.).

[304] Joint R.T. 1448-49 (PG&E/Fornell); Ex. Joint-66 at 22 (PG&E/Fornell).

[305] Joint R.T. 1464 (PG&E/Fornell).

[306] Joint R.T. 1591 (PG&E/Fornell).

[307] S&P assumed that any penalty and unrecoverable costs would total approximately $1.7 billion. Ex. Joint-72 at 5. Based on this assumption – which is less than CPSD's proposed penalty – S&P "consider[ed] PG&E's financial risk profile to be significant." *Id.* at 7.

[308] Ex. Joint-66 at 10 (PG&E/Fornell). The regulatory framework and the utility's ability to recover costs and earn returns determine 50% of Moody's debt rating for utilities. Ex. Joint-66 at 10-11 & Fig. 5 (PG&E/Fornell).

unable to raise sufficient equity and increases its borrowings,[309] they will be paying close attention to any further deterioration in PG&E's financial position.[310] It is essential that PG&E's investment grade debt ratings not be jeopardized.[311]

The intent to use the proceeds to fund a penalty rather than an investment that would provide a return to investors also likely would limit the market capacity for a PG&E equity issuance. In Overland's words, it is "intuitively obvious" that an "equity offering to fund a penalty is not going to be as well received by investors as would an offering to fund capital expenditures or an acquisition that would add to the earnings of the company."[312] No utility has issued equity specifically to finance a penalty since 2008 – if ever.[313] Although there are no precedents for issuing equity to pay a penalty, there have been seven issuances since 2008 whose principal purpose was to repay debt.[314] The average "all-in cost"[315] for those issuances was more than twice the all-in cost of issuances to fund growth investments during the same time period.[316] While equity offerings to repay debt are viewed less favorably than offerings to fund growth, they do serve to reduce financial risk, increase future investment flexibility and reduce interest expense – all of which investors view favorably.[317] An issuance to fund a penalty would have none of those benefits.

San Bruno argues nonetheless that the proposed penalties would be manageable for PG&E because, when asked what would happen if the Commission were to impose a $2 billion

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[309] *See* Joint R.T. 1620 (PG&E/Fornell) (discussing a hypothetical $2 billion fine and explaining that "[t]he company is going to have to borrow money" and "[t]hat is going to put pressure on its ratings"); Ex. Joint-66 at 22 (PG&E/Fornell).

[310] PCG's senior unsecured debt is already rated BBB-, the lowest investment grade, by S&P. Ex. Joint-72 at 10; Ex. Joint-66 at 11 (PG&E/Fornell); Joint R.T. 1605 (PG&E/Fornell). PG&E would face increased borrowing costs and other consequences if this rating falls further. *See* Ex. Joint-66 at 12-14 (PG&E/Fornell) (discussing ramifications of losing investment grade, including higher borrowing costs, potentially losing access to debt markets, and incremental collateral obligations). And, even if S&P is unlikely to lower PG&E's ratings so long as PG&E is able to fund any penalty with equity, the proposed penalties, if approved, would make it less likely that S&P would raise PG&E's rating in the near future and put PG&E out of danger of downgrade to non-investment grade.

[311] Ex. Joint-53 at 4 (CPSD/Overland); Ex. Joint-66 at 12 (PG&E/Fornell).

[312] Ex. Joint-53 at 9 (CPSD/Overland). *See also* Ex. Joint-66 at 3, 15 (PG&E/Fornell).

[313] Ex. Joint-66 at 25 (Fig. 11) (PG&E/Fornell).

[314] Ex. Joint-66 at 24 (PG&E/Fornell).

[315] The "all-in cost" is the total cost of the equity issuance including (1) the cumulative stock price change (usually a decrease, due to expected dilution) from the time of the announcement of the issuance to the pricing, and (2) fees and expenses associated with the offering. Ex. Joint-66 at 24 (PG&E/Fornell).

[316] Ex. Joint-66 at 24-25 (PG&E/Fornell); *see also* Ex. Joint-76 at 1.

[317] Ex. Joint-66 at 24 (PG&E/Fornell).

fine, Mr. Fornell testified that it "may be doable" to raise sufficient equity to pay such a penalty and PG&E "probably" would survive.[318] Notwithstanding the fact that PG&E *may* survive, imposing such a penalty on PG&E could cause serious harm and put at risk PG&E's long-term financial health. PG&E's stock "would be beaten down" and it would face the prospect of trying to raise very large amounts of equity to fund planned capital expenditures in addition to equity to pay the $2 billion penalty.[319] As Mr. Fornell explained, PG&E would "need to postpone as much capex as possible going forward" because it simply would not be feasible to raise enough equity (at least at reasonable prices) to maintain its planned capital expenditures and fund a huge penalty.[320] He also explained that the company probably would have to increase borrowings to work itself out of this very difficult situation, but that would put pressure on its debt ratings.[321] Mr. Fornell concluded that, even if it ultimately turned out to be "doable" for the company to raise equity to pay a $2 billion fine, at a minimum, it would have "consequences in terms of having to limit future capital expenditures"[322] and would place PG&E "in a world of hurt."[323]

For its part, CPSD suggests that the Commission should disregard Mr. Fornell's testimony because he did not try to measure market capacity for an equity issuance to fund a penalty. As support, CPSD misleadingly quotes the Wells Fargo report as stating that "analyzing 'PCG's equity capacity is impractical and inappropriate.'"[324] In fact, Mr. Fornell's testimony focused on the most important drivers of equity capacity such as the purpose of the proceeds, investor expectations and the size of the issuance compared to prior utility issuances.[325]

CPSD also implies that Mr. Fornell's testimony should not be given weight because he did not quantify the specific amount of equity he believes PG&E could issue to fund a penalty.[326]

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[318] San Bruno Remedies OB at 31; Joint R.T. 1638 (PG&E/Fornell).

[319] Joint R.T. 1587 (PG&E/Fornell).

[320] Joint R.T. 1620 (PG&E/Fornell). Mr. Fornell explained that, assuming that the fine must be paid, "[t]he only thing that you've got some flexibility around will be future capex." *Id.* at 1619; *see also id.* at 1633-34.

[321] Joint R.T. 1619-20, 1634 (PG&E/Fornell).

[322] Joint R.T. 1638 (PG&E/Fornell).

[323] Joint R.T. 1619 (PG&E/Fornell).

[324] *See* CPSD Remedies OB at 53 (citing the Wells Fargo Report, p. 1). The Wells Fargo report in fact states: "Wells Fargo believes ***Overland's approach*** to determining PCG's equity capacity is impractical and inappropriate for the issue they are analyzing." Ex. Joint-66 at 3 (PG&E/Fornell) (emphasis added). (CPSD mistakenly states that the quotation is from p. 1 rather than p. 3 of the Wells Fargo report.)

[325] *See, e.g.*, Ex. Joint-66 at 15-18 (PG&E/Fornell).

[326] *See* CPSD Remedies OB at 53 ("Despite the fact that that PG&E's senior management has publicly stated that PG&E's preferred method of paying for the consequences is to raise additional equity, and Overland's financial analysis followed this method, Wells Fargo's analysis took a different perspective."); *see also* DRA Remedies OB at

But the reason Mr. Fornell did not do so is because that is not how the equity markets actually work. Rather than relying solely on finance theory, Mr. Fornell brought a real-world perspective to analyzing the equity capacity for PG&E to fund a large penalty. He is the only witness who has any experience working for a leading underwriter of utility equity securities.[327] As he explained, the difficulties that PG&E could face in issuing a huge amount of equity to fund a penalty would not hit all at once at a particular threshold amount.[328] Equity capacity cannot be determined from a simple, theoretical calculation – especially in these unique circumstances. The answer ultimately will depend on a number of factors including investor perceptions of the regulatory environment and the external market conditions when PG&E goes to the market. As Mr. Fornell explained:

> The real world that I live in and that my colleagues live in is that we have to raise equity for clients, and that depends on a whole bunch of factors. We talked about a number of the real factors in the economy and issues around that. But one of the very important ones is investor attitudes about, or impressions or judgments about the regulatory and political environment that a utility operates in, because we are talking about utility stocks. It is not that I can say, gee, this exact bright line point something is going to happen. But I can advise the Commission that to the extent a fine exceeds investor expectations the more challenging it will be to raise that equity, and the more that investors will second guess their existing perception of the risk of doing business for PG&E in this political and regulatory environment.[329]

The fact that Mr. Fornell's testimony does not offer artificial precision should make it more, not less, credible in guiding the Commission.

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27 ("Although the report takes pot shots at Overland's analysis, it provides no alternative analysis of what PG&E can afford to pay in penalties and still remain financially healthy.").

[327] Wells Fargo is a leading underwriter of utility equity and debt securities. Ex. Joint-66 at 2-3 (PG&E/Fornell). Mr. Fornell personally has 23 years of experience as an investment banker focused on utilities and energy sectors. Joint R.T. 1553 (PG&E/Fornell); Ex. Joint-66 (PG&E/Fornell) (Mr. Fornell's resume is attached on the last page). Among other relevant experience, Mr. Fornell served as the lead for one of the largest equity offerings ever by a U.S. utility (while he was employed by J.P. Morgan). Joint R.T. 1537-38 (PG&E/Fornell). CPSD and Intervenors may contend that Mr. Fornell's testimony is biased and therefore unreliable because of Wells Fargo's business relationship with PG&E. Any such contention would be misplaced. Wells Fargo's fees from its total relationship with PG&E have not exceeded $3 million in any year since 2008. Ex. Joint-69. This is a tiny portion of Wells Fargo's total revenues of approximately $84 billion. Joint R.T. 1604 (PG&E/Fornell). Similarly, the amount of PG&E stock held by Wells Fargo is very small, either as a percentage of Wells Fargo's assets or as a percentage of PG&E's stock. Ex. Joint-68; Joint R.T. 1443-44 (PG&E/Fornell).

[328] Joint R.T. 1481-82, 1594-95 (PG&E/Fornell).

[329] Joint R.T. 1614-15 (PG&E/Fornell).

Taking a different tack, TURN argues that the Commission should disregard investor expectations and perceptions of risk as a matter of principle and "not be blackmailed by this self-serving threat from Wall Street investor analysts."[330] TURN misunderstands the point of Mr. Fornell's testimony. The reason the Commission should be concerned about investors' expectations is not to avoid "disappoint[ing]" shareholders,[331] but rather the impact a shift in investors' perception of risk would have on PG&E's ability to raise equity to finance both the penalty and PG&E's planned capital expenditures. TURN and the other parties gloss over the fact that PG&E must sell its equity to real buyers in an actual market. There is no guarantee that PG&E will find willing buyers for its stock at reasonable prices. Investors have many options. There are more than 60 investor-owned utilities in the United States and a wide variety of other investment options.[332]

PG&E's need to finance more than $2 billion in penalties would be unprecedented on many levels. Not only is such a penalty dramatically larger than any other ever imposed on a utility, there is no evidence that a utility has ever issued stock for the specific purpose of paying *any* fine or penalty, much less one of that magnitude. [redacted] Furthermore, the largest utility equity issuances in recent years have involved financing for major acquisitions, whereas PG&E would be going to the equity markets to raise equity for a purpose that will not generate income or increase the company's assets.

TURN also misapprehends the potential harm from penalizing PG&E to the point that it would not be able to raise equity capital to fund the penalty and its planned capital expenditures on reasonable terms. TURN suggests that the Commission need not be concerned because any increase in PG&E's cost of equity capital will not affect ratepayers until 2016 at the earliest (and then only if the Commission increases PG&E's authorized rate of return to reflect PG&E's higher cost of equity capital in the next cost of capital proceeding).[333] Although PG&E cannot

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[330] TURN Remedies OB at 39; *see also id.* at 37 ("The Commission Should Not Set the Penalty Level in Deference to Analyst Forecasts"); CPSD Remedies OB at 54 ("This provides little insight into PG&E's ability to pay penalties."); DRA Remedies OB at 27 (referring to Wells Fargo's discussion of investor expectations as "a compendium of guesses, rumors, and gossip" (original in heading format)).

[331] *See* TURN Remedies OB at 40.

[332] Joint R.T. 1615-16 (PG&E/Fornell).

[333] TURN Remedies OB at 41-43.

predict by how much an extremely large penalty will raise its cost of equity capital or for how long, TURN assumes away any harm to ratepayers if PG&E cannot complete its planned capital expenditures because of the market's reaction to a huge penalty. TURN also disregards any possible impact to PG&E's debt ratings or access to the debt markets.

The City and County of San Francisco suggests that cutting planned capital expenditures could make it easier for PG&E to raise equity for the penalty.[334] CCSF never explains the basis for this argument or identifies which categories of infrastructure improvements it thinks PG&E should not pursue. Curtailing planned capital expenditures intended to improve PG&E's infrastructure would be contrary to the overarching goal of improving safety and reliability.[335]

2. Overland's Analysis Does Not Provide A Valid Basis For Determining The Size Of Penalty PG&E Reasonably Could Absorb

CPSD and all Intervenors have proposed penalties at or above the $2.25 billion "threshold level" derived by Overland. Overland's testimony is the only evidence offered by CPSD or Intervenors relating to the amount of penalty that PG&E could pay without undue financial harm. Yet Overland derived its "threshold level" through a flawed methodology lacking any grounding in the reality of the equity markets. This lack of a real world perspective is not surprising, as neither Mr. Lubow nor Professor Malko has any experience working for an underwriter of utility equity or debt securities,[336] but it undermines Overland's testimony as a basis from which to determine the amount of any penalty.

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[334] CCSF Remedies OB at 15 ("PG&E could pursue a reasonable capital expenditure program, instead of the unrealistic and aggressive program PG&E has publicly described.").

[335] Cutting planned capital expenditures to pay fines to the state's General Fund (as in DRA, TURN and San Bruno's proposals) would make even less sense, from a safety-enhancement perspective. Furthermore, even if the penalty is used entirely for improvements to PG&E's systems as in CPSD's proposal, following CCSF's suggestion would not be as simple as transferring dollars of planned capital expenditures to a penalty. From an investor's standpoint, a dollar of equity to fund a penalty is not interchangeable with a dollar of equity to fund capital expenditures included in rate base. *See, e.g.*, Ex. Joint-53 at 9 (CPSD/Overland); Ex. Joint-66 at 3 (PG&E/Fornell).

[336] *See* Ex. Joint-53 at 1-2 & Exs. LM-1 & LM-2 (CPSD/Overland). Mr. Lubow has spent most of his career representing public agencies in regulatory proceedings. Ex. Joint-53 at 1 & Ex. LM-1 (CPSD/Overland). Professor Malko is a finance professor. Ex. Joint-53 at 1-2 & Ex. LM-2. Their analysis was based on "finance theory." Joint R.T. 1360 (CPSD/Overland).

a. Overland's Model Does Not Justify The $2.25 Billion "Threshold Level"

Based on purported "finance theory,"[337] Overland set about to estimate the amount of equity that PG&E could raise to fund a penalty. Overland did not begin this analysis with a blank slate. CPSD asked Overland to conduct its analysis to assist in the settlement process in light of the "preliminary positions being taken by other parties" and "the significant disparity of positions among the various parties."[338] "It was in this context that Overland performed its financial analysis in 2012" and concluded that PG&E could absorb a penalty of $2.25 billion.[339]

Overland's "financial analysis" used to derive the $2.25 billion "threshold level" consisted of looking at two particular metrics – the price to book and dividend payout ratios – and calculating how those metrics would change at different amounts of hypothetical penalties. Specifically, Overland "sought to determine the level of equity that could be raised that would allow the company to maintain a premium of market value above its book equity value and allow the company to remain compliant with its dividend policy (which targets a payout ratio between 50 and 70 percent)."[340] Using the (1) price to book ratio and (2) dividend payout ratio "as a guide," Overland "calculated a 'Threshold level' amount of $2,250 million of equity capital that could be raised by the company."[341] Overland's use of the word "calculated" in reference to the "threshold level" is misleading in the sense that its model did not "calculate" that amount. Rather, Overland calculated the price to book and dividend payout ratios at different potential penalty amounts ($500 million, $750 million, and $2.25 billion) and determined that if PG&E were to issue $2.25 billion in incremental equity, its price to book ratio would remain above 1.0 and the dividend payout ratio under 70%.[342] Overland also purportedly tested the reasonableness of the "threshold level" by comparing it as a percentage of PG&E's market capitalization to "similar utility equity issuances in the recent past."[343] Overland updated this analysis for purposes of its rebuttal testimony but it did not change the "threshold level."[344]

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[337] Joint R.T. 1360 (CPSD/Overland).
[338] Ex. Joint-53 at 3 (CPSD/Overland).
[339] Ex. Joint-53 at 3 (CPSD/Overland).
[340] Ex. Joint-51 at 10 (CPSD/Overland).
[341] Ex. Joint-51 at 11 (CPSD/Overland).
[342] Ex. Joint-51 at 11 (CPSD/Overland).
[343] Ex. Joint-51 at 11 (CPSD/Overland).
[344] Ex. Joint-53 at 22-24 (CPSD/Overland).

Overland's approach to estimating the amount of equity that PG&E reasonably could raise to fund a penalty lacks both theoretical and practical support. The two metrics on which Overland focuses are not measures of market capacity.[345] The price to book ratio measures the extent to which a company's current market capitalization is more or less than the accounting value of its book equity.[346] A company's dividend payout ratio merely reflects the amount of the dividend relative to the company's earnings.[347] Overland never explains why staying within PG&E's dividend payout policy is a measure of market capacity. Indeed, neither of these measures is typically used by investment banks to determine the market's capacity for an equity offering.[348] A closer look at Overland's methodology highlights its flaws and underscores that Overland's conclusion that PG&E could absorb a penalty of $2.25 billion lacks any meaningful support in the record.

Price To Book Equity Ratio: Overland's model used this metric as a "check" for testing different hypothetical penalty amounts, as it wanted to ensure that at the "threshold level" of equity PG&E would have a "premium" of market value to book equity, *i.e.*, a price to book equity ratio of greater than 1.0.[349] Not only is the price to book equity ratio unrelated to market capacity, Overland mistakenly assumed that the implied book equity of the company would increase by the amount of any penalty even though paying the penalty would not add to PG&E's assets.[350] If Overland had kept the implied book equity constant as it should have,[351] PG&E's implied price to book ratio – one of the two key metrics Overland used to "calculate" the "threshold level" – would have remained exactly the same at any penalty amount.[352] **The fact**

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[345] On cross-examination Overland asserted that its "calculation" of the "threshold level" relied on other financial metrics as well. *See* Joint R.T. 1376 (CPSD/Overland). Overland conceded, however, that in determining the "threshold level" it focused principally on the price to book and dividend payout ratios. *Id.* Furthermore, Overland's reliance on these two metrics is clear in its written testimony describing how it derived the "threshold level." *See* Ex. Joint-51 at 10-12 (CPSD/Overland); Ex. Joint-53 at 22-24 (CPSD/Overland).

[346] Ex. Joint-66 at 15 (PG&E/Fornell).

[347] Ex. Joint-66 at 15 (PG&E/Fornell).

[348] Ex. Joint-66 at 15 (PG&E/Fornell).

[349] Ex. Joint-51 at 10 (CPSD/Overland); Joint R.T. 1378 (CPSD/Overland).

[350] *See* Ex. Joint-53 at 23-24 (Tables 11 and 12) (CPSD/Overland) (showing implied book equity increasing by the amount of additional funding required).

[351] *See* Joint R.T. 1399-1400 (CPSD/Overland) (agreeing that Overland assumed incremental equity for penalty would not add any assets to the balance sheet and therefore market to book ratio would not change at different levels of equity issued); *see also* Joint R.T. 1373-75 (CPSD/Overland) (agreeing Overland assumed that incremental equity to pay penalty or fine would not add assets or equity on PG&E's balance sheet).

[352] *See* Joint R.T. 1400-01 (CPSD/Overland) ("But you are right, you could look at it as though it were constant throughout the different levels of funding.").

that in Overland's model the price to book ratio would "lead you to the same conclusion"[353] whether the penalty was $1 or $100 billion underscores that this metric cannot provide the basis for determining the market capacity for equity to fund any particular penalty amount.

Dividend Payout Ratio: Overland's other key metric, the dividend payout ratio, is equally problematic when used as a basis for estimating market capacity. Not only is it also not a measure of market capacity, it is very sensitive to the earnings per share (EPS) assumption used in the calculation. Although Overland stated in its February 2013 rebuttal testimony that it used "the most updated financial forecast provided by the Company,"[354] it actually used PG&E's 2012 EPS estimate of $3.24 [redacted].[355] Using the company's current EPS guidance for 2013 of $2.55 to $2.75,[356] PG&E's dividend payout ratio as calculated in Overland's model assuming $2.25 billion of additional equity would range from 76% (at $2.75 EPS) to 81% (at $2.55 EPS)[357] – far in excess of both PG&E's internal guidelines (50%-70%) and the mean payout ratio of 59% of PG&E's peers.[358] **If Overland had used PG&E's expected 2013 earnings from operations (rather than the old 2012 forecast), it should have lowered the "threshold level" significantly – to between zero and $500 million assuming 2013 EPS at the midpoint ($2.65) of guidance[359] – to maintain the payout ratio at or below 70%**. As Overland explained on cross-examination:

> Q (Mr. Malkin): . . . **And am I correct in understanding that had it not – had the payout ratio been, you know, in excess of the comparables and the company's own target range, that that would have led you to adjust downwards your recommended equity amount?**
>
> A (Mr. Lubow): **I guess I would give you a qualified 'yes.'** As I indicated, we've identified these specific metrics, but we looked at

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[353] *See* Joint R.T. 1400 (CPSD/Overland).

[354] Ex. Joint-53 at 22 (CPSD/Overland).

[355] *See* Ex. Joint-53 at 24 (Table 12) (CPSD/Overland) (row labeled "Projected Operating Earnings Per Share"). *See also* Ex. Joint-65 at 5 (Base Case EPS on Earnings from Operations); Ex. Joint-53 at 20 (Tables 8 and 9) (CPSD/Overland) (showing same 2013 projected EPS as in Ex. Joint-65); Joint R.T. 1413 ("You're right, we had the [2013] internal financial forecast available from discovery.").

[356] Ex. Joint-57 at 7 (Fourth Quarter Earnings Call presentation, February 21, 2013).

[357] Joint R.T. 1413-15 (CPSD/Overland); Ex. Joint-62.

[358] Ex. Joint-63 (mean 59.4%, median 61.2%); Joint R.T. 1416-18 (CPSD/Overland).

[359] *See* Ex. Joint-62 at 3 (the dividend payout ratio at zero penalty would be 69% and 71% with a penalty of $500 million).

> additional metrics.[360] And so if we were concerned about these, we would have looked at the other ones as well and come to a conclusion. **But generally, yes, the intention was to look at key financial metrics and make sure that PCG would remain in the range of those metrics.**[361]

CPSD may argue that this is an unfair criticism of Overland's conclusions because PG&E is projecting that 2013 will be a comparatively low earnings year, [redacted],[362] at least part of the equity to fund the proposed penalties likely would need to be raised in 2013.[363] And, Overland never calculated the two metrics on which it relies based on forecasts for either 2013 or 2014 – the years in which the additional equity would need to be raised. At the very least, the sensitivity of Overland's calculation to changes in the assumptions about EPS from operations should give the Commission pause in relying on the implied precision of Overland's "calculation" of the "threshold level."

Percentage Of Market Capitalization: While Overland did not use the percentage of market capitalization as the basis for calculating its "threshold amount," it did contend that the fact that $2.25 billion represents 12% of PG&E's market capitalization reinforces the reasonableness of its conclusions. According to Overland, given that two other utilities (Northeast Utilities and Ameren) issued stock representing 11% and 9% of their market capitalizations, PG&E reasonably should be able to issue stock making up 12% of its market capitalization to pay a penalty.[364] In reaching this conclusion, however, Overland considered only two out of the 30 utility equity issuances since 2008.[365] A review of all utility equity issuances since 2008 shows that any issuance greater than $500 million is unusual.[366] What is more, Overland ignored the critical fact that Northeast Utilities and Ameren issued stock for

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[360] *See supra* note 345 (explaining that Overland's written testimony does not reflect that it used any metrics other than price to book and dividend payout ratios to "calculate" the "threshold level").

[361] Joint R.T. 1380-81 (CPSD/Overland) (emphasis added; explanatory footnote added).

[362] *See* Ex. Joint-65 at 5.

[363] [redacted] Ex. Joint-65 at 2.

[364] Ex. Joint-51 at 11 (CPSD/Overland) (citing examples of Northeast Utilities and Ameren).

[365] Ex. Joint-66 at 25 (Fig. 11) (PG&E/Fornell).

[366] Ex. Joint-66 at 26 (PG&E/Fornell).

income-generating investments, not to pay a penalty.[367] As discussed above, there is no evidence that any utility has ever issued so much stock for a non-income-generating purpose.[368] **Overland offers no examples of analogous utility equity issuances because there are none.**[369] And while Overland contends that it took into account that PG&E's equity would be used to fund a penalty by not showing any incremental earnings associated with the issuance in its model,[370] Overland's estimation of market capacity to fund a penalty is in fact "aggressively positive."[371] As Mr. Fornell explained, Overland's model takes into account that the new equity would not earn a return through "simple math," but "not for the reality of going out and trying to sell these shares. We have to try to sell these shares to investors who want to buy them."[372]

b. Overland's Analysis Ignores PG&E's Substantial Need For Equity Capital To Fund Infrastructure Improvements

Overland's analysis is also unreliable because it never addresses PG&E's significant need for equity capital to fund infrastructure improvements during the same period that it would need to issue the $2.25 billion in equity to fund a penalty. TURN contends that "Overland explicitly took into account PG&E's planned capital expenditures and planned equity issuances for 2012-2016 in determining the 'threshold case.'"[373] But TURN never explains this contention, and the evidence it cites is opaque.[374] In the cited testimony, Overland asserts without explanation that if it had ignored PG&E's need to raise capital for infrastructure improvements its "'threshold'

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[367] Ex. Joint-66 at 25 (Fig. 11) (PG&E/Fornell).

[368] Ex. Joint-66 at 25 (Fig. 11) (PG&E/Fornell).

[369] American Electric Power (AEP) issued equity of approximately $1.7 billion in 2009 to repay debt – one of the largest utility equity issuances ever. Ex. Joint-66 at 25 (Figure 11) (PG&E/Fornell); Joint R.T. 1537-38, 1540 (PG&E/Fornell). In 2007, AEP had entered into a settlement with the Department of Justice to resolve a large environmental litigation and agreed to pay a penalty of $15 million, spend $60 million to mitigate adverse effects of past excess emissions, and reduce air pollutants in the future at an estimated cost of $4.6 billion. Ex. Joint-83. The record showed, however, that these costs (except for the penalty and possibly the $60 million to address past excess emissions) would be recoverable in rates. Joint R.T. 1539-43, 1606 (PG&E/Fornell); Ex. Joint-88 at 4 ("of course those are all recoverable as they are capital investments required to satisfy federal statutory requirements"); Ex. Joint-89 ("all of this investment is recoverable in rates and would be $0.06 accretive to earnings"). Mr. Fornell, who led AEP's successful 2009 equity issuance, explained that that the environmental settlement did not deter potential investors because the settlement facilitated a large investment in infrastructure that was included in rate base. Joint R.T. 1537-38, 1541-42 (PG&E/Fornell).

[370] Ex. Joint-53 at 9 (CPSD/Overland); *see also, e.g.*, TURN Remedies OB at 34-35.

[371] Joint R.T. 1492 (PG&E/Fornell).

[372] Joint R.T. 1495 (PG&E/Fornell).

[373] TURN Remedies OB at 35.

[374] *See* Ex. Joint-53 at 17 (CPSD/Overland).

analysis would look considerably different."[375] In fact, [redacted][376] are never reflected in Overland's model. Overland states that its analysis assumes PG&E's planned equity issuances of $600 million *in 2012*,[377] but it never refers to equity issuances in 2013 or later. Furthermore, Overland discusses how the "threshold level" of equity as a percentage of PG&E's market capitalization compares to other utility equity issuances,[378] but it never addresses the fact that the equity to fund the penalty would be over and above the substantial equity PG&E anticipates needing to fund a portion of its planned capital expenditures. And, Overland never discusses the fact that the "threshold level" of equity combined with PG&E's planned equity issuances for capital expenditures [redacted].[379] To the contrary, Overland's model assumes an artificial, static world in which all of the financial data are frozen in 2012.[380] In the real world in which PG&E will need to fund any penalty the Commission imposes, PG&E also will have ongoing capital expenditures that it will need to finance with large amounts of debt and equity.

In short, the Commission should not rely on Overland's testimony as a basis for determining the amount of any penalty. The apparent precision of Overland's "threshold level" provides a false sense of accuracy, but it is not based on either accepted measures of equity capacity or market realities.

3. Reductions In Dividends Do Not Provide A Viable Alternative To Equity Financing For Any Penalty

Overland's estimation of the $2.25 billion "threshold level" does not assume that PG&E will fund part of the $2.25 billion through a dividend reduction. However, as Overland

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[375] *See* Ex. Joint-53 at 17 (CPSD/Overland).

[376] *See* Ex. Joint-66 at 17 (Fig. 9) (PG&E/Fornell).

[377] Ex. Joint-51 at 10 (CPSD/Overland) ("It is important to note that our analysis reflects the impact of *incremental* equity issued by PCG. This is equity beyond the amount already embedded in PCG's forecasts. For the forecast period used in our analysis below, PCG was planning to issue $600 million in additional equity in 2012, including $300 million to fund gas-related penalties and unrecoverable pipeline work."). In its rebuttal testimony, Overland corrected the $300 million to $200 million to reflect the amount that the company reserved for fines or penalties. *See* Ex. Joint-53 at 22 & n.22 (CPSD/Overland).

[378] *See* Ex. Joint-51 at 11; Ex. Joint-53 at 16 & Table 6.

[379] *See supra* Section IV.D.1.a.

[380] *See* Ex. Joint-53 at 24 (Table 12) (CPSD/Overland) (model reflects stock price as of 9/30/2012, projected EPS in 2012, and does not reflect any additional equity that would be issued alongside the equity to fund the penalty).

addressed possible dividend actions as a means of funding at least part of any penalty in both its original report and its rebuttal testimony,[381] PG&E addresses the issue briefly here.[382] Shareholders are likely to react negatively to any dividend cut.[383] The dividend sends a strong signal about management's view of the company's future prospects.[384] As Overland itself acknowledged, utility investors in particular focus on dividends because "we are talking primarily about income stocks."[385] Mr. Fornell explained that reducing the dividend would be exactly the wrong thing to do when the company needs to go to the market to raise enormous amounts of equity.[386] The bottom line is that any money that PG&E could "save" by reducing the dividend would be offset at least to some extent by a decrease in the stock price.[387] Overland has not attempted to quantify this tradeoff, and there is no basis in the record to conclude that any flexibility PG&E might have with respect to its dividend would allow it to fund a larger penalty than if it funded the penalty entirely through stock issuance.

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[381] Ex. Joint-51 at 6-7 (CPSD/Overland); Ex. Joint-53 at 18-21, 27 (CPSD/Overland).

[382] Some of the Intervenors criticize Mr. Fornell for discussing the dividend issue in the Wells Fargo report. *See* DRA Remedies OB at 31-32; TURN Remedies OB at 35; *see also* R.T. 1453-55 (PG&E/Fornell) (CPSD counsel asking Mr. Fornell to admit that his discussion of dividends was a "straw man argument"). But it was only natural that Mr. Fornell addressed dividends given that Overland discussed a dividend cut as at least a partial alternative to equity to fund any penalty. *See* Ex. Joint-51 at 6-7 (CPSD/Overland) (section of Overland's report entitled "Estimate of Available Equity Capital Through Dividend Retention"). Furthermore, as discussed below, CPSD makes a specific recommendation that implicates PG&E's dividend payments. *See* CPSD Remedies OB at 62 (Recommendation No. 32 within I.12-01-007). Nonetheless, DRA goes so far as to accuse Mr. Fornell of using "baseless scare tactics" merely because he responded to Overland's discussion of the dividend issue. *See* DRA Remedies OB at 31-32 (original in heading format). Ironically, a few pages later in its brief, DRA argues that PG&E "can easily raise the funds necessary to pay a total penalty of more than $2.25 billion primarily through stock issuance, *possibly supplemented by a temporary dividend adjustment*." *Id.* at 34 (emphasis added).

[383] Ex. Joint-66 at 7-9 (PG&E/Fornell); Ex. Joint-53 at 18 (CPSD/Overland) ("We agree that existing shareholders (and the market as a whole) at times react negatively to news about a dividend cut because they believe it is a 'signal' from management about the company's future prospects. This is commonly referred to as the 'signaling effect.' We also agree that these reactions can be more dramatic for a public utility than for companies in other industries."). Overland argues that the signaling effect should not have a large impact here because, it claims, investors will understand that the need to pay an enormous penalty does not reflect on PG&E's future earnings potential. *See* Ex. Joint-53 at 18-19 (CPSD/Overland). This is mere conjecture and, as Mr. Fornell testified, in his practical experience, "[p]eople respond to money [i.e., dividends], not to statements." Joint R.T. 1452 (PG&E/Fornell). In this context, investors will react negatively to any kind of dividend cut, whether it is anticipated or not. Joint R.T. 1461 (PG&E/Fornell).

[384] Ex. Joint-66 at 7, 18 (PG&E/Fornell); Joint R.T. 1452-53 (PG&E/Fornell) ("And one of the strongest signals that [investors] look for about management's judgment about the future is the dividend.").

[385] Joint R.T. 1378-79 (CPSD/Overland) (agreeing that it is important for a utility to continue to pay healthy dividends to attract equity investors).

[386] Joint R.T. 1451-52 (PG&E/Fornell) ("And if they need to raise capital and they're confident enough about the future, then having a dividend that's at least status quo sends an important message to investors [that] is worth preserving.").

[387] Ex. Joint-66 at 18 (PG&E/Fornell); Joint R.T. 1634 (PG&E/Fornell).

4. Under Overland's Own Analysis, Any Penalty Must Take Into Account All Unrecovered And Unrecoverable Costs

Even in embracing Overland's analysis, CPSD and Intervenors have not correctly applied Overland's conclusions in their proposed penalties. First, those Intervenors who have proposed remedies that exceed $2.25 billion fail to recognize that the "threshold level" as determined by Overland constitutes a "maximum" amount of available equity.[388] According to Overland, the "threshold level" is the "upper limit" of the amount of equity that PG&E could raise to fund any non-income-generating costs.[389] Furthermore, the "threshold level" is not intended to represent the amount of equity that PG&E could raise in a single issuance. Overland concedes that, even if its analysis were correct, PG&E probably would need to issue the $2.25 billion in tranches over as long as a year.[390]

Second, Overland's "threshold level" represents the maximum amount of equity that PG&E could issue to fund all unrecovered and unrecoverable costs, not only a penalty in these proceedings. CPSD and Intervenors appear to acknowledge this in varying degrees, but they do not recognize the full extent of PG&E's unrecovered and unrecoverable costs that should be counted against the "threshold level." As Overland explained, penalties or fines are "not the focus of the analysis."[391] Rather, the "threshold level" could include equity to fund a penalty, explicit disallowances in a rate case, and "costs that were not specifically considered in a previous proceeding."[392] The "threshold level" represents the amount of equity Overland believes PG&E could issue for all costs "that would be the shareholder responsibility as opposed to any ratepayer responsibility."[393] From the perspective of someone investing in PG&E's equity, it does not matter whether a cost is a penalty in an enforcement proceeding, an express disallowance in a rate case decision, spending over amounts implicit in adopted rates, or some other category of unrecovered or unrecoverable cost.[394]

To illustrate this point on cross-examination, PG&E prepared an exhibit showing certain categories of unrecovered and unrecoverable costs identified in an excerpt of PG&E's 2012

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[388] Ex. Joint-51 at 10 (CPSD/Overland).
[389] Ex. Joint-53 at 27 (CPSD/Overland).
[390] Joint R.T. 1383-84 (CPSD/Overland).
[391] Joint R.T. 1367 (CPSD/Overland).
[392] Joint R.T. 1370 (CPSD/Overland).
[393] Joint R.T. 1370 (CPSD/Overland).
[394] Joint Sealed R.T. 1432 (CPSD/Overland); Ex. Joint-66 at 19-20 (PG&E/Fornell).

annual report and its fourth quarter 2012 presentation to investors.[395] Applying the definition of "threshold level" discussed above, Overland did not dispute that the following categories of unrecovered and unrecoverable costs should be counted towards the "threshold level" of equity:

- Disallowances in D.12-12-030 (the PSEP decision);[396]
- Spending above rate case amounts in gas transmission and other lines of business;[397]
- Right of way management costs;[398] and
- Contributions to the City of San Bruno.

Even though Overland may have quibbled with PG&E's calculation of some of the numbers presented in Ex. Joint-59, it did not challenge that, as a conceptual matter, all of these types of costs should be counted toward the "threshold level."

In Section II.A, *supra*, PG&E detailed the unrecovered costs PG&E has incurred to improve its gas transmission system since the San Bruno accident and through 2012 and the unrecoverable costs it expects to incur in 2013 and subsequent years. Shareholders have incurred an additional $316 million in unrecovered costs in other lines of business in 2010 through 2012 and PG&E forecasts an additional $190 million in unrecoverable costs to be borne by shareholders in 2013 and beyond in other operational areas of the utility.[399] The following table summarizes these costs.

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[395] Ex. Joint-59; *see also* Ex. Joint-58 (annual report excerpt); Ex. Joint-57 (4th quarter earnings call presentation).

[396] Overland questioned PG&E's calculation of the amount of the PSEP disallowance, but it did not offer its own accounting and agreed that the PSEP disallowance (however calculated) should be counted toward the "threshold level." *See* Joint Sealed R.T. 1424-27 (CPSD/Overland); *see also* Joint R.T. 1371-72 (CPSD/Overland). In particular, Overland questioned whether the disallowed contingency should be counted (Joint Sealed R.T. 1426-27 (CPSD/Overland)), but it agreed that, from an investor's perspective, if PG&E spent more than the amounts in rates, it did not matter whether that was the result of an explicit disallowance of identified work or a disallowance of the contingency. Joint Sealed R.T. 1432 (CPSD/Overland).

[397] Overland suggested that some of these amounts might have been recovered in rates and, in its view, the test would be whether PG&E earned more than the authorized rate of return. *See* Joint Sealed R.T. 1430-31 (CPSD/Overland). Overland admitted, however, that it has not analyzed this issue and has no reason to believe that any costs PG&E identified as costs over rate case amounts were recovered elsewhere in rates. Joint Sealed R.T. 1428, 1430-31 (CPSD/Overland).

[398] Overland stated that it did not have an opportunity to validate the amount of the projected right-of-way management costs (Joint Sealed R.T. 1427-28 (CPSD/Overland)), but it did not disagree that such costs should count toward the "threshold level."

[399] *See* Appendix A, Table 2.

Total Unrecovered and Unrecoverable Costs
(In Millions of Dollars)

	2010-2012	2013 and Beyond	Total
Total PSEP	**$640.6**	**~$610**	**$1250.6**
Total Gas Accord V	**$264.2**	**~$700**	**$964.2**
Total Other Utility Operating Costs Above Authorized	**$315.7**	**~$190**	**$505.7**
TOTAL			**$2,720.5**

Under Overland's methodology *all* these costs should count against the $2.25 billion "threshold level" of new equity that, in its view, the company could raise to fund penalties and other unrecoverable costs. Although CPSD and Intervenors do not address this directly in their briefs, DRA and TURN, for example, argue that the contingency that PG&E requested but that was disallowed in the PSEP decision should not count towards the total penalty amount.[400] This argument is moot because the PSEP-related shareholder costs identified in Appendix A, Table 1 and above include only costs actually incurred (for 2010-2012) or forecasted to be spent (for 2013 and beyond) and do not include any contingency.[401]

TURN also argues that only costs that were explicitly disallowed from rates should count towards any penalty amount. Thus, in its view, only PSEP-related costs should count because, for example, the amount of costs that PG&E incurred above the authorized amounts in the Gas Accord V rate case "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."[402] According to TURN, those costs "should be treated just like any other cost overrun between utility rate cases."[403] First, it is wrong to suggest that the amounts spent for system safety constitute an "overrun." These costs were unforeseeable and, in many cases, represented a response to a higher regulatory standard. Second, TURN's position reflects a misunderstanding of both Overland's analysis and the practical realities. From an investor's standpoint, it does not

[400] DRA Remedies OB at 19 & n.71 (DRA excludes the contingency from its calculation of "the disallowance of *actual* costs PG&E will be required to absorb pursuant to D.12-12-030"); TURN Remedies OB at 45-46.

[401] *See* Joint Sealed R.T. 1432 (CPSD/Overland) (agreeing that what matters for an investor is whether PG&E spent more than what was authorized in rates, not why certain costs were not authorized in the first place).

[402] TURN Remedies OB at 45.

[403] TURN Remedies OB at 45.

matter whether PG&E needs to issue equity to fund an explicit "disallowance" or because it spent more than the adopted rate case amounts.[404] In both cases, the equity would be used to fund unrecoverable costs. The same principle applies to unrecovered and unrecoverable utility operating costs outside gas transmission.

The bottom line is, even if some of the shareholder costs identified above may not need to be raised through new equity, the fact that PG&E's shareholders have incurred or will incur $2.7 billion in unrecovered and unrecoverable operating costs since the San Bruno accident – most of which went to the gas transmission system – reinforces that PG&E should not be penalized beyond the costs that its shareholders already are bearing.[405] The enormous penalties proposed by CPSD and Intervenors, if adopted, could put at risk both PG&E's financial health and planned capital expenditures.

E. Totality Of The Circumstances

In determining an appropriate penalty, the Commission considers the totality of the circumstances in furtherance of the public interest. This factor takes into consideration the unique facts of the case, including those that tend to mitigate the degree of wrongdoing.[406] Here, the Commission is faced with a set of circumstances in which PG&E has committed no intentional wrongdoing, yet is charged with thousands of overlapping, duplicative violations that are largely unrelated to the accident that gave rise to three concurrent investigations. The unique facts of these cases also include the regulatory context and industry practices at the time Segment 180 was constructed and put into operation, the later evolution of pressure testing into a pre-service regulatory requirement, and records management practices developed over time. PG&E acknowledges that its gas system operations and recordkeeping were not what they should have been prior to the accident, but an objective evaluation of the "totality of the circumstances" demonstrates that PG&E's prior shortcomings do not constitute violations that justify the extreme penalty proposed.

For many years, PG&E's gas transmission business has cooperated with CPSD in its performance of audits of PG&E's gas division and district offices, program audits of PG&E's

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[404] Joint Sealed R.T. 1432 (CPSD/Overland); *see also* Ex. Joint-66 at 19-20 (PG&E/Fornell).

[405] *See supra* Section II.A.

[406] *Rulemaking re the Enforcement of the Standards of Conduct Governing Relationships Between Energy Utils. & Their Affiliates*, D.98-12-075, 1998 Cal. PUC LEXIS 1018, at *59.

Integrity Management procedures and practices and PG&E's emergency response plans. Years, and in some instances decades, of these audits have not identified the wide-ranging operational and records issues that are only now, with the clarity of hindsight, elevated to alleged violations. Nevertheless, PG&E's post-accident improvement efforts, many of which were initiated before receiving instruction or notice of violation from the Commission, demonstrate a utility committed to improving the safety of its operations.

The evidentiary record establishes that there was no intentional misconduct or willful neglect on the part of PG&E that led to the rupture. The record evidence is that, in 1956, PG&E believed it was installing Segment 180 using new pipe manufactured at a pipe mill to stringent API pipe specification standards, including a 90% SMYS mill hydro test designed to remove flaws capable of growing to failure during the operation of the pipeline. The evidence further demonstrates that the pups were most likely delivered to the job site as part of a longer length of pipe, already wrapped with an external corrosion coating that masked their existence. No regulatory requirement called for PG&E to inspect the inside of the pipe for missing longitudinal welds (nor did past experience suggest such a defect should be expected), or to hydro test the pipeline once it was installed. In 1956, hydro testing was not a common practice and was still developing as a consistently feasible technology.[407] Indeed, even the ASA B31.1.8 standard provided that, in certain circumstances, operators could forego hydro testing and instead conduct a gas test to a pressure 1.1 times greater than the planned MAOP.[408]

In the early 1970s, federal regulations exempted existing pipelines from their newly-adopted pressure testing requirements, and allowed operators to establish pipeline MAOP at the highest pressure experienced on the pipeline between July 1965 and July 1970.[409] This provision, the grandfather clause, was enacted in recognition that older pipelines, such as Segment 180, were installed during a period in which hydro testing was not required, and that operators may be lacking records sufficient to substantiate pipeline MAOP under the requirements of the newly-issued federal regulations.[410] Existing pipelines like Segment 180 operated in full compliance with all applicable regulations based on prior pressure history alone. The integrity management regulations (effective in 2004) did not change this, recognizing that

[407] *E.g.,* San Bruno Ex. PG&E-1 at 3-11 (PG&E/Caligiuri); Joint R.T. 354-57 (PG&E/Harrison).

[408] Records Ex. PG&E-47 (ASA B31.1.8-1955 § 841.413).

[409] 49 C.F.R. § 192.619(c).

[410] Records Ex. PG&E-61 at 3-6 to 3-7 (PG&E/Zurcher).

older pipelines may not have been pressure tested, and that operators may be missing certain pipeline records, and accordingly provided for the use of conservative, assumed values in conducting threat identification and risk assessment determinations.[411] There is no evidence that PG&E was aware that the pipe installed in Segment 180 included the defective pups, and regulatory requirements between 1956 and September 9, 2010 did not require operators to conduct pressure tests on every pipeline, internally inspect every pipeline, or conduct the exhaustive foot-by-foot records verification called for by the post-accident NTSB recommendations and Commission directives to reestablish pipeline MAOP using a new traceable, verifiable, and complete recordkeeping standard.

The investigations into the San Bruno accident confirmed that PG&E is not unique among the industry; missing, inaccurate or incomplete records, especially regarding pressure testing of older pipelines, are a challenge faced by the entire natural gas industry.[412] The accident prompted the American Gas Association to state: "The natural gas industry is no different from other industries that face a challenge in maintaining its records of assets that are over 40 years old."[413] A significant amount of the transmission pipeline in the United States (more than 60%), including Segment 180, was installed prior to federal gas pipeline safety regulations taking effect in 1970.[414] The regulations do not retroactively address how an operator should have designed, constructed or initially pressure tested a pipeline installed before pipeline safety laws took effect.[415]

The testimony in these proceedings from witnesses with actual experience constructing, operating and assessing pipeline systems confirmed that records management problems extend far beyond PG&E. Mr. Zurcher testified that in his experience, it is very common for pipeline operators to have missing or incomplete records for various pipelines or pipe segments in their systems, particularly for pipelines installed before 1970.[416] The drafters of the integrity management regulations (which included Mr. Zurcher) contemplated and accounted for that practical reality, permitting the use of assumed conservative values where pipeline data was

[411] Records Ex. PG&E-61 at 3-10 (PG&E/Zurcher).

[412] For a complete discussion, *see* PG&E's June 20, 2011 Response at 2B-3 to 2B-10.

[413] Records Ex. PG&E-63 (Tab 1-15) at 2.

[414] PG&E June 20, 2011 Response at 2B-4.

[415] PG&E June 20, 2011 Response at 2B-4.

[416] Records Ex. PG&E-61 at 3-8 (PG&E/Zurcher); Joint R.T. 706-08 (PG&E/Zurcher).

lacking.[417] Mr. Howe testified that the industry has acknowledged it is facing significant challenges in locating records, and that nothing like the detailed records search, and traceable, verifiable, and complete standard recommended by the NTSB, had ever been recommended or required in the natural gas pipeline industry prior to January 3, 2011.[418] This is not simply the perspective of industry insiders. PHMSA remarked within the past year that it is seeing records problems of the kind PG&E has confronted throughout the industry.

The Commission has now evaluated the PSEP plans of several gas utilities in California. It knows from that review that the problem of missing strength test records is not unique to PG&E. In August 2011, Southwest Gas Corporation submitted its proposed testing implementation plan. It maintains only about 15 miles of transmission pipeline in California. It acknowledged that it lacked pressure test records for approximately 7.1 of those 15 miles, including for pipe installed in 1957 (after the 1955 ASME) and 1965 (after GO 112).[419] Similarly, Southern California Gas identified 385 miles of transmission pipeline in HCA locations for which it did not have sufficient documentation of a strength test to at least 1.25 times MAOP.[420]

The Commission without question has the present day regulatory expectation that PG&E and other gas operators will maintain "traceable, verifiable, and complete" MAOP records. But by the account of every industry participant this requirement is new to the industry and difficult to achieve. It was first formulated for the natural gas pipeline industry by the NTSB in its January 3, 2011 Safety Recommendations to PG&E, the Commission and PHMSA. Following these recommendations, the Commission issued directives and orders eliminating the grandfather clause in California, which has long been relied upon by the industry and on which PG&E relied to establish the MAOP on Line 132 and Segment 180. This action sent PG&E and other utilities on an aggressive and diligent search for strength test and design-basis records, which in the case of grandfathered pipe had not previously been relied upon to establish MAOP. The pipeline industry views the requirement (and the expectations behind its terms) as new to the industry.[421] Public filings and statements by the utility industry confirm a common industry understanding

[417] Records Ex. PG&E-61 at 3-9 to 3-10 (PG&E/Zurcher); San Bruno Ex. PG&E-1 at 5-7 to 5-8 (PG&E/Zurcher).
[418] Records Ex. PG&E-61 at 1-10 to 1-14 (PG&E/Howe); Records R.T. 1242-44 (PG&E/Howe).
[419] Records Ex. PG&E-61 at 1-13 (PG&E/Howe).
[420] Records Ex. PG&E-61 at 1-13 (PG&E/Howe).
[421] Records Ex. PG&E-61 at 1-10 to 1-12 (PG&E/Howe); Records R.T. 1247-53, 1268-72 (PG&E/Howe).

that the "traceable, verifiable, and complete" requirement is a new and potentially costly regulatory obligation.[422] Industry efforts continue to understand and apply the requirement, and in particular the definition of some of its terms.[423] The gas industry as a whole has struggled to implement the requirement, precisely because gas transmission records, especially for older pipe, are not very good.[424]

If pipe specification, pressure test or generalized recordkeeping errors or gaps were unique to PG&E, the NTSB would not have issued its January 3, 2011 Safety Recommendations to PHMSA, and PHMSA would not have issued its industry-wide Advisory Bulletins in 2011 and 2012. Following implementation of the NTSB's new recommendations, other operators discovered that they share records deficiencies in roughly equal measure to those faced by PG&E. As Sempra stated in its April 15, 2011 filing, the "traceable, verifiable and complete" standard would require a perfect chain of custody for records installed over 50 years ago and that may have been subject to different regulatory requirements, or no regulatory requirements at all. "This is a very difficult, if not infeasible, threshold to achieve …"[425]

F. The Amount Of The Penalty In The Context Of Past Enforcement Decisions

As discussed in more detail in Section III, a Commission decision levying a penalty should address previous decisions that involve reasonably comparable circumstances and account for any substantial differences in outcome.[426] Even though CPSD acknowledges that "this penalty will be the largest penalty ever assessed to a utility company[,]"[427] precedent remains relevant to the Commission's penalty analysis and determination. A $2.25 billion penalty is far beyond the size of any previous penalty assessed against any utility in the country.

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[422] Records Ex. PG&E-62 at MD-29 to MD-33 (PG&E/Dunn).

[423] Records R.T. 1253-54 (PG&E/Howe); Records Ex. PG&E-72 (July 31, 2012 Letter from PHMSA to American Gas Association); Records R.T. 1293-95, 1325-30, 1343-45 (PG&E/Howe).

[424] Records Ex. PG&E-61 at 1-9 to 1-15 (PG&E/Howe); *see also* Records Ex. PG&E-21 at 4 (Verification of Records July 12, 2012 PHMSA Presentation); *see also* Records Ex. PG&E-63, (Tab 1-25) at 10 ("A traceable, verifiable and complete compliance threshold is technically and legal[ly] unattainable for the pipeline infrastructure").

[425] Records Ex. PG&E-61 at 1-12 (PG&E/Howe).

[426] *Rulemaking re the Enforcement of the Standards of Conduct Governing Relationships Between Energy Utils. & Their Affiliates*, D.98-12-075, 1998 Cal. PUC LEXIS 1018 at *60.

[427] CPSD Remedies OB at 6.

To put the proposed $2.25 billion penalty in perspective, from 1999 to February 21, 2012, the Commission reported that it ordered a total of $568,094,018 in fines and restitution.[428] The proposed penalty of $2.25 billion represents nearly four times the total amount ***of all fines and restitutions ordered by the CPUC over more than 13 years***. The table below illustrates the disparity between past precedent and the proposed $2.25 billion penalty. The chart includes Commission decisions discussed by the CPSD in its opening remedies brief, and penalties imposed in other jurisdictions, and provides a baseline by which to gauge the reasonableness of potential penalties in these proceedings. Even though the facts of the various cases have differing levels of comparability to the current proceedings, the summary below demonstrates that a $2.25 billion penalty goes far beyond any past Commission penalty or any penalty imposed in any other jurisdiction.

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[428] California Public Utilities Commission, Penalties and Restitutions Ordered by CPUC 1999 to February 21, 2012, *available at* http://www.cpuc.ca.gov/NR/rdonlyres/E36E1107-020F-45F6-B85E-20510C76F5B7/0/FinesandRestitution021712.pdf.

Utility	Date	Description	Penalty (in millions)	Ratio of $2.25 Billion to Penalty
		Pipeline		
Olympic Pipeline Co.[429] Bellingham, WA	June 10, 1999	Pipeline rupture and ignition; loss of three lives.	$28.5	79:1
El Paso Corporation Carlsbad, NM[430]	August 19, 2000	Natural gas pipeline rupture and explosion; loss of 12 lives.	$101.5	22:1
Kinder Morgan Energy Partners[431] Walnut Creek, CA	November 9, 2004	Gasoline pipeline explosion after being punctured by backhoe due to failure to properly locate and mark; loss of five lives, and four injured	$41.6	54:1
Public Service Enterprise Group[432] Bergenfield, NJ	December 13, 2005	Pipeline rupture and explosion; loss of three lives, five people hospitalized and an apartment building destroyed.	$0.4	5,625:1

[429] Ex. Joint-66 at 21 (Fig. 10) (PG&E/Fornell).

[430] Ex. Joint-66 at 21 (Fig. 10) (PG&E/Fornell).

[431] PG&E's Request for Official Notice, Ex. 4 (California Office of the State Fire Marshal, Pipeline Failure Investigation Report (June 20, 2005)); PG&E's Request for Official Notice, Ex. 10 at 26 (Kinder Morgan Energy Partners, L.P., Quarterly Report (Form 10-Q) (Nov. 7, 2007)); PG&E's Request for Official Notice, Ex. 11 at 226 (Kinder Morgan, Inc., Annual Report (Form 10-K) (Mar. 1, 2007)).

[432] Ex. Joint-66 at 21 (Fig. 10) (PG&E/Fornell). The NTSB reported that the probable cause of the explosion and fire was the failure to protect the line from shifting soil during excavation, which resulted in damage to the line and the release of gas into the building. Ex. Joint-85 (NTSB Pipeline Accident Brief, DCA-06-MP-001, Bergenfield, NJ).

Utility	Date	Description	Penalty (in millions)	Ratio of $2.25 Billion to Penalty
Dominion Peoples Nat. Gas Co.[433] Plum Borough, PA	March 5, 2008	Natural gas pipeline explosion; loss of one life and one serious injury.	$0.1	22,500:1
PG&E Rancho Cordova, CA (D.11-12-021)	December 24, 2008	Gas leak and explosion; loss of one life and five people injured.	$38	59:1
Kleen Energy Plant[434] Middletown, CT	February 7, 2010	Plant explosion during natural gas pipeline purging; loss of six lives and 50 injured.	$16.0	141:1
UGI Corporation Allentown, PA[435]	February 9, 2011	Gas leak and explosion; loss of five lives, three serious injuries, and eight homes destroyed or significantly damaged.	$25.25	89:1
Other CPUC				
Southern California Edison Company (D.08-09-038)	2008	Management fraudulent manipulation and submission of false reporting of customer satisfaction data.	Fines of $30 million and refunds of approx. $72 million[436]	22:1

[433] Ex. Joint-66 at 21 (Fig. 10) (PG&E/Fornell). The NTSB reported that the probable cause of the leak, explosion and fire was excavation damage to the distribution pipeline that made the pipe susceptible to corrosion and failure. Ex. Joint-84 (NTSB Pipeline Accident Brief, DCA-08-FP-006, Gas explosion, Plum Borough, Pennsylvania).

[434] Ex. Joint-66 at 21 (Fig. 10) (PG&E/Fornell). OSHA found workplace safety violations relating to a gas blow operation in which flammable natural gas was pumped under high pressure through new fuel gas lines to remove debris. Ex. Joint-86 (OSHA News Release, Aug. 5, 2010).

[435] PG&E's Request for Official Notice, Ex. 5 at 3-4 (Joint Settlement Petition, *Pa. Pub. Util. Comm'n, Bureau of Investigation & Enforcement v. UGI Utils., Inc.* (Oct. 3, 2012)); Ex. Joint-66 at 21 (Fig. 10) (PG&E/Fornell).

[436] CPSD Remedies OB at 57; *see also Investigation of S. Cal. Edison Co.*, D.08-09-038, 2008 Cal. PUC LEXIS 401, at *1-2. The fines and estimated refunds in the chart are those set forth in the CPSD Remedies OB at 57. The

Utility	Date	Description	Penalty (in millions)	Ratio of $2.25 Billion to Penalty
San Diego Gas & Elec. Co. (D.10-04-047)	2007	Witch Creek, Guejito, and Rice fires; 207,000 acres burned; loss of two lives; injured 40 firefighters; destroyed 1347 homes, 549 outbuildings, 2 commercial properties, and 239 vehicles.[437]	$14.75[439]	153:1
Cox Commc'ns (D.10-04-047)		Guejito fire; combined with Witch Creek fire into one, which burned 198,000 acres; loss of two lives; injured 40 firefighters; destroyed 1141 homes, 509 outbuildings, and 239 vehicles.[438]	$2 Combined: $16.75	1,125:1 Combined: 134:1
Cingular Wireless[440]	2006	Unjust and unreasonable practices regarding customer relations and fees	Fines of $12 million and a refund for a total of approx. $30 million[441]	54:1

Commission's decision appears to set forth a higher number for the amount of refunds (*i.e.* approximately $80 million).

[437] *See Investigation of Cox Commc'ns & San Diego Gas & Elec. Co.*, I.08-11-007, 2008 Cal. PUC LEXIS 445, at *32, *41.

[438] *See Investigation of Cox Commc'ns & San Diego Gas & Elec. Co.*, I.08-11-007, 2008 Cal. PUC LEXIS 445, at *32.

[439] This total includes a $14.35 million penalty and an additional $400,000 to implement a computer work model to assist CPSD in future audits and investigations of utility safety hazards and incidents.

[440] *Pac. Bell Wireless, LLC (Cingular) v. Pub. Utils. Comm'n*, 140 Cal. App. 4th 718 (2006).

[441] CPSD Remedies OB at 57.

Utility	Date	Description	Penalty (in millions)	Ratio of $2.25 Billion to Penalty
Qwest Commc'ns Corp. (D.02-10-059)	2002	Switching customers' long distance service without permission and charging customers without authorization	$20 million fine[442]	113:1
Pacific Bell (D.02-10-073)	2002	DSL billing and reporting errors	Settlement included $27 million in fines[443]	83:1

As discussed above in Section III, the Carlsbad, New Mexico and Allentown, Pennsylvania accidents are substantially comparable to the San Bruno accident. Yet, the proposed penalty of $2.25 billion against PG&E is more than 20 times the $101.5 million penalty assessed in the Carlsbad case, and 89 times the $25.25 million penalty assessed in Allentown. Also as discussed above, CPSD identifies the Rancho Cordova case as having some similarities to the present situation, and the proposed penalty here is 59 times the $38 million fine imposed in response to the Rancho Cordova accident.[444]

The Commission's Rancho Cordova decision is significant for another reason. In that decision – issued after the Commission had started the Records OII, the same month as the issuance of the Class Location OII, and with the knowledge that the San Bruno OII would shortly be issued – the Commission concluded that a $97 million penalty would be sufficient to serve as a significant deterrent to a utility of PG&E's size. The Commission said:

> The potential penalty exposure of more than $97 million is **moderate to large in comparison to the size of PG&E's operation of its public utility business**, and would serve as **a**

[442] CPSD Remedies OB at 57; *Investigation of Qwest Commc'ns Corp.*, D.02-10-059, 2002 Cal. PUC LEXIS 654, at *1.
[443] CPSD Remedies OB at 57; *Util. Consumers' Action Network v. Pac. Bell Tel. Co.*, D.02-10-073, 2002 Cal. PUC LEXIS 729, at *2.
[444] CPSD Remedies OB at 56-57.

> **significant deterrent** to ensure that similar incidents do not occur in the future.[445]

Past precedent does not support a penalty of $2.25 billion.

V. PROPOSED REMEDIAL ACTIONS

A. PG&E Agrees With Most Of CPSD's Recommendations And Has Identified Operational Commitments To Achieve Them

CPSD proposes remedies for each of the three OIIs (San Bruno, Class Location, and Records), as well as three remedies that CPSD proposes to apply across proceedings. In the San Bruno OII and Class Location OII, CPSD previously outlined the same actions as recommendations that it now casts as remedies in response to alleged violations.[446] In its opening remedies brief, CPSD proposes remedial actions in the Records OII. PG&E does not agree that actions framed as remedies for violations are warranted; the evidentiary record does not establish the violations on which CPSD bases its proposed remedies.

Nonetheless, as PG&E previously stated in the San Bruno and Class Location OIIs, and now states regarding the Records OII, PG&E in large part agrees with the improvement initiatives CPSD describes. In fact, PG&E has already implemented substantial operational commitments that comport with CPSD's recommendations. Appendix B to this brief provides additional detail regarding PG&E's response to each proposed remedy and the significant steps PG&E has taken and will be taking in the future. In some cases, PG&E suggests revising or refining the language of the recommendation to clarify, make more applicable to PG&E's gas operations, or further define the scope of the action, all of which is intended to enhance PG&E's ability to comply, CPSD's ability to oversee, and the likelihood of successful implementation.[447] Appendix C lists all of the improvement commitments that PG&E has either implemented or agrees to implement in response to the parties' proposals, incorporating modifications where needed to ensure clarity and successful implementation.

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[445] *Investigation into the Gas Explosion and Fire in Rancho Cordova*, D.11-11-001, 2011 Cal. PUC LEXIS 509, at *60 (emphasis added).

[446] San Bruno Ex. CPSD-1 at 164-67 (CPSD/Stepanian); Class Location Ex. CPSD-1 (CPSD May 25, 2012 Investigative Report.

[447] *See* Appendix B, attached.

B. Some Proposed Remedies Are Neither Necessary Nor Appropriate

CPSD and Intervenors also propose remedies that are not necessary or appropriate. Appendix B contains detail with respect to each proposal; here, PG&E discusses a few proposed remedies that the Commission should not adopt, whether cast as remedies for violations or voluntary initiatives for improvement.

1. Third-Party Monitor

All Intervenors (but not CPSD) propose that the Commission order the appointment of an independent third-party monitor to oversee PG&E's implementation of pipeline safety initiatives, PG&E's continued implementation of its PSEP, and presumably CPSD's oversight and management of those activities.[448] Though Intervenors offer several rationales, their primary theme is that neither PG&E nor CPSD has the ability to adequately ensure that PG&E's operational commitments and PSEP activities are properly undertaken and completed. PG&E disagrees with Intervenors' lack of confidence in both CPSD and PG&E's effectiveness. PG&E proposes that, instead, the Commission direct that PG&E continue funding consultants retained and directed by CPSD to assist it in its oversight of PG&E's ongoing pipeline safety initiatives.

In support of its proposal, DRA cites three cases in which independent monitors have been used in the wake of oil and gas industry accidents.[449] In all three, however, the party to be monitored consented.[450] In none of those cases was that party subject to ongoing and comprehensive oversight by a regulatory agency like the Commission.[451] Thus, a third-party monitor was necessary to ensure compliance with remedial measures. CPSD has not proposed the appointment of a third-party monitor. The Commission should give due weight to that fact; CPSD is fully capable of ensuring PG&E's compliance with PSEP and its continuing pipeline safety operational commitments. CPSD is the Commission's staff responsible for safety and

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[448] *See* DRA Remedies OB at 36-40; *see also* San Bruno Remedies OB at 43-49 (likewise urging imposition of an independent monitor); TURN Remedies OB at 49-50 (endorsing DRA's proposal); CCSF Remedies OB at 17.

[449] *See* DRA Remedies OB at 39 & nn.163-65 (citing settlements from BP oil spills in Alaska in 2006, the 1999 rupture of a Shell and Olympic Oil Co. pipeline, and the 2000 Carlsbad accident).

[450] In fact, PG&E is not aware of any civil case or enforcement action in which a monitor has been imposed on a gas utility or its regulator over its objection.

[451] Similarly unprecedented is DRA's proposed selection method. DRA proposes that the parties meet and confer to settle on a selection process "acceptable to the majority of them." DRA Remedies OB at 39. That effectively means Intervenors – not CPSD or PG&E – would select the monitor. In contrast, the selection process in each of DRA's exemplars – as well as in every third-party monitor case of which PG&E is aware – called for the party to be monitored to propose one or more consultants to serve as monitor upon the agreement of the enforcement agency.

enforcement, and it should retain its authority and autonomy to carry out its duties, as it has been since the San Bruno accident.

PG&E recognizes that CPSD's resources are limited and that adding substantial management and oversight obligations to its existing duties could outstrip available resources. To address that concern, PG&E agrees with CPSD's suggestion that the Commission order a portion of any penalty imposed be used to continue funding consultants retained to assist CPSD in managing and overseeing PG&E's implementation of its operational commitments and continuing PSEP activities.[452] Such consultants would continue to be identified, hired and directed by CPSD, but funded by PG&E. Continuing this approach, which has been in practice for over two years, will ensure that CPSD has the resources and expertise it may need, and ensure that adequate attention and oversight is given to PG&E's implementation of these pipeline safety actions, while maintaining CPSD's regulatory autonomy, authority and responsibility.

2. "California Pipeline Safety Trust" And "Peninsula Emergency Response Fund"

The City of San Bruno proposes that PG&E fund, in a total amount of $250 million, a "California Pipeline Safety Trust" (the "Trust" - $100 million over 20 years) and a "Peninsula Emergency Response Fund" (the "Fund" - $150 million over three years).[453] San Bruno states that "the purpose of the California Pipeline Safety Trust is to ensure that when industry, regulatory agencies and legislative action are inadequate, public safety and health will be represented by an independent, well-funded, credible pipeline safety organization."[454] Similarly, the City proposes that:

> The Fund will focus on enhancing the Peninsula's emergency preparedness and response. The Fund will assist cities on the Peninsula in San Mateo County with integrated regional systems for prevention, protection, response, and recovery to emergencies. The fund may also provide funding for certain fire, emergency response, police or sheriff buildings, facilities, and/or equipment.

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[452] *See* CPSD Remedies OB at 58-59 (recommending that the Commission order PG&E to pay for expert consultants to assist CPSD in overseeing PG&E's compliance with any remedial measures the Commission orders). This proposal should allay the City of San Bruno's concern that CPSD lacks the "resources, expertise and capacity" necessary for effective oversight. *See* San Bruno Remedies OB at 44-49.

[453] San Bruno Remedies OB at 41, 50.

[454] San Bruno Remedies OB at 42.

> The fund will be managed by representatives of local government.[455]

As addressed above, PG&E agrees with CPSD that any penalty should be directed toward improving pipeline safety. The most effective use of such funds, in PG&E's view, is to use them (as it has been) to directly address the safety of physical infrastructure and gas system operations through activities such as pipeline testing and replacement, upgrading and installing pipeline appurtenances (*e.g.*, automated valves), and operational infrastructure such as improved control systems and informational capabilities (*e.g.*, SCADA and GIS resources).

While the description of the Trust's purpose relates to pipeline safety, dedicating $100 million of any penalty to fund an advocacy organization will not address the more immediate infrastructure concerns at the center of these proceedings. Similarly, diverting $150 million from pipeline safety measures to establish the Fund, which would local municipalities to use the money to pay for police and fire buildings and equipment having no direct nexus to pipeline safety (and only in San Mateo County), will neither increase pipeline safety nor have an impact outside a limited area. PG&E has previously paid $70 million to establish a non-profit entity directed by the City of San Bruno, with the funds to be spent as desired for the community's benefit, and committed an additional $50 million to a trust for the benefit of the City to be expended on costs related to the accident, including infrastructure repair and replacement.[456] Given that the cost of the already-identified pipeline safety projects far exceeds the finite penalty money that realistically can be available, earmarking $250 million toward the Trust and the Fund is not an appropriate use of such funds.

3. Contracts With Agencies In PG&E's Service Territory

The City of San Bruno asks the Commission "to require PG&E to formalize its emergency response role and disclosure obligations with each city, county and fire district in its service territory either through a memorandum of understanding ('MOU') or by reforming PG&E's franchise agreements to make them conform to the public interest in protecting property used by the franchisee and responding to threats or catastrophes quickly and efficiently."[457] The City elaborates that such proposed contracts could include a variety of terms, including

[455] San Bruno Remedies OB at 50.

[456] *See supra* Section IV.C.2.

[457] San Bruno Remedies OB at 52.

provisions making "any PG&E failure to comply with federal or state safety or environmental laws a breach" of the agreement, and rendering "PG&E strictly liable for all damage caused in connection with the use or operation of a franchise, or by any pipeline or other facility failure, regardless of whether such damage was wholly or partially caused by a third party."[458]

The scope of the City's proposal is not explained in detail but the information the City provides should give the Commission pause. The City's proposal, at least as described, would impose through contract broad, additional quasi-regulatory mandates and potentially unlimited cost exposures that would fundamentally change the utility-ratepayer relationship, to the detriment of both. For instance, the City's suggestion that PG&E be held strictly liable, by contract with 49 counties, 243 cities and unspecified fire districts in its service territory,[459] for any pipeline or facility failure regardless of cause creates potential liability exposure (outside of PG&E's control) that could easily and quickly put the company out of business. In essence, the City suggests imposing through contract, only on PG&E, obligations and liabilities that do not exist under California or federal law or regulation and that would be outside the Commission's control.[460]

The Commission should reject such a proposal. The proposal flies in the face of the Commission's status as a constitutional agency with broad and exclusive jurisdiction to regulate public utilities. As the Commission understands, the regulatory scheme under which PG&E and all California utilities operate is carefully designed to achieve (and preserve) the appropriate balance between ratepayers and utilities with respect to cost and risk allocation. The parties recognize this too, as demonstrated by their request that the Commission impose the "maximum" penalty PG&E can afford to pay but still stay in business.[461] Shifting the regulatory balance to place additional, poorly-defined liabilities onto a utility, as San Bruno's proposal would do, is contrary to the public interest and would inevitably result in adverse consequences to both the utility and all its ratepayers. Moreover, enforcement of the recommendation would call for the Commission to modify PG&E's contractual franchise agreements with cities and counties in

[458] San Bruno Remedies OB at 52-53.

[459] *See* San Bruno Remedies OB at 52 n.208. The City does not reference a source for the franchise numbers it recites. PG&E has 47 electric and 40 gas franchises with counties, and 234 electric and 209 gas franchises with cities.

[460] To the extent the City intends only to include the obligations of Public Utilities Code Section 6296, that is already part of the franchise by operation of law, and thus unnecessary.

[461] *See, e.g.,* CPSD Remedies OB at 4; TURN Remedies OB at vii, 26; CCSF Remedies OB at 14.

violation of the Contract Clause. There is no need to modify franchise agreements to formalize emergency response and disclosure obligations, as the Commission has jurisdiction over PG&E's gas transmission safety and can mandate PG&E to take action relating to emergency response without modification of franchise agreements.

4. Automated Valves

The City of San Bruno recommends that the Commission direct PG&E to undertake an automated valve pilot program.[462] PG&E supports the installation of automated valves in its gas transmission system, and addresses the City's proposed remedy here only to point out that PG&E's PSEP includes the installation of approximately 300 automated valves.[463] Because the process is already beyond the "pilot program" stage, this proposed remedy is not necessary.

5. CPSD's Business Transformation Recommendation

CPSD proposes that PG&E's Business Transformation "strategy and subsequent programs should expressly ensure that safety is a higher priority than shareholder returns and be designed to implement that priority, which may include reinvesting operational savings into infrastructure improvements."[464] The Commission should not adopt this proposal. First, given that Business Transformation has not been an active program since 2007, CPSD's recommendation is moot. CPSD's recommendation is also premised on an incorrect view of the purpose of the Business Transformation program.[465] Furthermore, there is no need for the Commission to adopt an express requirement that any savings from operational efficiencies be directly reinvested in infrastructure improvements. PG&E has already spent more than $900

[462] San Bruno Remedies OB at 10, 54-55.

[463] *See* San Bruno Ex. PG&E-1 at 8-17 to 8-18 (PG&E/Slibsager and Kazimirsky); San Bruno Ex. PG&E-1a, Chapter 13, Appendix B.

[464] CPSD Remedies OB at 62 (Recommended Remedy in I.12-01-007, No. 31).

[465] In particular, CPSD's description of the initiative as a "campaign to reduce operating costs" is incomplete. *See* CPSD San Bruno OB, Finding of Fact No. 116; San Bruno Ex. CPSD-1 at 135-36 (CSPD/Stepanian). As stated in PG&E's 2006 annual report, the Business Transformation initiatives were implemented "in an effort to provide better, faster and more cost-effective service to [PG&E's] customers." PG&E's 2006 Annual Report is *available at* http://investor.pgecorp.com/phoenix.zhtml?c=110138&p=irol-sec&secCat01.1_rs=11&secCat01.1_rc=10&control_searchbox=&control_selectgroup=1. *See also* PG&E San Bruno RB, Response to CPSD's Proposed Finding of Fact No. 116.

million in shareholder funds since the San Bruno accident to improve its gas transmission system and expects to spend more than $1.3 billion in 2013 and beyond.[466]

6. Separate Board Of Director's Meetings

As it did in its January 12, 2012 report, CPSD proposes that the Commission require PG&E to hold separate Board of Director's meetings for PG&E Corporation and the PG&E utility.[467] In its original report, CPSD offered no rationale for this recommendation. In its rebuttal testimony, CPSD asserted that Board meetings should be separate because the corporation and the utility serve different purposes and have conflicting interests.[468] In fact, the nearly sole interest of PG&E Corporation is the utility, as the Corporation owns no other significant subsidiary and the utility represents approximately 98% of corporate assets. In PG&E's view, holding joint Board meetings harmonizes the interests of the corporation and the utility and more effectively oversees and manages the interests of both. The Commission should not dictate a different form of corporate governance without substantial evidence warranting such interference.

7. Restriction On PG&E's Use Of Retained Earnings

The Commission should reject CPSD's recommendation that would require PG&E to "target retained earnings towards safety improvements before providing dividends, especially if the ROE exceeds the level set in a GRC decision."[469] First, CPSD never mentions this proposed remedy in its brief and offers no purported justification for it. The record established that PG&E's ROE has been consistent with the authorized rates of return since 1999 (and lower than the authorized rates in seven of the 12 years from 1999 to 2010).[470] The lack of any need for this remedy is further underscored by the fact that since San Bruno PG&E already has spent more than $900 million of shareholder funds through the end of 2012 to improve the gas transmission system and plans to spend an additional approximately $1.3 billion in 2013 and following

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[466] *See* Appendix A; *see also* San Bruno Ex. PG&E-1a at 13-15 to 13-16 (PG&E/Yura).

[467] CPSD Remedies OB at 62 (Recommendation No. 34 within I.12-01-007).

[468] San Bruno Ex. CPSD-5 at 56-57 (CPSD/Stepanian).

[469] CPSD Remedies OB at 62 (Recommendation No. 32, I.12-01-007).

[470] San Bruno Ex. PG&E-10, MPO-1 at 80 (Fig. 23) (PG&E/O'Loughlin). PG&E assumes that CPSD intends to refer to the authorized ROE adopted in the cost of capital proceedings, as the GRC decisions do not set authorized ROE levels.

years.[471] Second, the Commission should not adopt any recommendation that would place restrictions on PG&E's ability consistently to pay a reasonable dividend. Paying a predictable dividend is critical to ensuring PG&E's continued access to the equity capital markets to fund the planned improvements to the gas transmission system (and the rest of PG&E's operations).[472] Indeed, CPSD's proposal is contradicted by its own experts' testimony that to attract equity investors PG&E must pay a healthy dividend and maintain a dividend payout ratio in the same range as its peers.[473]

C. Two Proposed Remedies Require Clarification To Ensure Successful Implementation

1. CPSD Audits Of PG&E's Recordkeeping Practices

CPSD proposes that, using independent auditors, it will audit "PG&E's recordkeeping practices within Gas Transmission Division on an annual basis for a minimum of ten years after the final decision is issued in I.11-02-016."[474] It further proposes that PG&E "correct deficiencies in recordkeeping discovered as a result of each CPSD audit and will report to CPSD when such deficiencies have been corrected."[475] PG&E supports CPSD's efforts to audit its recordkeeping practices, and will cooperate fully with the auditors, as it has historically done with CPSD staff during its operational audits. Auditing recordkeeping practices on an annual basis, however, will not be productive or effective, since audits take time to conduct, and corrective actions often take up to a year or more to develop and implement before they are ready for a follow-up audit. PG&E recommends removing the annual requirement so that the audits can be scheduled when the recordkeeping practices that are within the scope of the audit have been fully implemented.[476]

PG&E notes that the Government Auditing Standards issued by the United States Government Accountability Office contain appropriate protocols for conducting recordkeeping

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[471] Appendix A, Table 1.

[472] Ex. Joint-66 at 6-9, 18 (PG&E/Fornell).

[473] Joint R.T. 1379-80 (CPSD/Overland).

[474] CPSD Remedies OB at 67.

[475] CPSD Remedies OB at 67.

[476] TURN, in contrast to CPSD, proposes that the Commission require audits of PG&E's MAOP Validation and Project Mariner by an independent auditor, paid for by PG&E. TURN Remedies OB at 49. PG&E does not support TURN's proposal. CPSD is the Commission staff responsible for safety and enforcement and it should be the one who determines what activities to audit.

audits of the kind contemplated by CPSD's proposal. For instance, one of the standards addresses Identifying Audit Criteria:

> **6.37** Auditors should identify criteria. Criteria represent the laws, regulations, contracts, grant agreements, standards, specific requirements, measures, expected performance, defined business practices, and benchmarks against which performance is compared or evaluated. Criteria identify the required or desired state or expectation with respect to the program or operation. Criteria provide a context for evaluating evidence and understanding the findings, conclusions, and recommendations included in the report. Auditors should use criteria that are relevant to the audit.[477]

In addition, Sections 7.32 and 7.33 of that standard address Reporting Views of Responsible Officials:

> **7.32** Auditors should obtain and report the views of responsible officials of the audited entity concerning the findings, conclusions, and recommendations included in the audit report, as well as any planned corrective actions.
>
> **7.33** Providing a draft report with findings for review and comment by responsible officials of the audited entity and others helps the auditors develop a report that is fair, complete, and objective. Including the views of responsible officials results in a report that presents not only the auditors' findings, conclusions, and recommendations, but also the perspectives of the responsible officials of the audited entity and the corrective actions they plan to take. Obtaining the comments in writing is preferred, but oral comments are acceptable.[478]

To be consistent with these government-sanctioned auditing standards, PG&E expects CPSD to define the scope and criteria for its audits at the outset, and to provide an opportunity to discuss the draft findings with PG&E prior to issuance of its report, to ensure a common understanding of the alleged deficiency, and develop an agreed-upon corrective action plan.

In order for CPSD's proposal to be consistent with the government-sanctioned auditing standards, PG&E proposes modifications that allow for the communications between the auditors and PG&E contemplated by the Government Auditing Standard.

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[477] PG&E's Request for Official Notice, Ex. 12 at 143 (U.S. Government Accountability Office, Government Auditing Standards: 2011 Revision (Dec. 2011)).

[478] PG&E's Request for Official Notice, Ex. 12 at 173 (U.S. Government Accountability Office, Government Auditing Standards: 2011 Revision (Dec. 2011)).

2. GARP Level 3

CPSD proposes that PG&E "be required to achieve at least a Level 3 information maturity score under the Generally Accepted Records Keeping Principles."[479] As stated above in Section III.C.4, PG&E has initiated many recordkeeping improvements since the San Bruno accident, and is working towards achieving Level 3 performance in its gas transmission organization under the GARP principles. Achieving Level 3 performance is a significant undertaking, and will take up to three years to complete. Since the recordkeeping practices at issue in the Records OII focused on gas transmission records, the proposal should also be focused on PG&E's gas transmission recordkeeping practices. PG&E's modifications to the proposal are reflected in Appendix B and incorporated in Appendix C.

VI. CONCLUSION

PG&E responded to the tragic San Bruno accident quickly and decisively. The company immediately reached out to the victims and the community to provide assistance. Simultaneously, it began to look at its past practice and operations and started making changes. From the top leadership of the company to the way our field employees do their jobs day-to-day, PG&E has been working to make amends for the accident in the most concrete way it can: by compensating the injured and by spending its shareholders' money to make PG&E's gas transmission system the safest in the nation. By making operational commitments consistent with most of the other remedies proposed by CPSD, PG&E reinforces its dedication to becoming the best gas pipeline operator in the country.

PG&E agrees that a penalty is appropriate in these cases. In considering a fitting level of penalty, the Commission should keep in mind that PG&E's shareholders have spent and committed $2.2 billion to improve the company's gas transmission operations. The overriding deterrent purpose served by the Commission's imposition of penalties has already been served. The lack of any intentional misconduct, the good faith and extensive efforts to make the system safer, and PG&E's deep, abiding sorrow for the loss of life and pain it has caused as a result of this accident should all lead the Commission to conclude that CPSD's proposed penalty is grossly disproportionate, and the Commission should apply PG&E's unrecovered gas safety costs to the penalty it decides is appropriate.

[479] CPSD Remedies OB at 65.

Respectfully submitted,

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Dated: May 24, 2013

APPENDIX A

STATE OF CALIFORNIA EDMUND G. BROWN JR., *Governor*

PUBLIC UTILITIES COMMISSION
505 VAN NESS AVENUE
SAN FRANCISCO, CA 94102-3298

May 9, 2013

Anthony F. Earley Jr.
PG&E Corp. Chairman, CEO, and President
77 Beale Street
Mail Code B32
San Francisco, CA 94105

Re: PG&E Expenditures on Pipeline Safety since the San Bruno Pipeline Rupture and Explosion of September 9, 2010

Dear Mr. Earley:

As you know, in my capacity as the Director of the Safety and Enforcement Division at the California Public Utilities Commission, on May 6, 2013, I recommended in the penalty phase of the pending San Bruno-related enforcement proceedings that PG&E be penalized by our Commission in the amount of $2.25 billion.

I have recommended that this penalty be assessed against PG&E in the form of shareholder-funded safety investments in PG&E's natural gas transmission pipeline system. If approved by the Commission, this will be by far the largest penalty ever assessed against a public utility by a state regulatory commission in the United States, and among the largest penalties of any kind in the nation's history.

My recommendation is based on the seriousness of the violations we have found in our investigation and alleged against PG&E in the pending proceedings.

In order to enable me to provide a complete accounting to the Commission in its consideration of the penalties recommendation I have made, I request that PG&E provide the information listed below. I further request that you sign an attestation, under oath, verifying the accuracy and completeness of the information provided, in your capacity as the senior officer of the Company.

Specifically, please provide a chart listing by major category (e.g., pipe replacement, in-line inspections, installation of automatic or remote control valves) all of the gas transmission system safety projects and activities undertaken by PG&E since the accident in San Bruno on September 9, 2010, the dollars expended for each category, and an accounting breakdown showing (i) any such dollars the Commission has authorized PG&E to recover in its gas rates, and (ii) any such dollars for which PG&E has not received Commission authorization

to recover in its gas rates. The list you provide should be comprehensive in scope, and should include projects and activities approved by the Commission in Decision No. ("D") 12-12-030 as part of the Pipeline Safety Enhancement Plan ("PSEP"), projects and activities approved by the Commission in the Gas Accord V decision, D.11-04-031, and projects and activities intended to remediate encroachments on PG&E's right-of-ways for its gas pipelines. Please clearly delineate among PCEP and these other projects and activities.

Please provide this information to me by May 16, 2013.

Sincerely,

Emory J. Hagan, III
Brigadier General (CA)
Director of the Safety and Enforcement Division

cc: All parties to Investigations 12-01-007, 11-02-016, and 11-11-009

PG&E Corporation

Anthony F. Earley, Jr.
Chairman of the Board,
Chief Executive Officer,
and President

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May 16, 2013

Brigadier General Emory J. Hagan, III
Director of the Safety and Enforcement Division
California Public Utilities Commission
505 Van Ness Avenue
San Francisco, CA 94102-3298

Re: PG&E Expenditures on Pipeline Safety since San Bruno Pipeline Rupture and Explosion of September 9, 2010

Dear General Hagan:

Enclosed please find the information requested in your May 9, 2013, letter.

We are providing a summary table (Table 1) that shows spending in two major categories:

(1) Pipeline Safety Enhancement Plan (PSEP) work as approved by the Commission

(2) Gas Accord and other work related to transmission pipeline safety

This table includes our current forecast of shareholder expenditures for pipeline safety-related activities through 2014 and for the right-of-way encroachment issue through 2017.

A second table (Table 2) identifies the Utility's spending above authorized amounts since the San Bruno accident. Our shareholders have borne these expenditures, in addition to those listed in Table 1, with no cost recovery.

In finalizing your recommendation, I urge you to take account of the enormous investment our shareholders have already made and continue to make, and ensure any penalty is reinvested in safety. It is the right path forward for safety and for customers.

Sincerely,

Anthony F. Earley, Jr.

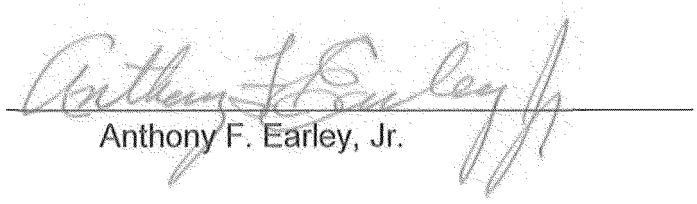
Enclosures

cc: Service list in Investigations 12-01-007, 11-02-016, and 11-11-009

ATTESTATION

I, Anthony F. Earley, Jr., Chairman, Chief Executive Officer, and President of PG&E Corporation, hereby declare under penalty of perjury under the laws of the State of California that, based on information (including forecasts of future spending) provided to me by knowledgeable employees of PG&E, the information on the enclosed tables is accurate and complete.

Executed this 16th day of May, 2013 in San Francisco, California.



Anthony F. Earley, Jr.

Table 1
Pacific Gas and Electric Company
Amounts Above Authorized Paid by Shareholders to Improve Gas Transmission Pipeline Safety

Line No	Description	Authorized for Rate Recovery ($M) 2011	Authorized for Rate Recovery ($M) 2012	Shareholder Funded ($M) 2010	Shareholder Funded ($M) 2011	Shareholder Funded ($M) 2012	Shareholder Funded ($M) 2013 and Beyond Forecast (Estimated)	Shareholder Funded ($M) Total
1	**Pipeline Safety Enhancement Plan (PSEP)**							
2	PSEP Expense							
3	Pipeline Modernization (Including Strength Test, Replacement, ILI)		2.3		228.2	128.4		
4	Pipeline Records Integration Program				91.6	124.1		
5	Valve Automation		0.1		0.0	0.4		
6	Interim Safety Measures					2.4		
7	Other (1)		0.1		11.8	12.7		
8	Total PSEP Expense		$2.6		$331.7	$267.8	~$300	
9								
10	PSEP Capital							
11	Pipeline Modernization (Including Strength Test, Replacement, ILI)	30.5	214.9			$2.1		
12	Valve Automation	13.7	38.9					
13	Pipeline Records Integration Program				6.5	29.6		
14	Other (1)	3.0	6.5			3.0		
15	Total PSEP Capital	$47.2	$260.3		$6.5	$34.6	~$310 (2)	
16								
17	**Total PSEP**	**$47.2**	**$262.9**		**$338.2**	**$302.4**	**~$610**	**$1,250.6**
18								
19	**Gas Accord V**							
20	Pipeline Integrity Management	$32.4	$66.7 (3)			$63.4		
21	Pipeline and Station Maintenance	53.6	54.9		13.2	41.9		
22	Transmission Mark & Locate	4.5	4.7		1.0	2.6		
23	Right of Way Maintenance					10.4		
24	Gas Transmission Safety Work (Including Emergency Preparedness, Pipeline Improvements, Leak Survey and Repair, etc.)	21.5	22.0	20.7	65.0	46.0		
25								
26	**Total Gas Accord V**	**$112.0**	**$148.3**	**$20.7**	**$79.2**	**$164.3**	**~$700**	**$964.2**
27								
28	**Total Shareholder Funded (PSEP + Gas Accord V)**							**$2,214.8**

(1) Includes program management office and additional costs associated with execution of PSEP
(2) Spent and forecasted capital = $353 M reported in financials
(3) 2011-2012 total represents the 2011-2014 authorized Transmission Integrity Management Program (TIMP)

Table 2
Pacific Gas and Electric Company
Amounts Above Authorized Paid by Shareholders to Fund Other Utility Operating Costs

Line No	Description	2010	2011	2012	2013 and Beyond Forecast (Estimated)	Total
1	Gas Distribution Upgrades and Repair			$132.9	~$150	
2	Contribution to City of San Bruno			70.0		
3	Customer Notification + Administrative Costs	14.7	23.2	5.7		
4	Other Utility Operating Costs			69.2	~$40	
5	Total	$14.7	$23.2	$277.8	~$190	
6						
7	**Shareholder Funded (Other Utility Operating Costs)**					**$505.7**

APPENDIX B

Response to Proposed Remedies

Brief Reference	Party Proposal	PG&E Response and Reasoning	PG&E Proposed Edits[1]
CPSD Proposed Remedies			
4.A.1	PG&E should pay to reimburse CPSD for contracts retaining independent industry experts, chosen by CPSD, for the cost of verification audits and inspections to ensure compliance with the other remedies. PG&E should also pay to reimburse CPSD for contracts retaining independent industry experts, chosen by CPSD in the near term to provide needed technical expertise as PG&E proceeds with its hydrostatic testing program, in order to provide a high level of technical oversight and to assure the opportunity for legacy piping characterization though sampling is not lost in the rush to execute the program.	PG&E agrees with this proposal. The Government Auditing Standards issued by the U.S. Government Accountability Office contain appropriate protocols for conducting audits. PG&E expects CPSD to follow these government-sanctioned standards to ensure high quality audits.	PG&E should pay to reimburse CPSD for contracts retaining independent industry experts, chosen by CPSD, for the cost of verification audits and inspections to ensure compliance with the other remedies. **These auditors should apply the Government Auditing Standards issued by the U.S. Government Accountability Office when conducting their audits.** PG&E should also pay to reimburse CPSD for contracts retaining independent industry experts, chosen by CPSD in the near term to provide needed technical expertise as PG&E proceeds with its hydrostatic testing program, in order to provide a high level of technical oversight and to assure the opportunity for legacy piping characterization though sampling is not lost in the rush to execute the program.
4.A.2	PG&E should reimburse CPUC/CPSD for the cost of conducting all three of the present investigations.	PG&E agrees with this proposal.	None.

[1] Unless otherwise specified in the response and reasoning discussion, the proposed edits reflected in this column are intended to clarify the proposed operational commitment for purposes of implementation.

Brief Reference	Party Proposal	PG&E Response and Reasoning	PG&E Proposed Edits[1]
4.A.3	PG&E should apply the remainder of the $2.25 billion penalty to the PSEP cost and expenses for Phases I and II until it reaches the maximum amount of the penalty.	PG&E continues to disagree with the $2.25 billion penalty as appropriate. However, if the CPUC adopts that amount, then the counting toward the $2.25 billion should occur in the following order: (1) PSEP Phase 1 disallowances and PG&E's actual spending as detailed in Table 1 of Appendix A (PG&E's May 16, 2013 response to General Hagan's request for financial information); (2) PG&E's forecast spending as detailed in Table 1 for upcoming work and Operational Commitments. And then, if necessary, (3) PSEP Phase 2 disallowances ordered by the Commission; and (4) any remaining amount to meet the $2.25 billion maximum will offset PSEP Phase 1 and 2 authorized dollars.	PG&E should apply the remainder of the $2.25 billion penalty ~~to the PSEP cost and expenses for Phases I and II~~ until it reaches the maximum amount of the penalty **in the following order: (1) PSEP Phase 1 disallowances and PG&E's actual spending as detailed in Table 1; (2) PG&E's forecast spending as detailed in Table 1 for upcoming work and Operational Commitments. And then, if necessary, (3) PSEP Phase 2 disallowances ordered by the Commission; and (4) any remaining amount to meet the $2.25 billion maximum will offset PSEP Phase 1 and 2 authorized dollars.**
4.B.1	PG&E should revise its pipeline construction and installation procedures and training to ensure that they meet and exceed all legal requirements and industry standards for identifying and correcting pipe deficiencies and strength testing.	PG&E is implementing this recommendation[2] through updated training and procedures. *See* San Bruno OII Ex. PG&E-1a at 13-4 to 13-6.	PG&E's ~~should revise its~~ pipeline construction **standards should** ~~and installation procedures and training to ensure that they~~ meet ~~and~~ **or** exceed all **relevant** legal requirements and industry standards for identifying and correcting pipe deficiencies and strength testing.

[2] For all recommendations that PG&E agrees with and is implementing, PG&E is taking independent action to meet the objectives of the recommendation. These actions may exceed what is recommended.

Brief Reference	Party Proposal	PG&E Response and Reasoning	PG&E Proposed Edits[1]
4.B.2	PG&E should revise section 2 of RMP-06 to fully and robustly meet the data gathering requirements of 49 CFR Part 192.917(b) and ASME-B31.8S, and to do so without limiting its data-gathering to only that data which is "readily available, verifiable, or easily obtained" by PG&E.	PG&E agrees that its data gathering practices should be reviewed to confirm that they meet or exceed regulatory and industry consensus guidance, and should be revised if necessary. This recommendation is being implemented through our review of Integrity Management and through Project Mariner (formerly described as the Gas Transmission Asset Management Project (GTAM)). *See* San Bruno OII Ex. PG&E-1c, Chapter 4.E. PG&E is substantially increasing the amount, types, quality, and accessibility of information collected and maintained electronically regarding our pipelines; improving systems for collecting, validating, and retaining pipeline data; and increasing the traceability of materials used in the construction and maintenance of transmission pipelines. In addition, through the MAOP validation effort, PG&E is building detailed pipeline features lists down to the individual component level for all of our transmission pipelines.	PG&E should revise ~~section 2 of RMP-06~~ its integrity management procedures to ~~fully and~~ robustly meet the data gathering requirements of 49 C.F.R. Part 192.917(b) and ASME-B31.8S~~, and to do so without limiting its data-gathering to only that data which is "readily available, verifiable, or easily obtained" by PG&E~~.
4.B.3	PG&E should perform a complete company wide record search ensure its GIS database includes all pipeline leak history, including closed leak, information not already transferred to the GIS.	PG&E agrees with the recommendation that it gather and integrate all gas transmission leak history into its GIS. PG&E is implementing this recommendation by converting all paper records and databases documenting gas transmission leak history into a single electronic database. *See* San Bruno OII Ex. PG&E-1c at 4-39.	PG&E should perform a complete company-wide record search ~~ensure~~ **to populate** its GIS database ~~includes~~ **with** all **identified gas transmission** pipeline leak history, including closed leak, information not already transferred to the GIS.

Brief Reference	Party Proposal	PG&E Response and Reasoning	PG&E Proposed Edits[1]
4.B.4	PG&E should revise its Integrity Management training to ensure that missing data is represented by conservative assumptions, and that those assumptions are supportable, per the requirements of ASME B31.8S.	PG&E agrees that it should ensure that missing data is represented by conservative assumptions. PG&E's practice has been, and continues to be, to use conservative assumptions that reflect the most conservative pipeline specifications for pipe procurement standards in place at the time of the construction project, a practice that is consistent with ASME B31.8S guidance. *See* San Bruno OII Ex. PG&E-1, Chapter 5. PG&E has taken steps to review its data to ensure the adequacy of its conservative assumptions. Records R.T. 1485-87 (PG&E/Keas); Records OII Ex. CPSD-67 (PG&E Response to Data Request 89, Question 1).	None.
4.B.5	PG&E should revise section 2 of RMP-06, and related training, to ensure full and robust data verification processes are enacted and implemented.	PG&E is implementing this recommendation through a review of our Integrity Management program and through enhanced data collection and validation processes in Project Mariner, and will revise its integrity management procedures (which will replace Risk Management Procedures, or RMPs) to ensure that data verification processes meet or exceed requirements of 49 C.F.R. Part 192, Subpart O and ASME B31.8S. *See* San Bruno OII Ex. PG&E-1c at 4-37 to 4-38.	PG&E should revise **its integrity management procedures** ~~section 2 of RMP-06~~, and related training, to ensure ~~full and~~ robust data verification processes are enacted and implemented.

Brief Reference	Party Proposal	PG&E Response and Reasoning	PG&E Proposed Edits[1]
4.B.6	PG&E should revise its threat identification and assessment procedures and training, including its Baseline Assessment Plans, to fully incorporate all relevant data for both covered and non-covered segments, including but not limited to potential manufacturing and construction threats, and leak data.	PG&E is implementing this recommendation through our review of Integrity Management. *See* San Bruno OII Ex. PG&E-1c, Chapter 4.E. Through the MAOP validation effort, PG&E is compiling comprehensive pipeline features lists that reflect data on all transmission pipelines at the component-by-component level, which will facilitate data gathering of the required data for covered and non-covered segments.	None.
4.B.7	PG&E should re-label its system MAOP nomenclature to avoid confusion with the MOP term of art as used by 49 CFR Part 192.917(e)(3).	PG&E agrees with this recommendation, and is revising its system MAOP nomenclature in accordance with 49 C.F.R. Part 192.	PG&E should re-label its system MAOP nomenclature **in accordance with** ~~to avoid confusion with the MOP term of art as used by~~ 49 C.F.R. Part 192.~~917(e)(3).~~

Brief Reference	Party Proposal	PG&E Response and Reasoning	PG&E Proposed Edits[1]
4.B.8	PG&E should permanently cease the self-suspended practice of regularly increasing pipeline pressure above a "system MAOP" to eliminate the need to consider manufacturing and construction threats. In addition, due to PG&E's pressure spiking practice such threats should now be considered by PG&E to be unstable under 49 CFR Part 192.917(e)(3).	PG&E agrees with this recommendation, and has permanently ceased the practice of increasing pipeline pressure in certain high consequence area (HCA) pipe segments with identified manufacturing threats to the highest pressure experienced in the five years predating identification of the HCA. *See* San Bruno OII Ex. PG&E-1c at 4-25. PG&E has analyzed all HCA segments formerly subjected to this practice to determine the risk of failure from these defects pursuant to 49 C.F.R. Part 192.917(e)(3). This analysis, called an Engineering Critical Assessment (ECA), evaluates whether latent manufacturing or construction related defects have become unstable and would further require an integrity assessment.	PG&E should permanently cease the self-suspended practice of regularly increasing pipeline pressure **up to**~~above~~ a "system MAOP" to eliminate the need to consider manufacturing and construction threats. In addition, PG&E should analyze all segments that were subjected to the planned pressure increases to determine the risk of failure from manufacturing threats ~~due to PG&E's pressure spiking practice such threats should now be considered by PG&E to be unstable~~ under 49 C.F.R. Part 192.917(e)(3), and perform further integrity assessments as warranted.

Brief Reference	Party Proposal	PG&E Response and Reasoning	PG&E Proposed Edits[1]
4.B.9	PG&E should revise its threat identification and assessment procedures and training to ensure that HCA pipeline segments that have had their MAOP increased are prioritized for a suitable assessment method (e.g., hydro-testing), per the requirements of 49 CFR Part 192.917(e)(3)-(4).	PG&E agrees with implementing this recommendation, but disagrees with the statement that its HCA segments "had their MAOP increased." PG&E's former practice of raising pressures to historic five year high levels did not result in increases in pipeline MAOP. *See* San Bruno OII Ex. PG&E-1c at 4-24 (PG&E's practice was to raise pressure to MAOP). As discussed in response to CPSD Recommendation 4.B.8, PG&E has analyzed all HCA segments formerly subjected to this practice to determine the risk of failure from these defects pursuant to 49 CFR Part 192.917(e)(3). This analysis, called an Engineering Critical Assessment (ECA), evaluates whether latent manufacturing or construction related defects have become unstable and would further require an integrity assessment.	PG&E should revise its threat identification and assessment procedures and training to ensure that HCA pipeline segments with identified manufacturing threats ~~that have had their MAOP increased~~ are prioritized for a suitable assessment method (e.g., hydro-testing), per the requirements of 49 C.F.R. Part 192.917(e)(3)-(4).
4.B.10	PG&E should revise its threat identification and assessment procedures and training to ensure that cyclic fatigue and other loading conditions are incorporated into their segment specific threat assessments and risk ranking algorithm, and that threats that can be exacerbated by cyclic fatigue are assumed to exist per the requirements of 49 CFR Part 192.917(b).	PG&E agrees with and is implementing this recommendation. *See* San Bruno OII Ex. PG&E-1c at 4-37 to 4-39.	None.

Brief Reference	Party Proposal	PG&E Response and Reasoning	PG&E Proposed Edits[1]
4.B.11	PG&E should revise its risk ranking algorithm to ensure that PG&E's weighting factors in its risk ranking algorithm more accurately reflect PG&E's actual operating experience along with generally reflected industry experience.	PG&E agrees with and is implementing this recommendation. *See* San Bruno OII Ex. PG&E-1a, at 13A-3 to 13A-4; San Bruno OII Ex. PG&E-1c, Chapter 4.E.	None.
4.B.12	PG&E should revise its threat identification and assessment procedures and training to ensure that PG&E's weighing of factors in its risk ranking algorithm and the input of data into that algorithm corrects the various systemic issues identified in the NTSB report and the CPSD/PHMSA 2011 Risk Assessment Audit.	PG&E agrees with and is implementing this recommendation. *See* San Bruno OII Ex. PG&E-1a, at 13A-4; San Bruno OII Ex. PG&E-1c, Chapter 4.E.	None.
4.B.13	PG&E should revise its threat identification and assessment procedures and training to ensure that the proper assessment method is being used to address a pipeline's actual and potential threats.	PG&E agrees with and is implementing this recommendation. *See* San Bruno OII Ex. PG&E-1a, at 13A-4; San Bruno OII Ex. PG&E-1c, Chapter 4.	None.

Brief Reference	Party Proposal	PG&E Response and Reasoning	PG&E Proposed Edits[1]
4.B.14	PG&E should make revisions to its equipment retention policy to ensure that integrity of equipment, wiring and documentation and identification of electrical components does not deteriorate to unsafe conditions such as occurred at the Milpitas Terminal, described herein. If PG&E does not have an applicable equipment retention policy then it should formulate one.	PG&E is implementing this recommendation and reviewing its inspection, testing, and maintenance procedure applicable to stations (including the Milpitas Terminal) to ensure the integrity of electrical equipment, wiring, documentation, and identification of electrical components. *See* San Bruno OII Ex. PG&E-1a at 13A-4. However, the state of equipment, wiring, and documentation and identification of electrical components at the Milpitas Terminal were not deteriorated or otherwise unsafe. *See* San Bruno OII Ex. PG&E-1, Chapter 8.E.1.	PG&E should **review** ~~make revisions to~~ its ~~equipment retention policy~~ **Inspection, Testing, and Maintenance procedure applicable to stations** to ensure that integrity of **electrical** equipment, wiring and documentation and identification of electrical components does not deteriorate to unsafe conditions ~~such as occurred at the Milpitas Terminal, described herein. If PG&E does not have an applicable equipment retention policy then it should formulate one~~.
4.B.15	PG&E should revise its SCADA system to reduce the occurrence of "glitches" and anomalies in the control system that desensitizes operators to the presence of alarms and other inconsistent information.	PG&E agrees with and is implementing this recommendation. *See* San Bruno OII Ex. PG&E-1a at 13A-4 to 13A-5; San Bruno OII Ex. PG&E-1, Chapter 8.F.2.	None.
4.B.16	PG&E should reevaluate SCADA alarm criteria with the goal of reducing unnecessary alarm messages.	PG&E agrees with and is implementing this recommendation. *See* San Bruno OII Ex. PG&E-1a at 13A-4 to 13A-5; San Bruno OII Ex. PG&E-1, Chapter 8.F.2.	None.

Brief Reference	Party Proposal	PG&E Response and Reasoning	PG&E Proposed Edits[1]
4.B.17	PG&E should revise its control systems, including SCADA, to ensure that all relevant information, including redundant pressure sensors, is considered.	PG&E agrees that its SCADA system should make available all relevant information, and is implementing this recommendation through its Valve Automation Program. *See* San Bruno OII Ex. PG&E-1a at 13A-5. PG&E does not agree that redundant information is necessarily relevant. *See* San Bruno OII Ex. PG&E-1, Chapter 8.E.6.	PG&E should revise its control systems, including SCADA, to ensure that all relevant information~~, including redundant pressure sensors,~~ is considered. **PG&E is performing this through its Valve Automation Program.**
4.B.18	PG&E should install more pressure sensors and have them closely spaced and use the additional information to incorporate leak or rupture recognition algorithms in its SCADA system.	PG&E agrees with this recommendation and is currently performing a pilot program to test the feasibility of performing real time leak and line break detection using SCADA information. PG&E will review the results of that pilot before proposing the installation of more pressure sensors through a system-wide program. *See* San Bruno OII Ex. PG&E-1a at 13A-5.	**Depending on the results of the leak and line break detection pilot program,** PG&E ~~should~~ **may** install more pressure sensors and have them closely spaced and use the additional information to incorporate leak or rupture recognition algorithms in its SCADA system.
4.B.19	PG&E should program its PLCs to recognize that negative pressure values are erroneous and require intervention to prevent valves from fully opening.	PG&E believes that the redundant pneumatic pressure limiting system (such as the system at the Milpitas Terminal) is the appropriate countermeasure in situations where regulator valves open unintentionally. PG&E does not believe that programming PLCs to disregard pressure information (even if it is likely invalid) is a prudent practice. *See* San Bruno OII Ex. PG&E-1a at 13A-5 to 13A-6; San Bruno OII Ex. PG&E-1, Chapters 8.C.2 & 8.E.8.	Oppose.

Brief Reference	Party Proposal	PG&E Response and Reasoning	PG&E Proposed Edits[1]
4.B.20	PG&E should replace the three pressure controllers which malfunctioned on September 9, 2010.	PG&E is implementing enhanced functionality to the PLCs at Milpitas Terminal which will render the valve controllers unnecessary, at which point all valve controllers will be removed. *See* San Bruno OII Ex. PG&E-1, Chapter 8.E.	PG&E should **remove** ~~replace~~ the three pressure controllers which malfunctioned on September 9, 2010.
4.B.21	PG&E should review its work clearance process to ensure that abnormal operating conditions that may arise during the course of work are anticipated and responses to those conditions are detailed. Additionally, PG&E should create a "method of procedures" covering the transfer and commission of electrical loads from one Uninterruptable Power Supply to another. This plan should cover possible scenarios and contingency plans to mitigate any abnormal operating conditions that may arise.	PG&E agrees with and is implementing this recommendation. *See* San Bruno OII Ex. PG&E-1a, at 13A-6; San Bruno OII Ex. PG&E-1, Chapters 8.F.1 & 8.F.3.	PG&E should review its work clearance process to ensure that abnormal operating conditions that may arise during the course of work are anticipated and responses to those conditions are detailed. Additionally, PG&E should create a **procedure** ~~"method of procedures"~~ covering the ~~transfer and~~ commission of electrical **equipment** ~~loads~~ from one Uninterruptable Power Supply to another. ~~This plan~~ **Each project** should **require** ~~cover~~ possible scenarios and contingency plans to mitigate any abnormal operating conditions that may arise.

Brief Reference	Party Proposal	PG&E Response and Reasoning	PG&E Proposed Edits[1]
4.B.22	PG&E should revisit its Work Clearance procedures and training to ensure that future work will not be authorized unless: all forms and fields therein are comprehensively and accurately populated; and, the gas technician has prepared the work clearance him/herself or has intimate knowledge of the work clearance. Additionally, work should not commence until such time as the operator and technician have reviewed the work clearance and have confirmed that both have intimate knowledge of the items detailed in the work clearance form. Lastly, PG&E must ensure that proper records showing the specific steps taken, when taken, and by whom, are retained.	PG&E agrees with and is implementing this recommendation. *See* San Bruno OII Ex. PG&E-1a, at 13A-6; San Bruno OII Ex. PG&E-1, Chapters 8.F.1 & 8.F.3.	PG&E should revisit its Work Clearance procedures and training to ensure that future work will not be authorized unless~~:~~ all **necessary** forms and fields therein are comprehensively and accurately populated, **and reviewed by a designated clearance supervisor.** ~~; and, the gas technician has prepared the work clearance him/herself or has intimate knowledge of the work clearance.~~ Additionally, work should not commence until such time as the operator and technician have reviewed the work clearance and have confirmed that both **understand the actions to take in the event an abnormal condition is encountered** ~~have intimate knowledge of the items detailed in the work clearance form~~. Lastly, PG&E must ensure that proper records showing the specific steps taken, when taken, and by whom, are **maintained pursuant to its Record Retention Schedule** ~~retained~~.

Brief Reference	Party Proposal	PG&E Response and Reasoning	PG&E Proposed Edits[1]
4.B.23	Training – PG&E should provide training to Gas Service Representatives to recognize the differences between fires of low-pressure natural gas, high-pressure natural gas, gasoline fuel, or jet fuel.	PG&E agrees that Gas Service Representatives should be provided training to identify hazards associated with natural gas infrastructure, and to make the system safe for the public and other employees. *See* San Bruno OII Ex. PG&E-1a at 13A-7.	Training – PG&E should provide training to Gas Service Representatives **to identify hazards associated with PG&E natural gas infrastructure and take action to make the condition safe for the public and employees. If assistance is needed and the situation is an imminent hazard, the GSR will remain on site until appropriate resources take control.** ~~to recognize the differences between fires of low-pressure natural gas, high-pressure natural gas, gasoline fuel, or jet fuel.~~
4.B.24	Internal coordination – PG&E should revise its procedures to outline each individual Dispatch and Control Room employee's roles, responsibility, and lines of communication required to be made in the event of an emergency either during or outside normal working hours. This should include assigning specific geographical monitoring responsibilities for Control Room employees.	PG&E agrees with and is implementing this recommendation. *See* San Bruno OII Ex. PG&E-1a at 13A-7.	None.

Brief Reference	Party Proposal	PG&E Response and Reasoning	PG&E Proposed Edits[1]
4.B.25	External coordination – CPSD agrees with NTSB recommendation P-11-2, which requests that PHMSA issue guidance to operators of natural gas transmission and distribution pipelines and hazardous liquid pipelines regarding the importance of control room operators immediately and directly notifying the 911 emergency call center(s) for the communities and jurisdiction in which those pipelines are located when a possible rupture of any pipeline is indicated. CPSD further recommends that prior to such PHMSA guidance PG&E should revise their own procedures to allow for the immediate and direct notification of 911 emergency call centers when a possible pipeline rupture is indicated.	PG&E agrees with and is implementing this recommendation. *See* San Bruno OII Ex. PG&E-1a at 13A-7 and 13B (PG&E's May 23, 2012 letter to the NTSB); San Bruno OII Ex. 1, Chapter 10.B.	None.
4.B.26	Decision making authority – PG&E should revise its emergency procedures to clarify emergency response responsibilities, especially in regards to authorizing valve shut offs. PG&E policies should not just delegate authority to act but also detail obligations to act.	PG&E agrees with and is implementing this recommendation. *See* San Bruno OII Ex. PG&E-1a at 13A-7 to 13A-8; San Bruno OII Ex. PG&E-1, Chapter 10.B.	None.
4.B.27	RCV/ASV – PG&E should perform a study to provide Gas Control with a means of determining and isolating the location of a rupture remotely by installing RCVs, ASVs, and appropriately spaced pressure and flow transmitters on critical transmission line infrastructure and implement the results.	PG&E agrees with this recommendation and is currently implementing this through its Valve Automation program in PSEP and its Leak and Line Break Detection Pilot Program, described in CPSD 4.B.18. *See* San Bruno Ex. PG&E-1a at 13A-8; San Bruno Ex. PG&E-1, Chapter 8.F.2.	None.

Brief Reference	Party Proposal	PG&E Response and Reasoning	PG&E Proposed Edits[1]
4.B.28	Response time – PG&E should review required response times in other utility service territories nationwide and devise appropriate response time requirements to ensure that its Emergency Plan results in a "prompt and effective" response to emergencies. PG&E shall report its analysis and conclusions to the Commission for review.	PG&E agrees that it should benchmark its required response times against those of other utilities nationwide and devise appropriate response time requirements to ensure that its Emergency Plan results in a prompt and effective response. PG&E is implementing this recommendation. *See* San Bruno OII Ex. PG&E-1a at 13A-8; San Bruno OII Ex. PG&E-1, Chapter 10.B. PG&E requests additional information regarding the parameters of the reporting obligation recommended by CPSD.	Response time – PG&E should review required response times in other utility service territories nationwide and devise appropriate response time requirements to ensure that its Emergency Plan results in a "prompt and effective" response to emergencies. PG&E ~~shall~~**will provide** ~~report~~ its analysis and conclusions to **CPSD.** ~~the Commission for review.~~
4.B.29	Emergency Plan Revision – Currently a maintenance supervisor annually reviews SCADA alarm responses and makes revisions as necessary. This process needs to be formalized to ensure a robust feedback loop such that new information is fully analyzed and necessary changes to PG&E's Emergency Plan and/or other procedures are implemented with a subsequent review of made changes to ensure they are adequate.	PG&E agrees with and is implementing this recommendation. *See* San Bruno OII Ex. PG&E-1a at 13A-8; San Bruno OII Ex. PG&E-1, Chapter 10.B.	None.

Brief Reference	Party Proposal	PG&E Response and Reasoning	PG&E Proposed Edits[1]
4.B.30	Public Awareness – CPSD agrees with NTSB recommendation P-11-1, which requests PHMSA issue guidance to operators of natural gas transmission and distribution pipelines and hazardous liquid pipelines regarding the importance of sharing system-specific information, including pipe diameter, operating pressure, product transported, and potential impact radius, about their pipeline systems with the emergency response agencies of the communities and jurisdiction in which those pipelines are located. CPSD further recommends that prior to such PHMSA action PG&E undertake a review of its public awareness and outreach programs to ensure that system-specific information is appropriately disseminated.	PG&E agrees with this recommendation as it relates to its gas transmission public awareness and outreach programs, and is implementing this recommendation accordingly. *See* San Bruno OII Ex. PG&E-1a at 13A-8 to 13A-9; San Bruno OII Ex. PG&E-1, Chapter 10.B.	Public Awareness – CPSD agrees with NTSB recommendation P-11-1, which requests PHMSA issue guidance to operators of natural gas transmission and distribution pipelines and hazardous liquid pipelines regarding the importance of sharing system-specific information, including pipe diameter, operating pressure, product transported, and potential impact radius, about their pipeline systems with the emergency response agencies of the communities and jurisdiction in which those pipelines are located. CPSD further recommends that prior to such PHMSA action PG&E undertake a review of **its gas transmission** ~~its~~ public awareness and outreach programs to ensure that system-specific information is appropriately disseminated.
4.B.31	PG&E's "Transformation" strategy and subsequent programs should expressly ensure that safety is a higher priority than shareholder returns and be designed to implement that priority, which may include reinvesting operational savings into infrastructure improvements.	This recommendation is moot with respect to Business Transformation, which has not been an active program since 2007. This recommendation is also moot with respect to similar programs in the future because PG&E has already committed substantial shareholder investments to gas transmission improvements. There is no need to adopt an express requirement that any savings from operational efficiencies be reinvested into infrastructure improvements. *See* San Bruno OII Ex. PG&E-1a at 13A-11.	Oppose.

Brief Reference	Party Proposal	PG&E Response and Reasoning	PG&E Proposed Edits[1]
4.B.32	PG&E should target retained earnings towards safety improvements before providing dividends, especially if the ROE exceeds the level set in a GRC decision.	PG&E disagrees with this recommendation. There is no basis for adopting a restriction on dividends based on prior earnings history, given that PG&E earned less than the authorized rate of return in more than half of the years under consideration by Overland. Moreover, through the end of 2012, PG&E's shareholders already spent more than $900 million on gas transmission work without any rate recovery. PG&E forecasts that it will spend an additional $1.3 billion in shareholder-funded improvements to gas transmission safety over the next several years. *See* San Bruno OII Ex. PG&E-1a at 13A-11 to 13A-12 Adopting a vaguely worded condition such as this would likely have an adverse effect on PG&E's ability to access debt and equity markets on as favorable terms as other California utilities, potentially increasing its cost of capital.	Oppose.

Brief Reference	Party Proposal	PG&E Response and Reasoning	PG&E Proposed Edits[1]
4.B.33	PG&E's incentive plan, and other employee awards programs, should include selection criteria for improved safety performance and training and/or experience in the reliability and safety aspects of gas transmission and distribution. PG&E should ensure that upper management attends gas safety training.	PG&E agrees with this recommendation. PG&E has revised its STIP program to make safety performance 40% of the score used to determine the total award. We endorse the recommendations that our upper management participate in activities that enhance and expand their knowledge of safety. We are continuing to enhance our gas emergency response training as discussed in Chapter 10, section B of PG&E's June 26, 2012 San Bruno OII testimony. All officers have an opportunity to participate in an annual drill, but we are now expanding the number and types of exercises that we will conduct throughout the year. We will be including exercises in which gas officers will have an opportunity to enhance their knowledge of incident command. All of our officers participate in an annual safety leadership workshop. Our officers also actively participate in industry organizations such as the American Gas Association, the Interstate Natural Gas Association of America, the Edison Electric Institute, the Nuclear Energy Institute, and the Institute of Nuclear Power Operations, where they learn about best industry practices to enhance safety. Several of our officers have attended the Reactor Technology Course for Utility Executives at the Massachusetts Institute for Technology. *See* San Bruno OII Ex. PG&E-1a at 13A-12.	**A component of a PG&E gas employee** ~~PG&E~~'s incentive plan~~,~~ ~~and other employee awards programs,~~ should include ~~selection criteria for improved~~ safety~~performance and training and/or experience in the reliability and safety aspects of gas transmission and distribution~~. PG&E**'s annual training plan** should **require** ~~ensure~~ that **all gas leaders** ~~upper management~~ attend~~s~~ gas safety training.

Brief Reference	Party Proposal	PG&E Response and Reasoning	PG&E Proposed Edits[1]
4.B.34	PG&E should not hold joint Company and Corporation Board of Director meetings as the two entities should have different priorities.	PG&E disagrees with this recommendation because the interests of the Company and the Utility are aligned. The utility represents about 98% of PG&E Corporation's assets, making the interest of the two entities coextensive. *See* San Bruno OII Ex. PG&E-1a at 13A-13.	Oppose.
4.B.35	PG&E should examine whether the time and money it spends on public relations and political campaigns distracts it from its core mission of providing safe and reliable gas service.	This recommendation is unnecessary. PG&E is focusing on enhancing public safety and operational excellence. *See* Ex. PG&E-1a at 13A-13.	Oppose.
4.B.36	PG&E should revisit its Pipeline 2020 program, and subsequent variations thereof, to ensure that its implementation is fully flushed out with specific goals, performance criteria, and identified funding sources.	This recommendation is unnecessary. The Pipeline 2020 program is no longer an active program, and has been superseded by our PSEP. The CPUC has reviewed the detailed information submitted about PSEP during its OIR proceeding. *See* San Bruno OII Ex. PG&E-1a at 13A-13.	Oppose.
4.B.37	PG&E should examine internal communication processes to ensure that all employees are knowledgeable on what is expected of them and their teams.	PG&E agrees with this recommendation, and is implementing the recommendation through a thorough re-examination of a number of issues, including job responsibilities. The gas business, in particular, has clarified job responsibilities and priorities. *See* San Bruno OII Ex. PG&E-1a at 13A-13.	**Goals of** PG&E **gas employees** should **describe** ~~examine internal communication processes to ensure that all employees are knowledgeable on~~ what is expected of them and their teams.

Brief Reference	Party Proposal	PG&E Response and Reasoning	PG&E Proposed Edits[1]
4.B.38	CPSD agrees with the following NTSB recommendations to PG&E (CPSD-9, pages 130-131):	PG&E agrees with and is implementing this recommendation to follow the NTSB recommendations. *See* San Bruno OII Ex. PG&E-1a at 13A-13 to 13A-16; Exhibit 11 of PG&E's March 25, 2013 Records OII Request for Official Notice (reflecting the latest status of these items with the NTSB).	None.
4.B.38.a	Revise your work clearance procedures to include requirements for identifying the likelihood and consequence of failure associated with the planned work and for developing contingency plans. (P-11-24)	PG&E agrees with and is implementing this recommendation. *See* San Bruno OII Ex. PG&E-1a at 13A-14 & Ch. 13B (PG&E's May 23, 2012 response to NTSB Recommendation P-11-24 (marked closed by NTSB on 3/14/13)); San Bruno OII Ex. PG&E-1, Chapters 8.F.1 and 8.F.3.	None.
4.B.38.b.1	Establish a comprehensive emergency response procedure for responding to large-scale emergencies on transmission lines; the procedure should (1) identify a single person to assume command and designate specific duties for supervisory NTSB Pipeline Accident Report 131 control and data acquisition staff and all other potentially involved company employees	PG&E agrees with and is implementing this recommendation. *See* San Bruno OII Ex. PG&E-1a at 13A-14 & Ch. 13B (PG&E's May 23, 2012 response to NTSB Recommendation P-11-25 (marked closed by NTSB on 8/29/12)); San Bruno OII Ex. PG&E-1, Chapter 10.B.	None.
4.B.38.b.2	Establish a comprehensive emergency response procedure for responding to large-scale emergencies on transmission lines; the procedure should include the development and use of trouble-shooting protocols and checklists	PG&E agrees with and is implementing this recommendation. The NTSB stated that this recommendation was closed on 8/29/12.	None.

Brief Reference	Party Proposal	PG&E Response and Reasoning	PG&E Proposed Edits[1]
4.B.38.b.3	Establish a comprehensive emergency response procedure for responding to large-scale emergencies on transmission lines; the procedure should include a requirement for periodic tests and/or drills to demonstrate the procedure can be effectively implemented. (P-11-25)	PG&E agrees with and is implementing this recommendation. The NTSB stated that this recommendation was closed on 8/29/12.	None.
4.B.38.c	Equip your supervisory control and data acquisition system with tools to assist in recognizing and pinpointing the location of leaks, including line breaks; such tools could include a real-time leak detection system and appropriately spaced flow and pressure transmitters along covered transmission lines. (P-11-26)	PG&E agrees with and is implementing this recommendation. *See* San Bruno OII Ex. PG&E-1a at 13A-14 & 13B (PG&E's May 23, 2012 response to NTSB Recommendation P-11-26); San Bruno OII Ex. PG&E-1, Chapter 8.F. We are expecting closure in 2014.	None.
4.B.38.d	Expedite the installation of automatic shutoff valves and remote control valves on transmission lines in high consequence areas and in class 3 and 4 locations, and space them at intervals that consider the factors listed in Title 49 Code of Federal Regulations Part 192.935(c). (P-11-27)	PG&E agrees with and is implementing this recommendation. *See* San Bruno OII Ex. PG&E-1a at 13A-14 to 13-15 & 13B (PG&E's May 23, 2012 response to NTSB Recommendation P-11-27); San Bruno OII Ex. PG&E-1, Chapter 8.F.2. We are expecting closure in 2014.	None.
4.B.38.e	Revise your postaccident toxicological testing program to ensure that testing is timely and complete. (P-11-28)	PG&E agrees with and is implementing this recommendation. *See* San Bruno OII Ex. PG&E-1a at 13A-15 & 13B (PG&E's May 23, 2012 response to NTSB Recommendation P-11-28); San Bruno OII Ex. PG&E-1, Chapter 8.F.4. This recommendation was closed by the NTSB on 8/29/2012.	None.

Brief Reference	Party Proposal	PG&E Response and Reasoning	PG&E Proposed Edits[1]
4.B.38.f	Assess every aspect of your integrity management program, paying particular attention to the areas identified in this investigation, and implement a revised program that includes, at a minimum, (1) a revised risk model to reflect the PG&E Company's actual recent experience data on leaks, failures, and incidents; (2) consideration of all defect and leak data for the life of each pipeline, including its construction, in risk analysis for similar or related segments to ensure that all applicable threats are adequately addressed; (3) a revised risk analysis methodology to ensure that assessment methods are selected for each pipeline segment that address all applicable integrity threats, with particular emphasis on design/material and construction threats; and (4) an improved self-assessment that adequately measures whether the program is effectively assessing and evaluating the integrity of each covered pipeline segment. (P-11-29)	PG&E agrees with and is implementing this recommendation. PG&E has embarked on a complete assessment of every aspect of our transmission integrity management program. We have hired a number of consultants recognized and respected in the industry as experts in integrity management to assist in an exhaustive review of our program's policies, procedures, and tools. This review will assure that our integrity management program meets all regulatory requirements, including improving its practices in areas highlighted in the NTSB report and CPSD/PHMSA 2011 Risk Assessment Audit. We expect closure by 2013. *See* San Bruno OII Ex. PG&E-1c at 4.E; San Bruno OII Ex. PG&E-1a at 13A-15 & 13B (PG&E's May 23, 2012 response to NTSB Recommendation P-11-29).	None.
4.B.38.g	Conduct threat assessments using the revised risk analysis methodology incorporated in your integrity management program, as recommended in Safety Recommendation P-11-29, and report the results of those assessments to the Commission and the Pipeline and Hazardous Materials Safety Administration. (P-11-30)	PG&E agrees with and is implementing this recommendation. *See* San Bruno OII Ex. PG&E-1c Chapter 4.E; San Bruno OII Ex. PG&E-1a at 13A-16 & 13B (PG&E's May 23, 2012 response to NTSB Recommendations P-11-29 and P-11-30). We expect closure in 2013.	None.

Brief Reference	Party Proposal	PG&E Response and Reasoning	PG&E Proposed Edits[1]
4.B.38.h	Develop, and incorporate into your public awareness program, written performance measurements and guidelines for evaluating the plan and for continuous program improvement. (P-11-31)	PG&E agrees with and is implementing this recommendation. *See* San Bruno OII Ex. PG&E-1 Chapter 10.B; San Bruno OII Ex. PG&E-1a at 13A-16 & 13B (PG&E's May 23, 2012 response to NTSB Recommendation P-11-31 (marked closed by NTSB 3/14/13)).	None.
4.C.1	PG&E should be required to achieve at least a Level 3 information maturity score under the Generally Accepted Records Keeping Principles. (CPSD Exhibit 6, Appendix 4)	PG&E will undertake to achieve a Level 3 score for its gas transmission records management practices using the GARP principles as a benchmark. This is a significant undertaking that is likely to take upwards of three years to complete.	PG&E**'s gas transmission organization** should be required to achieve ~~at least~~ a Level 3 information maturity score under the Generally Accepted Records Keeping Principles **within 3 years**. (CPSD Exhibit 6, Appendix 4)**.**
4.C.2	PG&E should be required to achieve International Organization Standard (ISO) certification against ISO 30300 for its Management System for Records (MSR) within five years of the ISO 30300 audit standard being finalized and published	PG&E disagrees with this recommendation. ISO 30300, which will be a newly revised update to ISO 15489, is primarily used for organizations that have international demands on information governance, including EU directives and other cross-country requirements. Meeting ISO 30300 would be unnecessary and inappropriate for an organization that although large is located in one state of the United States.	Oppose.
4.C.3.a., b, and c.	PG&E should develop a program to draft, review, approve and issue corporate policies and policy guidance that will: a. establish guidance for all departments and divisions to assist them with drafting standard practices to implement the corporate policies,	(a) PG&E's Information Management and Compliance Department has issued a corporate records and information management policy and standard that communicates recordkeeping expectations for all departments and divisions	PG&E should ~~develop a program to draft, review, approve and~~ issue **a** corporate polic**v**~~ies~~ and ~~policy guidance~~ **standard** that will: ~~establish guidance for all departments and divisions to assist them with drafting standard practices to implement the corporate policies,~~ **(a) communicate recordkeeping**

Brief Reference	Party Proposal	PG&E Response and Reasoning	PG&E Proposed Edits[1]
	b. will incorporate an internal audit function to review standard practices for compliance, consistency and accuracy, and c. will incorporate a retention policy with a schedule that identifies all records within the business for which there is a retention period mandated by federal / state laws; general orders and regulations including CPUC section 451 and its successors.	across PG&E. This will be incorporated into procedures specific to meet the needs of every Line of Business, including gas transmission. It is impractical to draft standard practices that would fit business processes as diverse as Gas Operations, Human Resources and Regulatory Affairs, for example. (b) The IM Compliance Department will be designing a governance controls catalog for recordkeeping practices to assess compliance with the corporate policy and standard, consistency of behavior with official records being stored in approved systems of record, and timeliness of addressing records during their lifecycle. (c) The retention schedule will support the policy by providing retention length for all identified official records to meet legal and regulatory mandates. The retention schedule for Gas Operations is currently being updated and will be accessible to Gas Operations employees through a common forum. *See* PG&E's response to CPSD Recommendation 4.C.9. Public Utilities Code section 451 is not a	**expectations for all departments and divisions across PG&E. This should be incorporated into procedures specific to meet the needs of every Line of Business. (b) The IM Compliance Department should design a governance controls catalog for recordkeeping practices to assess compliance with the corporate policy and standard, consistency of behavior with official records being stored in approved systems of record, and timeliness of addressing records during their lifecycle. (c) the retention schedule will support the policy by providing retention length for all identified official records to meet legal and regulatory mandates.**

Brief Reference	Party Proposal	PG&E Response and Reasoning	PG&E Proposed Edits[1]
		recordkeeping provision and contains no retention requirements. Therefore, PG&E retention schedules will not list section 451 as a mandate for retention.	
4.C.4	PG&E should develop and implement an education and training program in information governance; records management principles and practices; and information security.	PG&E agrees that it should develop and implement Records and Information Management (RIM)[3] training for its gas transmission organization.	PG&E should develop and implement an education and training program **for the gas transmission organization** in **Records and I**nformation ~~governance; records~~ **M**anagement **(RIM)** principles and practices~~; and information security~~.
4.C.5	PG&E should develop and deploy the systems necessary to manage, maintain, access and preserve both records and documents (physical and electronic, in all formats and media types); their related data, metadata, and geographic location and geospatial content in accordance with legal and business mandated rules, utilizing technology that includes appropriate aids to help improve data and metadata quality, including but not limited to validation, verification and referential integrity.	PG&E agrees with this recommendation, and is implementing this recommendation in its gas transmission business.	PG&E should develop and deploy the **gas transmission** systems necessary to manage, maintain, access and preserve ~~both~~ records ~~and documents~~ (physical and electronic, in all formats and media types); their related data, metadata, and geographic location and geospatial content **to the extent appropriate** in accordance with **PG&E's records retention schedule**~~legal and business mandated rules~~, utilizing technology that includes appropriate aids to help improve data and metadata quality~~, including but not limited to validation, verification and referential integrity~~.

[3] Records and Information Management (RIM) is the field of management responsible for the efficient and systematic control of the creation, receipt, maintenance, use, and disposition of records.

Brief Reference	Party Proposal	PG&E Response and Reasoning	PG&E Proposed Edits[1]
4.C.6	PG&E should establish a method of accountability for senior manager who are responsible for developing and implementing information governance strategies across engineering processes and standard practices and should document the results at least annually.	PG&E agrees with this recommendation and is implementing this recommendation in its gas transmission business.	PG&E should establish ~~a method of~~ accountability for **developing and implementing** ~~senior manager who are responsible for developing and implementing~~ information governance strategies across **gas transmission** ~~engineering processes and standard practices and should document the results at least annually~~.
4.C.7	PG&E should identify and document annually the employees responsible for implementation of standard practices developed for records and engineering documents control.	PG&E agrees with this recommendation and is implementing this recommendation in its gas transmission business.	PG&E should identify and document ~~annually~~ the employees responsible for implement**ing**~~ation~~ **the Records and Information Management program for gas transmission** ~~of standard practices developed for records and engineering documents control~~.
4.C.8	PG&E should develop consistent standard practices that include records management / engineering document control linked to corporate polices on information governance and engineering processes.	PG&E agrees with this recommendation and is implementing this recommendation in its gas transmission business.	PG&E should develop consistent standard practices that include **gas transmission** records management ~~/ engineering document~~ control linked to corporate polices on information governance ~~and engineering processes~~.
4.C.9	PG&E should implement mandated retention periods for all relevant records.	PG&E agrees with this recommendation and is implementing this recommendation in its gas transmission business.	PG&E should implement mandated retention periods for all relevant records **in gas transmission**.

Brief Reference	Party Proposal	PG&E Response and Reasoning	PG&E Proposed Edits[1]
4.C.10	PG&E should ensure that each engineering process and corresponding standard practice explains how the data, information, documents and records are handled, when and by whom; which laws, regulations and standards govern the records and where the records reside and are maintained, retained and disposed of.	PG&E agrees with this recommendation and is implementing this recommendation in its gas transmission business.	PG&E should ensure that each **gas transmission** ~~engineering process and corresponding~~ standard **conforms with Records and Information Management (RIM) policies for gas transmission.** ~~practice explains how the data, information, documents and records are handled, when and by whom; which laws, regulations and standards govern the records and where the records reside and are maintained, retained and disposed of.~~
4.C.11	PG&E should develop a policy that describes how records (paper and electronic) that are inactive and accessed on an irregular basis for long periods of time will be stored and protected.	PG&E agrees with this recommendation and is implementing this recommendation in its gas transmission business.	PG&E should **include the treatment of active and inactive records in its Records and Information Management (RIM) Policy for gas transmission** ~~develop a policy that describes how records (paper and electronic) that are inactive and accessed on an irregular basis for long periods of time will be stored and protected~~.
4.C.12	PG&E's records management processes should be able to manage and maintain traceability and accuracy of physical and digital pipeline records for the 'life of the asset.'	PG&E agrees with this recommendation and is implementing this recommendation in its gas transmission business.	PG&E's **as-built** records **for gas transmission pipelines** ~~management processes~~ should be ~~able to~~ manage**d** and maintain**ed in accordance with the** traceab**le,** ~~ility~~ **verifiable** and ~~accuracy~~ **complete standard and aligned with PG&E's record retention schedule** ~~of physical and digital pipeline records for the 'life of the asset.'~~

Brief Reference	Party Proposal	PG&E Response and Reasoning	PG&E Proposed Edits[1]
4.C.13	The accuracy and completeness of data within gas transmission records should be traceable, verifiable and complete and when errors are discovered, the record should be corrected as soon as correct information is available and the reason(s) for each change should be documented and kept with the record.	PG&E agrees with this recommendation and is implementing this recommendation in its gas transmission business.	The accuracy and completeness of ~~data within~~ gas transmission **pipeline** records should be traceable, verifiable and complete and when ~~errors~~ **discrepancies** are discovered **in GIS 3.0**, ~~the record~~ **GIS 3.0** should be ~~corrected~~ **updated** as soon as ~~correct~~ **the new** information is available and **reflected in the audit change log**~~the reason(s) for each change should be documented and kept with the record~~.
4.C.14	PG&E should create a standard format for the organization of a job file so that PG&E personnel will know exactly where to look in a file folder, or set of file folders, to find each type of document associated with a job file. At a minimum, a job file will contain traceable, verifiable and complete records to support the MAOP of the pipeline segment installed; design documentation; purchase documentation showing the sources and specifications of equipment purchased; permits; environmental documents; field notes; design, construction and as-built drawings; x-ray reports and weld maps; pressure test records; correspondence with the CPUC; and inspection reports and correspondence.	PG&E agrees with this recommendation, and is implementing this recommendation by creating an electronic format for job file organization.	PG&E should create a standard **electronic** format for the organization of a job file so that PG&E personnel will know exactly where to look **electronically** in a file folder, or set of file folders, to find each type of ~~document~~ **record** associated with a job file. ~~At a minimum, a~~ **An electronic** job file will contain traceable, verifiable and complete records to support the MAOP of the pipeline **features that were reviewed as part of the MAOP Validation project including where available:** ~~segment installed;~~ design documentation; purchase documentation showing the sources and specifications of equipment purchased; ~~permits; environmental documents; field notes;~~ design, construction and as-built drawings; **and** ~~x-ray reports and weld maps;~~ pressure test records~~; correspondence with the CPUC; and inspection reports and correspondence~~.

Brief Reference	Party Proposal	PG&E Response and Reasoning	PG&E Proposed Edits[1]
4.C.15	Job file data, including drawings, for all parts of the active PG&E gas transmission system should be immediately accessible from multiple locations. The development of a complete and accurate catalog of "job files that can be searched immediately should be included within this objective.	PG&E agrees with this recommendation, and is implementing this recommendation through Project Mariner.	Job file ~~data~~**records**, including drawings, for all parts of the active PG&E gas transmission **pipelines** ~~system~~ should be ~~immediately~~ accessible from multiple locations. ~~The development of a complete and accurate catalog of "job files that can be searched immediately should be included within this objective.~~
4.C.16.a, b., and c	The information that was contained in PG&E's historic records and documents, and that has been identified as 'missing or disposed of,' and is necessary to be retained for the safe operation of the pipelines, pursuant to laws, regulations and standards and the PG&E retention schedule, should be recovered. This recovery should include but not be limited to: a. updating and verification of data in engineering databases, such as the leak database, GIS and the integrity management model, b. updating plat sheets and other engineering drawings, and c. updating and organizing job files.	PG&E agrees with this recommendation, and is implementing this recommendation through the MAOP validation effort. *See* PG&E's response to CPSD Recommendation 4.B.4.	**In the course of the MAOP Validation Project, when PG&E cannot locate records, PG&E should apply conservative assumptions in its development of its Pipeline Features Lists for gas transmission pipelines.**

Brief Reference	Party Proposal	PG&E Response and Reasoning	PG&E Proposed Edits[1]
4.C.17	PG&E should document adoption of, and changes and amendments to policies and standard practices and the reasons for their adoption, amendment or cancellation. An audit trail of changes should be maintained, retained and preserved permanently, taking heed of potential changes in technology that may render documents unreadable in the future.	PG&E agrees that it should document changes to gas transmission polices and standard practices. An explanation of changes should be maintained so long as the standard practice is in effect, or for a reasonable, defined period of time. Permanent retention of all documents is not practicable.	PG&E should **maintain** document**ation of** ~~adoption of, and~~ changes **to gas transmission standards and procedures** and ~~amendments to policies and standard practices and the reasons for their adoption, amendment or cancellation. An audit trail of changes should be maintained,~~ retain **according to PG&E's Records and Information Management (RIM) policies, standards and procedures** ~~ed and preserved permanently, taking heed of potential changes in technology that may render documents unreadable in the future~~.
4.C.18	PG&E will identify each section of pipe that has been salvaged and reused within the PG&E gas transmission system. For each section of pipe identified, PG&E will change the installed date in its GIS and its IM model to the date the pipe was originally installed in the PG&E pipeline system.	PG&E agrees with this recommendation, and will identify sections of pipe that have been salvaged and reused in other gas transmission pipelines through its MAOP Validation Effort.	**Using the information collected in the MAOP Validation Effort,** PG&E will ~~identify~~ **track** each section of pipe that has been salvaged and reused ~~within~~ **on** the PG&E gas transmission **pipelines** ~~system~~. For ~~each~~ **those** section**s** ~~of pipe identified~~, PG&E will ~~change~~ **reflect both** the **current** installed date **and the original date of manufacture and installation, if available,** in its GIS and its IM model ~~to the date the pipe was originally installed in~~ **for** the PG&E pipeline system.
4.C.19	PG&E will create a system to track reused pipe installed within its operating gas transmission pipeline system and will maintain these records so long as there are sections of reused pipe in the PG&E operating gas transmission pipeline system.	PG&E addresses this recommendation in response to CPSD Recommendation 4.C.18.	Oppose as duplicative of CPSD 4.C.18.

Brief Reference	Party Proposal	PG&E Response and Reasoning	PG&E Proposed Edits[1]
4.C.20	PG&E should implement the recommendations included in the final Pricewaterhouse Coopers (PwC) audit report. (TURN Exhibit 16, Appendix B)	PG&E's assessment of each of the 59 recommendations is located in Records OII Ex. PG&E-61, Chapter 1D, Attachment 1D.	Oppose as addressed in Ex. PG&E-61, Chapter 1D, Attachment 1D.
4.C.21	Using independent auditors, CPSD will undertake audits of PG&E's recordkeeping practices within the Gas Transmission Division on an annual basis for a minimum of ten years after the final decision is issued in I.11-02-016.	PG&E agrees that CPSD should audit PG&E's recordkeeping practices, and supports the use of independent auditors retained by CPSD. However, auditing PG&E's practices annually is not practical or useful. The steps necessary for audits to be successful (define audit criteria, conduct an audit, discuss findings with PG&E, issue report, PG&E to implement corrective actions in response to findings, allow time for implementation) will take longer than one year. Also, the Government Auditing Standards issued by the U.S. Government Accountability Office contain appropriate protocols for conducting recordkeeping audits of the kind contemplated by CPSD's proposal. PG&E expects CPSD to define the scope and criteria for its audits at the outset, and to follow the standards to ensure high quality audits.	Using independent auditors, **and applying the Government Auditing Standards issued by the U.S. Government Accountability Office,** CPSD will undertake audits of PG&E's recordkeeping practices within the Gas Transmission Division ~~on an annual basis~~ for a minimum of ten years after the final decision is issued in I.11-02-016.

Brief Reference	Party Proposal	PG&E Response and Reasoning	PG&E Proposed Edits[1]
4.C.22	PG&E will correct deficiencies in recordkeeping discovered as a result of each CPSD audit and will report to CPSD when such deficiencies have been corrected.	The Government Auditing Standards provide an opportunity to discuss the draft findings with PG&E prior to issuance of its report, to ensure a common understanding of the alleged deficiency, and develop an agreed-upon corrective action plan. To ensure consistency with these government-sanctioned standards, PG&E expects CPSD to provide an opportunity to discuss the draft findings with PG&E prior to issuance of its report, to ensure a common understanding of the alleged deficiency, and needed corrections.	PG&E will correct deficiencies in recordkeeping discovered as a result of each CPSD audit and will report to CPSD when such deficiencies have been corrected. **Consistent with the Government Auditing Standards issued by the U.S. Government Accountability Office, CPSD will review the draft findings and proposed corrective action plans with PG&E prior to issuance of its audit report.**

Brief Reference	Party Proposal	PG&E Response and Reasoning	PG&E Proposed Edits[1]
4.D.1	Systems: Utilize industry-approved and accepted software for electronic storage of class location information. o Devise a system to capture and document new PG&E service hook-ups especially in proximity to transmission lines.	PG&E agrees with this recommendation to utilize industry-standard software for electronic storage of class location information. PG&E will implement this recommendation via an integrated GIS and gas transmission asset management system that will enable the use of software to perform class location calculations. *See* Class OII Ex. PG&E-1 at A-1 and Chapter 1, Section B.2. PG&E agrees with the recommendation to devise a new system to document new service hookups in proximity to transmission lines. We are studying how to best accomplish this goal. We have created a pilot project to identify new gas and electric meters, new building permits, new assessor parcel numbers, and increased county tax assessments (indicating a recent improvement on the property) for parcels located within 1,000 feet of our pipelines and thereby identify potential class location changes. *See* Class OII Exhibit PG&E-1, Chapter 1, Section 2.	Systems: Utilize industry-~~approved and accepted~~ **standard** software for electronic storage of class location information. o Devise a ~~system~~ **process** to capture ~~and document~~ new PG&E service hook-ups ~~especially~~ in proximity to transmission lines **and incorporate into the class location analysis**.

Brief Reference	Party Proposal	PG&E Response and Reasoning	PG&E Proposed Edits[1]
4.D.2	Procedures: Update procedure TD 4412-07 6.2 (4) to require written confirmation to patrollers that follow up has been performed on all new construction that the patroller has previously observed and documented. The same change should be made to Attachment 7 Item 5 of TD 4412-07, Aerial Patrolling Process Instructions. This requirement should also be included in the OQ training for the task.	PG&E agrees with the essence of CPSD's recommendation. We are in the process of revising our patrol standard to require that field employees and their supervisors investigate all conditions identified on aerial patrol reports to ensure all patrol observations are properly addressed. See Class OII Ex. PG&E-1 at 1-9 n.24. In addition, we plan to use the Company's SAP software to schedule all pipeline patrols and necessary corrective actions. This will enable the Pipeline Patrol Process Owner to monitor the completion of scheduled patrols and any necessary follow up actions.	Procedures: Update procedure**s** ~~TD 4412-07 6.2 (4)~~ to require ~~written~~ confirmation to **Patrol Supervisors** ~~patrollers~~ that follow up has been performed on all new construction that the patroller has previously observed and documented. ~~The same change should be made to Attachment 7 Item 5 of TD 4412-07, Aerial Patrolling Process Instructions. This requirement should also be included in the OQ training for the task.~~
4.D.3	Procedure 6.3 (3) should be rewritten as "List all new observations regardless if it is believed that the ground crew has already investigated the observation."	PG&E agrees with and is implementing this recommendation. *See* Class OII Ex. PG&E-1 at 1-8, A-2.	None.

Brief Reference	Party Proposal	PG&E Response and Reasoning	PG&E Proposed Edits[1]
4.D.4	TD-4412-07 section 6.1 (2) should include specific language for the pilot to recommended increased patrolling to the Aerial Patrol Program Manager.	PG&E agrees with this recommendation, and is implementing this recommendation by revising our patrol procedure to encourage aerial patrol pilots to recommend increased patrolling of specific segments based on observed ground activity. The Patrol Process Owner will review, validate, and incorporate the pilots' recommendations into future patrols as appropriate. *See* Class OII Ex. PG&E-1, at 1-9 to 1-12. We will also use information from our Public Awareness and Damage Prevention Programs to increase patrol frequencies as appropriate.	None.
4.D.5	Ensure that the Report of New Construction forms are completed.	PG&E agrees with and is implementing this recommendation and has trained field supervisors on the updated class location and patrol procedures, including the supervisors' responsibility to complete the "Report of New Construction Along Pipeline" Form. Additionally, the Maintenance & Construction organization's Manager of Gas Compliance will be responsible for performing regular compliance documentation reviews of class location analysis and patrolling, including reviewing "Report of New Construction Along Pipeline" forms to ensure they are properly completed. *See* Class OII Ex. PG&E-1 Chapter 1.D-1.E.	None.

Brief Reference	Party Proposal	PG&E Response and Reasoning	PG&E Proposed Edits[1]
4.D.6	Increase the duties of the Aerial Patrol Program Manager (APPM) to include oversight and review of the quality and accuracy of patrol reports.	PG&E agrees with and is implementing this recommendation. *See* Class OII Ex. PG&E-1 at A-3.	None.
4.D.7	Create a detailed procedures manual containing the APPM's duties to ensure quality control of aerial patrol responsibilities.	PG&E agrees with and is implementing this recommendation. *See* Class OII Ex. PG&E-1 at A-3.	None.
4.D.8	Training: Generate multiple training exams for patrolling.	PG&E agrees with this recommendation, and is implementing this recommendation by evaluating a specialized training program and testing regiment utilizing varied training exams for patrolling personnel. *See* Class OII Ex. PG&E-1 at 1-12, A-3.	Training: **Utilize varied** ~~Generate multiple~~ training exams for patrolling.
4.D.9	The new training exams for patrolling should include questions with greater detail and complexity than the current exam. [Patrolling exams submitted to CPUC staff contained fairly simple questions which require only a rudimentary understanding of class locations.]	PG&E agrees with this recommendation, and is implementing this recommendation by evaluating a specialized training program and testing regiment utilizing enhanced training exams for patrolling personnel. *See* Class OII Ex. PG&E-1 at 1-12, A-3.	~~The new training exams for patrolling should include questions with greater detail and complexity than the current exam.~~ **Training materials and associated tests will be reviewed and updated to enhance employee competency, utilize aerial photos and other aids, and reflect field conditions to approximate buildings' key distances from lines.**

Brief Reference	Party Proposal	PG&E Response and Reasoning	PG&E Proposed Edits[1]
4.D.10	Improve Aerial Patrol Pilot training. [PG&E should consider pilot training using aerial photographs taken at an altitude of 750 feet, which replicates what the pilots see on patrol, and include a number of structures both within and outside of the 660 foot standard. Use the photos as exam exhibits where the pilots indicate which structures are approximately 660 feet from the right of way and would require reporting. Training should also include a WDA in the exhibit as well.]	PG&E agrees with and is implementing this recommendation by evaluating a specialized training program and testing regiment utilizing enhanced training exams for patrolling personnel. *See* Class OII Ex. PG&E-1 at 1-12, A-3. This training may test a patroller's estimate of distances between structures and a pipeline. *Id.* at 1-12.	Improve Aerial Patrol Pilot training**:** ~~[~~PG&E should consider pilot training using ~~aerial~~ photographs**,** **video or other aids to reflect expected views to be seen from typical patrol altitudes. Include structure examples** ~~taken at an altitude of 750 feet, which replicates what the pilots see on patrol, and include a number of structures~~ both within and outside of the 660 foot standard. Use the photos as exam exhibits where the pilots indicate which structures are approximately 660 feet from the right of way and would require reporting. Training should also include a **Well-Defined Area (**WDA**)** in the exhibit.~~]~~
4.D.11	Audits: Audits for patrolling should include a comparison of new construction observations with new gas/electrical hook ups near the line to ensure that new construction has not been missed.	PG&E agrees with and is implementing this recommendation through a pilot program to evaluate the comparison of new construction indications with patrol observations. *See* Class OII Ex. PG&E-1 at 1-6.	Audits: Audits for **the** patrolling **process** should include a comparison of new construction observations with new gas/electrical hook ups near the line to ensure that new construction has not been missed.
4.D.12	A new item "All Sections of Document Completed" should be added to the audit checklist when reviewing Reports of New Construction.	PG&E agrees with and is implementing this recommendation. The Maintenance and Construction Manager of Gas Compliance will be responsible for performing regular compliance reviews of class location analysis and patrolling records, including new construction forms. *See* Class OII Ex. PG&E-1 at A-4.	None.

Brief Reference	Party Proposal	PG&E Response and Reasoning	PG&E Proposed Edits[1]
4.D.13	Audits should make sure that copies of completed Reports of New Construction are being provided to local supervisors as required by standard procedure TD-4127P-01 section 3.8 (5).	PG&E agrees with and is implementing this recommendation. *See* Class OII Ex. PG&E-1 at A-4.	None.

Brief Reference	Party Proposal	PG&E Response and Reasoning	PG&E Proposed Edits[1]
TURN's Proposals			
1	PG&E should be required to track in a centralized database where it has placed reused 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.	See PG&E's response to CPSD Recommendations 4.C.18 and 4.C.19.	Oppose as duplicative of CPSD 4.C.18 and 4.C.19.
2A	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.	Object. See PG&E's response to CPSD Recommendation 4.B.4.	Oppose as duplicative of CPSD 4.B.4.

Brief Reference	Party Proposal	PG&E Response and Reasoning	PG&E Proposed Edits[1]
2B	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.	See PG&E's response to San Bruno Recommendation V.C.	Oppose as duplicative of San Bruno V.C.
3	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.	Object. See PG&E's response to San Bruno Recommendation V.C.	Oppose as duplicative of San Bruno V.C.
San Bruno's Proposals			
V.B.	San Bruno Requests that Commission Establish the California Pipeline Safety Trust	Object for the reasons discussed in Section V.B.2 of PG&E's brief.	Oppose.

Brief Reference	Party Proposal	PG&E Response and Reasoning	PG&E Proposed Edits[1]
V.C.	Appoint an Independent Monitor to Oversee PG&E Compliance with the PSEP and Remedies Imposed in the Proceeding.	PG&E disagrees with this recommendation. PG&E agrees that CPSD's resources are limited and that adding substantial management and oversight obligations to its existing duties could outstrip available resources. To address that concern, PG&E agrees with CPSD's suggestion that the Commission order a portion of any penalty imposed against PG&E be used to retain consultants to assist CPSD in managing and overseeing PG&E's implementation of its operational commitments and continuing PSEP activities. Such consultants could be identified, hired and directed by CPSD, but funded by PG&E.	Oppose.
V. D.1	Establishment of the Peninsula Emergency Response Fund	Object for the reasons discussed in Section V.B.2 of PG&E's brief.	Oppose.
V. D.2.a	Provide training to Gas Service Representatives to recognize the differences between fires of low-pressure natural gas, high-pressure natural gas, gasoline fire, or jet fuel.	See PG&E's response to CPSD recommendation 4.B.23.	Oppose as duplicative of CPSD 4.B.23.

Brief Reference	Party Proposal	PG&E Response and Reasoning	PG&E Proposed Edits[1]
V. D.2.b	Provide training to its Gas Service Representatives (GSRs) and Gas Control Operators to ensure that they coordinate effectively with emergency responders, follow PG&E's own internal procedures when responding to emergencies, and each GSR Gas Control Operators shall be trained and able to manually shut off valves. PG&E shall also audit its GSRs and Gas Control Operators annually to ensure that they are properly trained.	PG&E agrees with the recommendation that its Gas Service Representatives and Gas Control Operators should be trained to coordinate with emergency responders and follow internal emergency plans. PG&E further agrees that gas service representatives should, at the direction of gas control operators, be trained and able to manually shut off emergency shutdown zone valves. PG&E agrees that its GSRs and Gas Control Operators should be audited to ensure that they are properly trained. However, annual auditing of every employee is impractical and unnecessary.	Provide training to its Gas Service Representatives (GSRs) and Gas Control Operators to ensure that they coordinate effectively with emergency responders, follow PG&E's own internal procedures when responding to emergencies, and each GSR **under** Gas Control Operators**' direction should** ~~shall~~ be trained and able to manually shut off **emergency shutdown zone** valves. PG&E **should** ~~shall~~ also audit its GSRs and Gas Control Operators ~~annually~~ to ensure ~~that~~ they are properly trained.
V. D.2.c	Develop and deliver, to all staff, records management education and training sessions to provide records management skills and give staff and understanding of the responsibilities and tasks that relate to managing records. These sessions shall be updated and repeated at regular intervals at least twice annually to include amendments to the records management program and for the benefit of new staff.	See PG&E's response to CPSD Recommendation 4.C.4.	Oppose as duplicative of CPSD 4.C.4.
V. D.2.d	Develop specific and additional training for those staff involved directly in the management of retention and disposition of records.	See PG&E's response to CPSD Recommendation 4.C.4.	Oppose as duplicative of CPSD 4.C.4.

Brief Reference	Party Proposal	PG&E Response and Reasoning	PG&E Proposed Edits[1]
V. D.2.e	Develop specific and additional training focusing on all of the widely used recordkeeping systems such as SAP, GEMS, SharePoint, IGIS, ECTS. Employees and PG&E contractors who have duties using these programs shall be required to attend these training sessions.	See PG&E's response to San Bruno Recommendation V.D.2.c and CPSD Recommendation 4.C.4.	Oppose as duplicative of San Bruno V.D.2.c and CPSD 4.C.4..
V. D.2.f	Improved Aerial Patrol Pilot training by using aerial photographs taken at an altitude of 750 feet, which replicates what the pilots see on patrol, and include a number of structures both within and outside of the 660 foot standard. Training shall also include a Well-Defined Area ("WDA") in the exhibit as well.	See PG&E's Response to CPSD Recommendation 4.D.10.	Oppose as duplicative of CPSD 4.D.10.
V. D.2.g	Generate multiple training exams for patrolling to ensure that the trainee does not see the same exam upon subsequent requalification. New training exams shall include questions with greater detail and complexity than the current exam and shall use aerial photos as exam exhibits where pilots indicate which structures are approximately 660 feet from the right of way and would require reporting.	See PG&E's response to CPSD Recommendations 4.D.8 and 4.D.9.	Oppose as duplicative of CPSD 4.D.8 and 4.D.9.
V.D.3	Require PG&E to Formalize its Emergency Response and Disclosure Obligations with Every City, County, and Fire District in its Service Territory.	Object for the reasons discussed in Section V.B.3 of PG&E's brief.	Oppose.

Brief Reference	Party Proposal	PG&E Response and Reasoning	PG&E Proposed Edits[1]
V.E	Direct PG&E to Undertake an Automated Safety Valve ("ASV") Pilot Program Throughout its Service Territory	PG&E objects to this recommendation, as automated safety valve implementation is addressed in the Pipeline Safety Enhancement Plan in R.11-02-019.	Oppose as addressed in R.11-02-019.
V.F	Modification of PG&E Long-Term and Short-Term Incentive Program Calculations to incorporate proper priorities	This recommendation is duplicative of CPSD Recommendation 4.B.33. As stated in response to CPSD Recommendation 4.B.33, PG&E has revised its STIP program to make safety performance 40% of the score used to determine the total award. It is not appropriate to modify LTIP in the manner San Bruno recommends because LTIP is a different kind of compensation program, designed specifically to focus on comparative long-term market performance. PG&E's shareholders pay for LTIP in its entirety.	Oppose as duplicative of CPSD 4.B.33.

APPENDIX C

Proposed Improvement Commitments

The commitments listed below are the improvement actions PG& E proposes the Commission adopt in these proceedings to address parties' proposed remedies. These actions are taken from PG&E's Appendix B to its Remedies Brief. The descriptions reflect those remedies that PG&E accepts as proposed as well as those PG&E modified in the column entitled "PG&E's Proposed Edits," to ensure successful implementation. The commitments are shown with the edits accepted as clean text.

Reference	PG&E'S PROPOSED IMPROVEMENT COMMITMENTS
4.A.1	PG&E should pay to reimburse CPSD for contracts retaining independent industry experts, chosen by CPSD, for the cost of verification audits and inspections to ensure compliance with the other remedies. These auditors should apply the Government Auditing Standards issued by the U.S. Government Accountability Office when conducting their audits. PG&E should also pay to reimburse CPSD for contracts retaining independent industry experts, chosen by CPSD in the near term to provide needed technical expertise as PG&E proceeds with its hydrostatic testing program, in order to provide a high level of technical oversight and to assure the opportunity for legacy piping characterization though sampling is not lost in the rush to execute the program.
4.A.2	PG&E should reimburse CPUC/CPSD for the cost of conducting all three of the present investigations.
4.A.3	PG&E should apply the remainder of the $2.25 billion penalty until it reaches the maximum amount of the penalty in the following order: (1) PSEP Phase 1 disallowances and PG&E's actual spending as detailed in Table 1; (2) PG&E's forecast spending as detailed in Table 1 for upcoming work and Operational Commitments. And then, if necessary, (3) PSEP Phase 2 disallowances ordered by the Commission; and (4) any remaining amount to meet the $2.25 billion maximum will offset PSEP Phase 1 and 2 authorized dollars.
4.B.1	PG&E's pipeline construction standards should meet or exceed all relevant legal requirements and industry standards for identifying and correcting pipe deficiencies and strength testing.
4.B.2	PG&E should revise its integrity management procedures to robustly meet the data gathering requirements of 49 C.F.R. Part 192.917(b) and ASME B31.8S.
4.B.3	PG&E should perform a complete company-wide record search to populate its GIS database with all identified gas transmission pipeline leak history, including closed leak, information not already transferred to the GIS.
4.B.4	PG&E should revise its Integrity Management training to ensure that missing data is represented by conservative assumptions, and that those assumptions are supportable, per the requirements of ASME B31.8S.
4.B.5	PG&E should revise its integrity management procedures, and related training, to ensure robust data verification processes are enacted and implemented.
4.B.6	PG&E should revise its threat identification and assessment procedures and training, including its Baseline Assessment Plans, to fully incorporate all relevant data for both covered and non-covered segments, including but not limited to potential manufacturing and construction threats, and leak data.
4.B.7	PG&E should re-label its system MAOP nomenclature in accordance with 49 C.F.R. Part 192.

4.B.8 PG&E should permanently cease the self-suspended practice of regularly increasing pipeline pressure up to a "system MAOP" to eliminate the need to consider manufacturing and construction threats. In addition, PG&E should analyze all segments that were subjected to the planned pressure increases to determine the risk of failure from manufacturing threats under 49 C.F.R. Part 192.917(e)(3), and perform further integrity assessments as warranted.

4.B.9 PG&E should revise its threat identification and assessment procedures and training to ensure that HCA pipeline segments with identified manufacturing threats are prioritized for a suitable assessment method (e.g., hydro-testing), per the requirements of 49 C.F.R. Part 192.917(e)(3)-(4).

4.B.10 PG&E should revise its threat identification and assessment procedures and training to ensure that cyclic fatigue and other loading conditions are incorporated into their segment specific threat assessments and risk ranking algorithm, and that threats that can be exacerbated by cyclic fatigue are assumed to exist per the requirements of 49 C.F.R. Part 192.917(b).

4.B.11 PG&E should revise its risk ranking algorithm to ensure that PG&E's weighting factors in its risk ranking algorithm more accurately reflect PG&E's actual operating experience along with generally reflected industry experience.

4.B.12 PG&E should revise its threat identification and assessment procedures and training to ensure that PG&E's weighing of factors in its risk ranking algorithm and the input of data into that algorithm corrects the various systemic issues identified in the NTSB report and the CPSD/PHMSA 2011 Risk Assessment Audit.

4.B.13 PG&E should revise its threat identification and assessment procedures and training to ensure that the proper assessment method is being used to address a pipeline's actual and potential threats.

4.B.14 PG&E should review its Inspection, Testing, and Maintenance procedure applicable to stations to ensure that integrity of electrical equipment, wiring and documentation and identification of electrical components does not deteriorate to unsafe conditions.

4.B.15 PG&E should revise its SCADA system to reduce the occurrence of "glitches" and anomalies in the control system that desensitizes operators to the presence of alarms and other inconsistent information.

4.B.16 PG&E should reevaluate SCADA alarm criteria with the goal of reducing unnecessary alarm messages.

4.B.17 PG&E should revise its control systems, including SCADA, to ensure that all relevant information is considered. PG&E is performing this through its Valve Automation Program.

4.B.18 Depending on the results of the leak and line break detection pilot program, PG&E may install more pressure sensors and have them closely spaced and use the additional information to incorporate leak or rupture recognition algorithms in its SCADA system.

4.B.20 PG&E should remove the three pressure controllers which malfunctioned on September 9, 2010.

4.B.21 PG&E should review its work clearance process to ensure that abnormal operating conditions that may arise during the course of work are anticipated and responses to those conditions are detailed. Additionally, PG&E should create a procedure covering the commission of electrical equipment from one Uninterruptable Power Supply to another. Each project should require possible scenarios and contingency plans to mitigate any abnormal operating conditions that may arise.

4.B.22 PG&E should revisit its Work Clearance procedures and training to ensure that future work will not be authorized unless all necessary forms and fields therein are comprehensively and accurately populated, and reviewed by a designated clearance supervisor. Additionally, work should not commence until such time as the operator and technician have reviewed the work clearance and have confirmed that both understand the actions to take in the event an abnormal condition is encountered. Lastly, PG&E must ensure that proper records showing the specific steps taken, when taken, and by whom, are maintained pursuant to its Record Retention Schedule.

4.B.23 Training – PG&E should provide training to Gas Service Representatives to identify hazards associated with PG&E natural gas infrastructure and take action to make the condition safe for the public and employees. If assistance is needed and the situation is an imminent hazard, the GSR will remain on site until appropriate resources take control.

4.B.24 Internal coordination – PG&E should revise its procedures to outline each individual Dispatch and Control Room employee's roles, responsibility, and lines of communication required to be made in the event of an emergency either during or outside normal working hours. This should include assigning specific geographical monitoring responsibilities for Control Room employees.

4.B.25 External coordination – CPSD agrees with NTSB recommendation P-11-2, which requests that PHMSA issue guidance to operators of natural gas transmission and distribution pipelines and hazardous liquid pipelines regarding the importance of control room operators immediately and directly notifying the 911 emergency call center(s) for the communities and jurisdiction in which those pipelines are located when a possible rupture of any pipeline is indicated. CPSD further recommends that prior to such PHMSA guidance PG&E should revise their own procedures to allow for the immediate and direct notification of 911 emergency call centers when a possible pipeline rupture is indicated.

4.B.26 Decision making authority – PG&E should revise its emergency procedures to clarify emergency response responsibilities, especially in regards to authorizing valve shut offs. PG&E policies should not just delegate authority to act but also detail obligations to act.

4.B.27 RCV/ASV – PG&E should perform a study to provide Gas Control with a means of determining and isolating the location of a rupture remotely by installing RCVs, ASVs, and appropriately spaced pressure and flow transmitters on critical transmission line infrastructure and implement the results.

4.B.28 Response time – PG&E should review required response times in other utility service territories nationwide and devise appropriate response time requirements to ensure that its Emergency Plan results in a "prompt and effective" response to emergencies. PG&E will provide its analysis and conclusions to CPSD.

4.B.29 Emergency Plan Revision – Currently a maintenance supervisor annually reviews SCADA alarm responses and makes revisions as necessary. This process needs to be formalized to ensure a robust feedback loop such that new information is fully analyzed and necessary changes to PG&E's Emergency Plan and/or other procedures are implemented with a subsequent review of made changes to ensure they are adequate.

4.B.30 Public Awareness – CPSD agrees with NTSB recommendation P-11-1, which requests PHMSA issue guidance to operators of natural gas transmission and distribution pipelines and hazardous liquid pipelines regarding the importance of sharing system-specific information, including pipe diameter, operating pressure, product transported, and potential impact radius, about their pipeline systems with the emergency response agencies of the communities and jurisdiction in which those pipelines are located. CPSD further recommends that prior to such PHMSA action PG&E undertake a review of its gas transmission public awareness and outreach programs to ensure that system-specific information is appropriately disseminated.

4.B.33 A component of a PG&E gas employee's incentive plan should include safety. PG&E's annual training plan should require that all gas leaders attend gas safety training.

4.B.37 Goals of PG&E gas employees should describe what is expected of them and their teams.

4.B.38 CPSD agrees with the following NTSB recommendations to PG&E (CPSD-9, pages 130-131):

4.B.38.a Revise your work clearance procedures to include requirements for identifying the likelihood and consequence of failure associated with the planned work and for developing contingency plans. (P-11-24)

4.B.38.b.1 Establish a comprehensive emergency response procedure for responding to large-scale emergencies on transmission lines; the procedure should (1) identify a single person to assume command and designate specific duties for supervisory NTSB Pipeline Accident Report 131 control and data acquisition staff and all other potentially involved company employees.

4.B.38.b.2 Establish a comprehensive emergency response procedure for responding to large-scale emergencies on transmission lines; the procedure should include the development and use of trouble-shooting protocols and checklists.

4.B.38.b.3 Establish a comprehensive emergency response procedure for responding to large-scale emergencies on transmission lines; the procedure should include a requirement for periodic tests and/or drills to demonstrate the procedure can be effectively implemented. (P-11-25)

4.B.38.c Equip your supervisory control and data acquisition system with tools to assist in recognizing and pinpointing the location of leaks, including line breaks; such tools could include a real-time leak detection system and appropriately spaced flow and pressure transmitters along covered transmission lines. (P-11-26)

4.B.38.d Expedite the installation of automatic shutoff valves and remote control valves on transmission lines in high consequence areas and in class 3 and 4 locations, and space them at intervals that consider the factors listed in Title 49 Code of Federal Regulations Part 192.935(c). (P-11-27)

4.B.38.e Revise your post-accident toxicological testing program to ensure that testing is timely and complete. (P-11-28)

4.B.38.f Assess every aspect of your integrity management program, paying particular attention to the areas identified in this investigation, and implement a revised program that includes, at a minimum, (1) a revised risk model to reflect the PG&E Company's actual recent experience data on leaks, failures, and incidents; (2) consideration of all defect and leak data for the life of each pipeline, including its construction, in risk analysis for similar or related segments to ensure that all applicable threats are adequately addressed; (3) a revised risk analysis methodology to ensure that assessment methods are selected for each pipeline segment that address all applicable integrity threats, with particular emphasis on design/material and construction threats; and (4) an improved self-assessment that adequately measures whether the program is effectively assessing and evaluating the integrity of each covered pipeline segment. (P-11-29)

4.B.38.g Conduct threat assessments using the revised risk analysis methodology incorporated in your integrity management program, as recommended in Safety Recommendation P-11-29, and report the results of those assessments to the Commission and the Pipeline and Hazardous Materials Safety Administration. (P-11-30)

4.B.38.h Develop, and incorporate into your public awareness program, written performance measurements and guidelines for evaluating the plan and for continuous program improvement. (P-11-31)

4.C.1 PG&E's gas transmission organization should be required to achieve a Level 3 information maturity score under the Generally Accepted Records Keeping Principles within 3 years. (CPSD Exhibit 6, Appendix 4).

4.C.3.a, b, and c. PG&E should issue a corporate policy and standard that will:

(a) communicate recordkeeping expectations for all departments and divisions across PG&E. This should be incorporated into procedures specific to meet the needs of every Line of Business.

(b) The IM Compliance Department should design a governance controls catalog for recordkeeping practices to assess compliance with the corporate policy and standard, consistency of behavior with official records being stored in approved systems of record, and timeliness of addressing records during their lifecycle.

(c) the retention schedule will support the policy by providing retention length for all identified official records to meet legal and regulatory mandates.

4.C.4 PG&E should develop and implement an education and training program for the gas transmission organization in Records and Information Management (RIM) principles and practices.

4.C.5 PG&E should develop and deploy the gas transmission systems necessary to manage, maintain, access and preserve records (physical and electronic, in all formats and media types); their related data, metadata, and geographic location and geospatial content to the extent appropriate in accordance with PG&E's records retention schedule, utilizing technology that includes appropriate aids to help improve data and metadata quality.

4.C.6	PG&E should establish accountability for developing and implementing information governance strategies across gas transmission.
4.C.7	PG&E should identify and document the employees responsible for implementing the Records and Information Management program for gas transmission.
4.C.8	PG&E should develop consistent standard practices that include gas transmission records management control linked to corporate polices on information governance.
4.C.9	PG&E should implement mandated retention periods for all relevant records in gas transmission.
4.C.10	PG&E should ensure that each gas transmission standard conforms with Records and Information Management (RIM) policies for gas transmission.
4.C.11	PG&E should include the treatment of active and inactive records in its Records and Information Management (RIM) Policy for gas transmission.
4.C.12	PG&E's as-built records for gas transmission pipelines should be managed and maintained in accordance with the traceable, verifiable and complete standard and aligned with PG&E's record retention schedule.
4.C.13	The accuracy and completeness of gas transmission pipeline records should be traceable, verifiable and complete and when discrepancies are discovered in GIS 3.0, GIS 3.0 should be updated as soon as the new information is available and reflected in the audit change log.
4.C.14	PG&E should create a standard electronic format for the organization of a job file so that PG&E personnel will know exactly where to look electronically in a file folder, or set of file folders, to find each type of record associated with a job file. An electronic job file will contain traceable, verifiable and complete records to support the MAOP of the pipeline features that were reviewed as part of the MAOP Validation project including where available: design documentation; purchase documentation showing the sources and specifications of equipment purchased; design, construction and as-built drawings; and pressure test records.
4.C.15	Job file records, including drawings, for all parts of the active PG&E gas transmission pipelines should be accessible from multiple locations.
4.C.16.a, b, and c	In the course of the MAOP Validation Project, when PG&E cannot locate records, PG&E should apply conservative assumptions in its development of its Pipeline Features Lists for gas transmission pipelines.
4.C.17	PG&E should maintain documentation of changes to gas transmission standards and procedures and retain according to PG&E's Records and Information Management (RIM) policies, standards and procedures.
4.C.18	Using the information collected in the MAOP Validation Effort, PG&E will track each section of pipe that has been salvaged and reused on the PG&E gas transmission pipelines. For those sections, PG&E will reflect both the current installed date and the original date of manufacture and installation, if available, in its GIS and its IM model for the PG&E pipeline system.

4.C.21 Using independent auditors, and applying the Government Auditing Standards issued by the U.S. Government Accountability Office, CPSD will undertake audits of PG&E's recordkeeping practices within the Gas Transmission Division for a minimum of ten years after the final decision is issued in I.11-02-016.

4.C.22 PG&E will correct deficiencies in recordkeeping discovered as a result of each CPSD audit and will report to CPSD when such deficiencies have been corrected. Consistent with the Government Auditing Standards issued by the U.S. Government Accountability Office, CPSD will review the draft findings and proposed corrective action plans with PG&E prior to issuance of its audit report.

4.D.1 Systems: Utilize industry-standard software for electronic storage of class location information. Devise a process to capture new PG&E service hook-ups in proximity to transmission lines and incorporate into the class location analysis.

4.D.2 Procedures: Update procedures to require confirmation to Patrol Supervisors that follow up has been performed on all new construction that the patroller has previously observed and documented.

4.D.3 Procedure 6.3 (3) should be rewritten as "List all new observations regardless if it is believed that the ground crew has already investigated the observation."

4.D.4 TD-4412-07 section 6.1 (2) should include specific language for the pilot to recommended increased patrolling to the Aerial Patrol Program Manager.

4.D.5 Ensure that the Report of New Construction forms are completed.

4.D.6 Increase the duties of the Aerial Patrol Program Manager (APPM) to include oversight and review of the quality and accuracy of patrol reports.

4.D.7 Create a detailed procedures manual containing the APPM's duties to ensure quality control of aerial patrol responsibilities.

4.D.8 Training: Utilize varied training exams for patrolling.

4.D.9 Training materials and associated tests will be reviewed and updated to enhance employee competency, utilize aerial photos and other aids, and reflect field conditions to approximate buildings' key distances from lines.

4.D.10 Improve Aerial Patrol Pilot training: PG&E should consider pilot training using photographs, video or other aids to reflect expected views to be seen from typical patrol altitudes. Include structure examples both within and outside of the 660 foot standard. Use the photos as exam exhibits where the pilots indicate which structures are approximately 660 feet from the right of way and would require reporting. Training should also include a Well-Defined Area (WDA) in the exhibit.

4.D.11 Audits: Audits for the patrolling process should include a comparison of new construction observations with new gas/electrical hook ups near the line to ensure that new construction has not been missed.

4.D.12 A new item "All Sections of Document Completed" should be added to the audit checklist when reviewing Reports of New Construction.

4.D.13 Audits should make sure that copies of completed Reports of New Construction are being provided to local supervisors as required by standard procedure TD-4127P-01 section 3.8 (5).

V. D.2.b Provide training to its Gas Service Representatives (GSRs) and Gas Control Operators to ensure that they coordinate effectively with emergency responders, follow PG&E's own internal procedures when responding to emergencies, and each GSR under Gas Control Operators' direction should be trained and able to manually shut off emergency shutdown zone valves. PG&E should also audit its GSRs and Gas Control Operators to ensure they are properly trained.

APPENDIX D

Proceeding No.	APPENDIX D	ALJ
I.12-01-007, I.11-02-016 & I.11-11-09		Wetzell & Yip-Kikugawa

Transcript Corrections

Witness	Date	Page:Line	What was recorded	What should have been recorded
Eric Fornell	3/04/13	1442:18	membership shares.	ownership.
Eric Fornell	3/04/13	1447:1	There have to be an equal number in order to	There have to be an equal lower number in order to
Eric Fornell	3/04/13	1449:8	than what they anticipated. So long-term	than what they anticipated. So the long-term
Eric Fornell	3/04/13	1461:11	dividend can be seen what happened to Exelon.	dividend can be seen in what happened to Exelon.
Eric Fornell	3/04/13	1461:16	It had reaction later when it	It had a reaction later when it
Eric Fornell	3/04/13	1481:26	decides that it wants to levee a fine that is	decides that it wants to levy a fine that is
Eric Fornell	3/04/13	1488:28	A. It is at great category.	A. It is a great category.
Eric Fornell	3/04/13	1501:7	implication, would be even less interested in	implication, they would be even less interested in
Eric Fornell	3/04/13	1501:23	that penalty exceeds what people expect that	that the penalty exceeds what people expect that
Eric Fornell	3/04/13	1502:19	A. It will lower sustained price over	A. It will lead to a lower sustained price over
Eric Fornell	3/04/13	1512:2	authority ROE? Don't ask me. I'm not	authorized ROE? Don't ask me. I'm not as I
Eric Fornell	3/04/13	1512:3	said. I'm cost-of-capital guy, right? I'm	said the cost-of-capital guy, right? I'm
Eric Fornell	3/04/13	1533:15	clear, there is a Chinese wall between	clear, there is a Chinese wall between the
Eric Fornell	3/04/13	1541:15	A. Yeah, because $75 million out the	A. Yeah, because $75 million went out the
Eric Fornell	3/04/13	1542:1	considered here at the	considered here at the CPUC.

Proceeding No.	APPENDIX D	ALJ
I.12-01-007, I.11-02-016 & I.11-11-09		Wetzell & Yip-Kikugawa

Transcript Corrections

Witness	Date	Page:Line	What was recorded	What should have been recorded
			CPUC. The number to	The numbers to
Eric Fornell	3/04/13	1543:9	A. I did a good job, didn't I.	A. I did a good job, didn't, I?
Eric Fornell	3/05/13	1574:17	define that question a little narrowly?	define that question a little more narrowly?
Eric Fornell	3/05/13	1601:9	A. No. Do not mean that.	A. No. I do not mean that.
Eric Fornell	3/05/13	1606:18	mandated that AEP made those expenditures,	mandated that AEP make those expenditures,
Eric Fornell	3/05/13	1609:20	error flow from the fact what they used the	error flow from the fact that they used the
Eric Fornell	3/05/13	1615:10	say, gee, this exact bright line point	say, gee, at this exact bright line point
Eric Fornell	3/05/13	1616:21	A. Well, depends on how the proceeding	A. Well, it depends on how the proceeding
Eric Fornell	3/05/13	1617:2	depending on the outcome, could actually	depending on the outcome, it could actually
Eric Fornell	3/05/13	1618:8	are some many things that influence those	are so many things that influence those
Eric Fornell	3/05/13	1624:21	A. That is what we try to do, yes.	A. That is what we tried to do, yes.
Eric Fornell	3/05/13	1628:17	yesterday you testified that it was pass	yesterday you testified that it was passed
Eric Fornell	3/05/13	1630:17	make these investments," and the state said	make these investments," and the states said
Eric Fornell	3/05/13	1634:24	dividend, which would make even the ability	dividend, which would make the ability