

BEFORE THE PUBLIC UTILITIES COMMISSION  
OF THE STATE CALIFORNIA

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)

**REPLY BRIEF  
OF THE CONSUMER PROTECTION AND SAFETY DIVISION**

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Pursuant to the modified timeline in the Administrative Law Judge’s Ruling issued on April 16, 2013, the Consumer Protection and Safety Division (CPSD)<sup>1</sup> submits this Reply to Pacific Gas and Electric Company’s (PG&E’s) Opening Brief (OB).

## **I. INTRODUCTION AND SUMMARY**

PG&E’s OB states that it “accepts responsibility for the Line 132 rupture.” PG&E has a very curious notion of accepting responsibility. PG&E denies all violations of law it is charged with except for one.<sup>2</sup> Further, PG&E denies any violations associated with Lines other than 132.

PG&E’s denials, its qualified admissions, its semantic arguments, and its otherwise inappropriate factual and legal defenses, do not constitute acceptance of responsibility for the San Bruno disaster or for the great number of other safety violations PG&E has committed with respect to the installation, operation and maintenance of Line 132 and other gas pipelines. PG&E’s denials, in the face of overwhelming evidence and uncontroverted legal authority, are precisely why the Commission must arrive at a decision that clearly and decisively reflects both the facts and the law. The Commission must thoroughly address the extent and nature of PG&E’s failure to create and maintain the necessary records for the safe operation of PG&E’s gas pipelines, and emphatically reject PG&E’s wrong-headed views of its safety obligation and its responsibility under the applicable law.

Eight people died and many others were seriously injured because of PG&E’s gross and systemic failure to maintain records and follow engineering practices that any reasonable utility must know are essential for the safe operation of a natural gas pipeline. It does nothing either to enlighten the Commission or to promote future safety for PG&E to draw fine distinctions between “good engineering practices” or “best engineering

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<sup>1</sup> On January 1, 2013, CPSD officially changed its name to the Safety and Enforcement Division (SED). However, in light of all of the references to CPSD in the previous rulings by the Commission and the Administrative Law Judges (ALJs), pleadings, exhibits, testimony and cross-examination of witnesses and corresponding transcript references, to avoid confusion we will continue to refer to SED as “CPSD” in this brief and through the remainder of this proceeding.

<sup>2</sup> PG&E OB pp. 1, 12. The one violation PG&E admits pertains to clearances (Violation 5). PG&E, however, contends that the clearance violation did not contribute to the San Bruno rupture.

practices.”<sup>3</sup> Neither is future safety enhanced by a PG&E position that claims that section 451 of the California Public Utilities Code is solely a rate provision and is “not a safety provision,” or by a PG&E position that “Section 451 does “not provide the utility fair notice of the conduct that CPSD now claims violates the law.”<sup>4</sup> If PG&E truly believes that it requires the notice and guidance of a statute to keep its gas safety records and files accurate, complete, and accessible, then PG&E fundamentally misunderstands the responsibilities it has undertaken with the inherently dangerous activity of transporting potentially hazardous and explosive gas through high pressure, transmission pipelines in populated areas.

A new argument raised in the Introduction of PG&E’s OB further underscores PG&E’s failure to accept responsibility. PG&E implies that it has fixed the principal recordkeeping problems that caused the Commission to bring this investigation.<sup>5</sup>

The Commission must reject PG&E’s defense as a matter of law and fact. First, a PG&E “cure” of recordkeeping violations is not a defense to PG&E’s past violations of the law, especially when the cure comes two years after the National Transportation Safety Board (NTSB) identified the malady of deficient records, and almost three years after the PG&E transmission line exploded in San Bruno causing deaths, injuries and widespread destruction. Due to PG&E’s still missing or inaccurate records, there remains a potential threat to the general public from PG&E’s aging transmission pipelines. Second, the investigation is far broader now than the NTSB matters which may have originally convinced the Commission to commence this investigation. Third, most of the corrective actions taken by PG&E are due to the CPUC’s mandated orders, especially in its Rulemaking (R.) 11-02-019. Finally, PG&E’s recent representations to the NTSB about the state of its MAOP validation are misleading and inaccurate.<sup>6</sup>

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<sup>3</sup> PG&E OB, p. 12.

<sup>4</sup> PG&E OB, p. 11

<sup>5</sup> PG&E OB, pp. 1-2.

<sup>6</sup> PG&E OB, p. 2

PG&E acknowledges that on January 3, 2011, the NTSB sent Urgent Safety Recommendations P-10-1, P-10-2, P-10-3, and P-10-4 to PG&E, the Commission and the Pipeline and Hazardous Materials Safety Administration (PHMSA), warning each of us of PG&E's inaccurate and missing transmission pipeline records. This safety warning included the inaccurate records for PG&E's Segment 180 of its Line 132, the transmission pipeline which exploded and caused the deaths and destruction in San Bruno. The NTSB's Safety Recommendations stated how critical it is to know all the characteristics of a pipeline in order to establish a valid Maximum Allowable Operating Pressure (MAOP) below which the pipeline could be safely operated. As PG&E pointed out in PG&E's OB, pp. 1-2, and CPSD does not dispute, the NTSB's information and findings about the inadequacy of PG&E's recordkeeping was a primary basis for the Commission to issue the present Order Instituting Investigation (OII). The record in this proceeding, after extensive evidentiary hearings with numerous parties, shows in depth how poor PG&E's recordkeeping has been and how unsafe it has been for PG&E's customers and the public living or working near older PG&E transmission lines.

The NTSB's Urgent Safety Recommendations also provided a basis for the Commission's issuance of an Order Instituting Rulemaking (OIR) in R.11-02-019, which, after extensive evidentiary hearings with numerous parties, resulted in the Commission's Decision (D.) 12-12-030 (issued December 20, 2012). In D.12-12-030, the CPUC mandated PG&E's implementation of a Pipeline Safety Enhancement Program (PSEP) on a going forward basis.<sup>7</sup>

CPSD disputes the accuracy of PG&E claims that it has now finished its MAOP validation. The NTSB communications in response depend partly on PG&E's wrong and

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<sup>7</sup> The NTSB's Office of Pipeline and Hazardous Materials conducts investigations of pipeline accidents, determines their probable cause, and makes safety recommendations to agencies with jurisdiction to regulate the pipeline company. *See* 49 CFR § 800.2(i). The NTSB's investigative unit, which investigated the San Bruno explosion, is highly respected throughout the United States. However, it has no jurisdiction over PG&E, and, therefore made its urgent safety recommendations to the Commission. In its quasi-judicial capacity, the Commission issued the present OII to determine if PG&E violated its obligation under Cal. Pub. Util. Code § 451 to furnish its natural gas and maintain its natural gas transmission facilities in a way so as to promote the safety of the public. In its quasi-legislative capacity, the Commission issued the PSEP decision in its OIR proceeding to order PG&E to operate its transmission facilities so as to safeguard and promote the safety of the public in the future.

incomplete information that PG&E presented to the NTSB when the agency wrote its March 14, 2013 NTSB letter “closing” its urgent recommendation P-10-3. *See* PG&E OB, p. 2 and n. 2. This letter on its face states that it is based upon a January 31, 2013 letter from PG&E’s President, Christopher P. Johns, who maintained that PG&E had validated the MAOP of 2,088 miles of its transmission system.<sup>8</sup>

In PG&E’s January 31, 2013 letter to the NTSB, Mr. Johns claimed that PG&E had *completed* the MAOP validation to ensure the safe operation of *all* of its natural gas transmission lines in class 3 and class 4 locations and class 1 and class 2 high consequence areas (HCAs).<sup>9</sup> CPSD disputes the claims by PG&E that resulted in the NTSB’s March 14, 2013 letter. This is totally contrary to what the Commission had found one month earlier in its D.12-12-030 mandating the PSEP. In D.12-12-030, at pp. 114-129, there are numerous findings by the Commission that require an updated application process before the Commission could agree that PG&E has completed its validation of MAOP, such as the following:

- “PG&E prepared its database prior to the completion of its MAOP validation and records search work.” *Id.* at 114.
- “[W]e will not know the exact number of pipe segments PG&E lacks the test records for ... until its MAOP validation and records search is completed.” *Id.* at 115.
- “[W]e shall require PG&E to file an expedited application 30 days after the conclusion of its MAOP validation and records search work that includes an updated pipe segment database.” *Id.* at 115.

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<sup>8</sup> Although the Presiding Administrative Law Judge has granted PG&E's request to take official notice of the NTSB’s March 14, 2013 letter, on April 4, 2013, the Presiding Administrative Law Judge also granted CPSD’s request to take official notice of the January 31, 2013 letter from PG&E's President Christopher P. Johns, which is referred to and relied upon in the NTSB’s March 14, 2013 letter, and a March 26, 2013 PG&E power point presentation in a workshop at the CPUC, which puts the NTSB’s March 14, 2013 letter in context.

<sup>9</sup> *See* CPSD Request for Official Notice (RON), Ex.1, PG&E January 31, 2013 letter, p. 1. Not only did PG&E not provide this letter to the Commission, as indicated by the absence of a cc: line, PG&E did not include Mr. Johns’ letter in its RON. As indicated by the Bates stamp, CPSD only received the letter by conducting subsequent discovery. CPSD conducted discovery about what PG&E informed the NTSB after PG&E revealed the March 14, 2013 NTSB letter in PG&E’s OB, and requested official notice of the NTSB letter.

- “The specific showing that PG&E will be required to provide in its application will be considered in a workshop to be held no later than 90 days from the effective date of this decision.” *Id.* at 115.
- Finding of Fact (FoF) “2. PG&E’s Implementation Plan is comprised of: (A) Pipeline Modernization Program that provides for testing or replacing pipelines ... conducting in-line inspections as well as retrofitting to allow for in-line inspections ...; and (B) Pipeline Records Integration Program where PG&E will finish its record review and establish complete pipeline features data for the gas transmission pipelines and pipeline system components.” *Id.* at 115-116.
- FoF “8. The Implementation Plan calls for pressure testing 783 miles of pipeline and replacing 185.5 miles of pipeline in Phase 1 [i.e., through 2014].” *Id.* at 116.
- FoF “11. The Implementation Plan calls for retrofitting 199 miles of pipeline for in-line inspection and inspecting 234 miles of pipeline with in-line inspection tools.” *Id.* at 117.
- FoF “36. PG&E's imprudent management decisions to delay pipeline pressure testing and replacement contributed to the need for and timing of the projects needed pursuant to the Implementation Plan.” *Id.* at 119-120.
- Conclusions of Law “23. PG&E's proposal to replace, rather than pressure test, pipeline installed prior to 1970, with weld that do not meet current standards, operated at over 30% SMS and locating high population areas is reasonable.” *Id.* at 123.
- Ordering Paragraph (OP) “10. Pacific Gas and Electric Company must submit compliance reports on the schedule including information set forth in Attachment D.” [Attachment D requires quarterly progress reports including 29 items.]. *Id.* at 128-129; and
- OP “11. Pacific Gas and Electric Company must file an application within 30 days after the completion of its maximum allowable operating pressure validation and records search to present the results of those efforts and update its Implementation Plan.” *Id.* at 129.

In addition, the Presiding Administrative Law Judge has granted CPSD’s Request for Official Notice of PG&E’s March 26, 2013 Power Point Presentation for its PSEP

Expedited Application Workshop (RON CPSD Ex. 2), which was held last month, almost two weeks after the NTSB issued its March 14, 2013 letter to PG&E. This workshop is referenced in the fourth bullet above. PG&E has indicated that its estimated date for filing its expedited application with the additional MAOP and records search information is late August to mid-September 2013. *See* RON CPSD Ex.2, p. 6.

Therefore, PG&E's representations to the NTSB were contrary to what the CPUC had decided one month earlier which was before PG&E sent its January 31, 2013 letter to the NTSB and contrary to PG&E's representations in the PSEP workshop, which was two weeks after the NTSB issued its March 14, 2013 letter. No other evidence shows that PG&E informed the NTSB of these contrary representations. There is no reason why this Commission should ignore its own findings in its D.12-12-030 due to the NTSB's March 13, 2013 letter that appears to be the result of PG&E's misrepresentations or material omissions of fact.

PG&E acts as if it has changed its ways, but its efforts to confuse, mislead and misrepresent matters, as evidenced in this litigation, shows that PG&E has not changed.<sup>10</sup>

## **II. BACKGROUND**

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## **III. LEGAL ISSUES OF GENERAL APPLICABILITY**

### **A. The Evidentiary Standard Is Preponderance of the Evidence**

As demonstrated in CSPD's OB, pp. 20-21, the applicable standard of proof in Commission enforcement proceedings is a preponderance of the evidence. PG&E concedes that the Commission has specifically rejected the application of the clear and convincing standard in enforcement proceedings involving potentially substantial penalties (PG&E OB, p. 23). In PG&E's view, the Commission has made this

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<sup>10</sup> Also, PG&E's contention that it finished its MAOP validation – even if it were accurate (which it is not) – has no bearing on the issue of whether PG&E has violated the law. If PG&E's contentions were accurate, it would mean that it required almost two and a half years after San Bruno to finish MAOP validation. If accurate, this shows abysmal record keeping previous to the NTSB letter.

determination only once, in the *Qwest* enforcement proceeding.<sup>11</sup> PG&E tries to distinguish *Qwest*, and argues that the Commission should apply a clear and convincing evidentiary standard because of the potential for substantial penalties and the “proceeding is exceptionally important to PG&E and the public generally” (PG&E OB, pp. 21-24).<sup>12</sup> PG&E’s legal arguments are unsupported and unpersuasive. The potential for substantial penalties is not the criteria and enforcement proceedings are always “exceptionally important” to the subject utility. Neither of these concerns justifies application of a higher standard of proof.

As PG&E acknowledges, in *Qwest*, the Commission determined that the higher clear and convincing standard does not apply in Commission enforcement proceedings because section 2107 penalties are statutory penalties, not punitive damages, which are distinct legal concepts with different evidentiary standards. *Qwest, supra*, 2003 Cal. PUC LEXIS 67, at \*13-14. Among other distinctions, the Commission explained that the amount of statutory penalties under section 2107, unlike punitive damages, is defined by the Legislature, with a minimum and maximum penalty per violation. *Id.* at 13. Nonetheless, PG&E argues that the clear and convincing standard of proof should apply here because CPSD is asserting “continuing violations” and section 2107’s maximum penalty does not “meaningfully constrain” the Commission’s discretion, making the potential penalties more akin to punitive damages (PG&E OB, pp. 23-24).

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<sup>11</sup> D.03-01-087, *Investigation of Qwest Communications Corp.*, 2003 Cal. PUC LEXIS 67 (Jan. 30, 2003) (*Qwest*). Contrary to PG&E’s assertion, in D.08-09-038, 2008 Cal. PUC LEXIS 401, at \*12 (Sept. 18, 2008), the Commission noted CPSD and other parties sought penalties against Southern California Edison Company of \$305 million. Nothing in that decision suggests that the Commission required clear and convincing evidence of a violation of section 451. More, the Commission recently affirmed that the burden of proof in an enforcement proceeding is a preponderance of the evidence. D.12-12-032, 2012 Cal. PUC LEXIS 74, at \*4 (Feb. 16, 2012).

<sup>12</sup> PG&E’s OB, p. 21, cites *In re Angelia P.* (1981) 28 Cal. 3d 908, 919. In that case, the California Supreme Court held that the clear and convincing standard of proof applies in proceedings to terminate parental rights. *Id.* at 919-920. PG&E provides no explanation as to how the nature of such a proceeding is possibly analogous to this investigation. As explained by the California Supreme Court, clear and convincing evidence requires a finding of “high probability”; the evidence must be “so clear as to leave no substantial doubt”; “sufficiently strong to command the unhesitating assent of every reasonable mind.” *Id.* at 919.

Not only does PG&E cite no legal authority for its position but, as *Qwest* makes clear, the Commission has “considerable discretion, once a violation is established, to weigh competing factors and select a point within” the statutory penalty range. *Qwest, supra*, 2003 Cal. PUC LEXIS 67, at \*14. The courts have upheld the CPUC’s broad discretion to impose statutory penalties, and the legislative history of section 2107 further undermines PG&E’s argument. *See, e.g., PacBell Wireless v. P.U.C.* (2006) 140 Cal.App.4th 718, 737 (*Cingular*) (CPUC has broad authority under section 701 to levy appropriate fines and that broad authority is supplemented by additional specific fine authority “for each violation or compliance failure by any public utility . . . with CPUC regulations and orders.”). Moreover, PG&E’s argument that the Legislature somehow failed to “meaningfully constrain” the CPUC’s discretion runs headlong into the fact that the Legislature specifically granted the CPUC explicit statutory authority to impose separate penalties for continuing violations. In Public Utilities Code section 2108, the Legislature defined each day a continuing violation exists as a “separate and distinct offense:”

Every violation of the provisions of this part or of any part of any order, decision, decree, rule, direction, demand, or requirement of the commission, by any corporation or person is a separate and distinct offense, and in case of a continuing violation each day's continuance thereof shall be a separate and distinct offense.

Thus, the Legislature has expressly allowed the Commission to impose penalties for every violation and for continuing violations as separate offenses.

Finally, nothing in *Qwest* supports PG&E’s argument that the fact that PG&E is exposed to large statutory penalties in this proceeding dictates application of the clear and convincing standard of proof. Indeed, in *Qwest*, the Commission rejected the argument that the statutory penalties imposed were excessive fines, noting that “[t]he main reason the fine is so large is because the number of violations established is large.” *Qwest, supra*, 2003 Cal. PUC LEXIS 67, at \*15. That observation applies equally here. Moreover, as noted in CPSD’s OB, p. 21, PG&E’s argument defies common sense



because requiring clear and convincing evidence in cases with multiple violations or catastrophic circumstances would undermine the deterrent effect of statutory penalties and reward wrongdoers with more protection from penalties by imposing a higher standard of proof.

PG&E's other argument – that, the clear and convincing standard should apply because this proceeding “parallels” professional license suspension and revocation proceedings – is equally meritless. PG&E OB, p. 21 (citing *Hughes v. Bd. of Architectural Examiners* (1998) 17 Cal.4<sup>th</sup> 763, 789, n. 9 and *Grubb Co. v. Dept. of Real Estate* (2011) 194 Cal.App.4<sup>th</sup> 1494, 1502). These cases are not factually analogous to this proceeding because both involve the revocation/suspension of a professional license. As explained in CPSD's OB, p. 21, revocation of PG&E's certificate of public convenience and necessity is not a potential remedy in this proceeding. See CPSD OB, p. 21; Order Instituting Investigation, p. 13. *Grubb* and all of the cases cited in *Grubb's* discussion of the applicable standard of proof involve suspension or revocation of a professional license. *Grubb Co. v. Dept. of Real Estate, supra*, 194 Cal.App.4<sup>th</sup> at 1502-1504.

PG&E further argues at p.21 that the clear and convincing standard applies in a license suspension or revocation proceeding “even where the threatened sanction is only a modest fine.” PG&E's argument appears to hinge entirely on the fact that in *Grubb* the Real Estate Commissioner ordered a 30-day license suspension, but permitted each broker to pay a \$3,000 fine in lieu of the suspension, citing mitigating factors (PG&E OB, p. 22; *Grubb Co. v. Dept. of Real Estate, supra*, 194 Cal. App. 4<sup>th</sup> at 1501).<sup>13</sup> But contrary to PG&E's argument, the “threatened sanction” in *Grubb* was not a “modest fine,” but license suspension/revocation. *Id.* Review of the procedural history and the facts of *Grubb* also confirm that the issue on appeal was not the \$3,000 fine, but whether the Real Estate Commissioner had the power to suspend or revoke a real estate license

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<sup>13</sup> In *Grubb*, a civil jury trial resulted in a judgment against the real estate brokers. The jury found that fraud and negligence were established by a preponderance of the evidence, but did not find that malice, oppression or fraud was established by clear and convincing evidence for punitive damages purposes. *Id.* at 1500, 1502-1503. Subsequently, the Department of Real Estate initiated disciplinary proceedings.

under Business and Professions Code section 10177.5<sup>14</sup> based on a jury verdict of fraud established by a preponderance of the evidence. *Id.* at 1502 Neither *Hughes* nor *Grubb* address whether clear and convincing proof is required in every administrative disciplinary proceeding threatening to impose a “modest fine” (or a substantial fine) on a regulated individual or entity. The Commission should reject PG&E’s efforts to distort the holding of *Grubb*.

In sum, the applicable standard of proof in this proceeding is a preponderance of the evidence.<sup>15</sup> PG&E’s attempts to argue otherwise have no legal basis. Further, as explained in CPSD’s OB, pp. 17-20, PG&E’s extensive inability and failure to produce the required records in this proceeding constitute spoliation of evidence, and the Commission must shift the burden of proof to PG&E or impose adverse evidentiary inferences against PG&E that the unavailable evidence is unfavorable to PG&E.

**B. Section 451 Is a Safety Regulation**

**1. PG&E’s narrow interpretation of section 451 as simply a ratemaking provision is wrong and ignores fundamental principles of statutory construction**

As demonstrated in CPSD’s OB, pp. 9-12, Public Utilities Code section 451, even if no other laws or standards existed, establishes PG&E’s duty to act reasonably – to conduct necessary testing and maintenance, and to maintain the necessary records for the safe operation of its natural gas pipelines. In contrast, PG&E claims that section 451 is simply a “ratemaking provision” and “cannot serve as a free-floating source of pipeline safety requirements” (PG&E OB, p. 24). PG&E is wrong on both counts.

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<sup>14</sup> California Business and Professions Code section 10177.5 provides: “When a final judgment is obtained in a civil action against any real estate licensee upon grounds of fraud, misrepresentation, or deceit with reference to any transaction for which a license is required under this division, the commissioner may, after hearing in accordance with the provisions of this part relating to hearings, suspend or revoke the license of such real estate licensee.”

<sup>15</sup> CPSD’s position should not be understood to mean that the proceeding evidence falls short of meeting a clear and convincing standard for violations alleged. However, because as a matter of law the correct standard is preponderance of evidence, the Commission should weigh the evidence to ensure that its decision is consistent with that standard.

First, PG&E argues that because section 451 is in Chapter 3, Article I of the Public Utilities, Code, and the title of Article I is “Rates,” section 451 must be construed as only a ratemaking, not a safety, provision. But PG&E wholly ignores the title of Chapter 3: “Rights and Obligations of Public Utilities” and the teaching of its own legal authority, *People v. Hull* (1991) 1 Cal. 4<sup>th</sup> 266, 272 (code provisions must be construed in their context of the statutory scheme; *chapter*, as well, as section, headings are considered in determining legislative intent). In *Hull*, the California Supreme Court also affirmed that:

“The fundamental purpose of statutory construction is to ascertain the intent of the lawmakers so as to effectuate the purpose of the law. In determining this intent, courts look first to the words contained in the statute, giving them their usual and ordinary meaning.”

*Id.* (citations omitted). Another “cardinal rule” of statutory construction is that effect should be given, whenever possible, to every word and clause, leaving no part of the provision useless or deprived of meaning. *Gay Law Students Assn. v. Pacific Telegraph and Telephone Co.* (1979) 24 Cal.3d 458, 478.

PG&E ignores all of these rules. The usual and ordinary meaning of the words of the second paragraph of section 451, in the context of chapter entitled “Rights and Obligations of Public Utilities,” is unambiguous, and plainly establishes an obligation of PG&E to furnish and maintain facilities necessary to promote the safety and health of its customers, employees and the public:

Every public utility shall furnish and maintain such adequate, efficient, just, and reasonable service, instrumentalities, equipment and facilities . . . as are necessary to promote the safety, health, comfort, and convenience of its patrons, employees and the public.

PG&E’s cramped interpretation of section 451, as only governing rates, would essentially render this second paragraph useless. *See Gay Law Students Assn., supra*, 24 Cal.3d at 478. PG&E’s interpretation also would render null the Commission’s past, present, and future jurisdiction over gas pipeline safety.

Section 451 does not simply regulate rates. As explained in CPSD’s OB, p. 10, the California Supreme Court rejected a similar argument in *Gay Law Students Association* that section 453 of the Public Utilities Code<sup>16</sup> prohibits only rate discrimination. The Court held that section 453, which also appears in Article I, Chapter 3, also creates an affirmative duty of a utility to not engage in employment discrimination, even though section 453 does not specifically say so. *Id.* Moreover, both the California Supreme Court and the California Court of Appeal have held that the second paragraph of section 451 creates a general utility obligation to provide adequate services and facilities. CPSD OB, pp. 9-10. Finally, the Commission has long interpreted section 451 as establishing a utility obligation to provide safe service. The Commission’s interpretation of the Public Utilities Code “should not be disturbed unless it fails to bear a reasonable relation to statutory purposes and language.” *Southern California Edison Co. v. Peevey* (2003) 31 Cal. 4th 781, 796 (citing *Greyhound Lines, Inc. v. P.U.C.* (1968) 68 Cal.2d 406, 410-411).

PG&E’s reliance on D.00-02-046 and D.92-08-038 (PG&E OB, p. 26) is completely misplaced. These decisions involve ratesetting proceedings, not penalty proceedings, and do not even reflect the current standard of proof applied in ratesetting proceedings. As PG&E is well aware, the standard of proof in ratesetting proceedings is preponderance of the evidence. D.12-12-030, 2012 Cal. PUC LEXIS 600, at \*85 (Dec. 20, 2012); D.11-05-018, 2011 Cal. PUC LEXIS 275, at \* 104 (May 5, 2011). PG&E further claims, without authority, that the Commission must apply a balancing test in order to impose a penalty for violation of section 451 and CPSD failed to produce any evidence that PG&E did not furnish “a level of service commensurate with the rates it received during the time period under investigation.” *Id.* Surely PG&E does not mean to argue that it cannot be penalized because the public only received the grossly substandard level of gas pipeline safety recordkeeping that it paid for. And ratepayers most assuredly

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<sup>16</sup> Section 453(a) provides: “No public utility shall, as to rates, charges, service, facilities, or in any other respect, make or grant any preference or advantage to any corporation or person or subject any corporation or person to any prejudice or disadvantage.”

did not get what they paid for. The Commission, time and time again, has emphasized that PG&E must not compromise public safety, and routinely has authorized in rates the full amounts requested by PG&E. PG&E's own authorities bear this out. *See, e.g.*, D.00-02-046, 2000 Cal. PUC LEXIS 239, at \*1-2 (Feb. 17, 2000).<sup>17</sup>

**2. Section 451 imposes a general obligation to act reasonably under the circumstances, and enforcing violations for failure to create and maintain safety records comports with due process**

As a threshold matter, PG&E's present argument that specific rules are necessary to provide PG&E with notice of the scope and substance of its duty under section 451 to safely operate its pipeline and protect the public directly conflicts with PG&E's representations to the Commission in 1957 prior to the adoption of General Order 112:

P.G. and E. accepts the responsibility for designing, constructing, testing, operating and maintaining its gas transmission and distribution facilities in such a manner as to assure good service and provide safety for utility personnel and the general public. It recognizes that good up-to-date standards or rules can make a contribution toward assuring good service, safety, and economy of both effort and materials. On the other hand, the natural tendency to rely in an unthinking way on prescribed sets of standards can thwart the basic purposes of the best rules. For this reason and because of the inevitable nature of change, and the inventiveness of man, and the inability to foresee all circumstances, we are aware also of the dangers inherent in prescribed standards. The more authority the issuing agency

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<sup>17</sup> "We have approached our responsibilities in this case with the intention that PG&E receive a level of revenue for its monopoly distribution services that will assure its customers safe, reliable and responsive service under conditions of prudent management, while assuring PG&E's ability to earn its authorized rate of return, again assuming prudent and effective management. *We do not intend to place safety, reliability or responsiveness of PG&E's service at risk through underfunding activities, programs and services.* At the same time, the magnitude of PG&E's initial proposed increase in rates for services that California customers have received for decades, and the evidence brought forward by ratepayer representatives of anomalous behavior by PG&E, have convinced us that we must be especially vigilant in assuring that customers in fact get what they are paying for." (italics added). *See also* D.92-12-057 (1992), 47 CPUC2d 143, 234 (the Commission authorized all of the dollars PG&E had requested for its Gas Pipeline Replacement Program (GPRP), and expressed its "fervent hope that PG&E spends all of the money on the program; D.12-12-030, 2012 Cal. PUC LEXIS 600, at \*73 (the Commission "routinely approved" PG&E's ratemaking requests for the GPRP).

has and the more detailed the rules, the more accentuated the dangers can be. Hence, we believe that your staff in preparing, and the Commission in prescribing rules, should see that they are as flexible as practicable. From such rules utility personnel would receive the best guidance to accomplish the Commission's objectives of safety and adequate service.<sup>18</sup>

In 1957, PG&E did not disown its obligation under section 451, nor did it take the position that it had no duty to safely operate its gas pipelines without specific rules. Rather, PG&E characterized the proposed rules as “guidance,” and noted that specific rules could actually undermine safety if they fostered rote compliance, and if they were deemed to replace PG&E's fundamental responsibilities to provide safety in the design, construction, testing, operation, and maintenance of its gas transmission pipelines. The Commission accepted PG&E's position, and expressly stated that “the promulgation of precautionary safety rules does not remove or minimize the primary obligation and responsibility of respondents to provide safe service and facilities in their gas operations.”<sup>19</sup>

In the CPSD OB, pp. 11-12, CPSD cited two authorities which are directly on point, and which firmly reject PG&E's arguments that section 451 is too general to create a safety obligation and the Commission's use of section 451 violates due process principles: *Carey v. PG&E*, D.99-04-029, 1999 Cal. PUC LEXIS 215 (Apr. 1, 1999) and *Cingular, supra*, 140 Cal.App.4th 718, 742-743. PG&E labors to distinguish these cases, but fails to do so.

PG&E argues that *Carey* “hurts rather than helps the CPSD.” PG&E OB, p. 30. PG&E claims that *Carey* holds that section 451 can only be applied with reference to an existing definition or standard, and there is no ascertainable standard which applied to PG&E. *Id.* at 30-31. It is PG&E that misreads *Carey*. In *Carey*, the Commission penalized PG&E under Section 2107 for failing to act reasonably in violation of

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<sup>18</sup> CPSD Exhibit 2; CPSD Testimony (Felts), p. 42, fn. 172.

<sup>19</sup> D.61269 (1960) 58 P.U.C. 414, 420, findings and conclusions 7 and 8.

section 451. *Carey, supra*, 1999 Cal. PUC LEXIS 215, at \*1, 3-4. Contrary to PG&E's argument, the Commission did not find that PG&E had failed to comply with an existing PG&E policy, but found more broadly that PG&E had not adequately trained fumigators in the termination and restoration of gas service.<sup>20</sup> Moreover, the Commission further determined that compliance with industry standard was relevant to whether PG&E acted reasonably, but was not determinative. *Id.* at \*32, n. 9.

PG&E's present arguments that section 451 is too vague to be enforceable are identical to the arguments PG&E made in *Carey*.<sup>21</sup> As demonstrated in CPSD's OB, pp. 10-11, the Commission rejected PG&E's arguments in 1999 in *Carey*, and it should do so again now for the same reasons, which bear repeating here:

Similarly, it would be virtually impossible to draft Section 451 to specifically set forth every conceivable service, instrumentality and facility which might be defined as "reasonable" and necessary to promote the public safety. That the terms are incapable of precise definition given the variety of circumstances likewise does not make Section 451 void for vagueness, either on its face or in application to the instant case. The terms "reasonable service, instrumentalities, equipment and facilities" are not without a definition, standard or common understanding among utilities. Commission cases reviewing utility conduct frequently require that the conduct meet a standard of reasonableness. For example, in ratesetting proceedings, the disallowance of utility expenses, whether from contracts, accidents, or other sources are reviewed under a reasonableness standard. *See Re Southern California Edison Company*, D.94-03-048 (1994) 53 CPUC2d 452, 464.

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<sup>20</sup> *Carey, supra*, 1999 Cal. PUC LEXIS 215, at \*11-12.

<sup>21</sup> *Id.* at \*23-24: "PG&E then cites various Commission decisions where Section 2107 fines were imposed. PG&E claims that every decision arose from the violation of a precisely worded code section, tariff or Commission directive, unlike Section 451. In fact, PG&E contends that we have never imposed a Section 2107 fine based on a violation of Section 451. (PG&E Rehearing Application 18:20-22.) PG&E also claims that in most decisions the utility had some notice or warning before the Section 2107 fine was imposed. *See, e.g., Re PagePrompt USA*, D.94-01-044 (1994) 53 CPUC2d 134, 139 (even after becoming aware of requirement for Commission approval, carrier continued with unauthorized construction and fine assessed.) PG&E complains that it received no notice from Section 451 or the Commission 'that the steps that it took following the 1994 Pleasanton explosion would not be enough.'"

Accordingly, Section 451's mandate that a utility provide "reasonable service, instrumentalities, equipment and facilities" is not an unconstitutionally vague standard with which to assess a fine or penalty. PG&E thus received the benefit of a constitutionally clear warning. In addition, the evidence establishes violations of Section 702, G.O. 58-A and G.O. 112-E which further support the imposition of the Section 2107 fine.

*Carey, supra*, 1999 Cal. PUC LEXIS 215, at \*22-25.

PG&E also labors, without success, to distinguish *Cingular*. PG&E claims that *Cingular* "distinguishes itself" and that there were specific Commission decisions that alerted Cingular that its conduct was unlawful. PG&E OB, p. 32. PG&E ignores the court's rejection of this very argument:

Even in the absence of a specific statute, rule, or order barring the imposition of an ETF [Early Termination Fee] without a grace period, or barring the specific nondisclosures identified by the Commission in this case, Cingular can be charged with knowing its actions violated section 451's requirement that it provide "adequate, efficient, just, and reasonable service" to its customers.

*Cingular, supra*, 140 Cal.App.4th at 740.

PG&E further asserts that *Cingular* is distinguishable because "[t]he marketplace (Cingular's customers) also alerted Cingular that its practices were unreasonable." PG&E OB, p. 33. This purported distinction is meaningless here. As noted in the CPSD OB, pp. 12-17, PG&E was on notice of what practices were reasonable from industry practice, professional engineering standards, the requirements of General Order 112, and the "minimum" federal regulations. Unlike Cingular's cellular customers, however, PG&E's customers could not provide any notice to PG&E as the "marketplace" of the unreasonableness of PG&E's recordkeeping because PG&E customers did not have the same opportunity as Cingular's customers did to experience first-hand and advise PG&E that its practices were unreasonable. It is absurd of PG&E, one of the largest utilities in the nation, to argue that it did not have fair notice or that a person of "ordinary



intelligence” did not have a reasonable opportunity to know what was required with respect to the necessary recordkeeping for the safe operation of a natural gas pipeline. *See Cingular, supra*, 140 Cal.App.4<sup>th</sup> at 740, 743 (citing *Grayned v. City of Rockford* (1972) 408 U.S. 104, 108).<sup>22</sup> It is equally absurd for PG&E to argue that it required explicit directives to be imposed on the company before it was required to apply good engineering practices to its inherently dangerous activity of transporting natural gas.

Finally, as the court reasoned in *Cingular*, the notice provided to PG&E by section 451 is no different than the notice provided by California’s civil fraud statutes. *Cingular, supra*, 140 Cal.App.4<sup>th</sup> at 742-743 (“A defendant can be found to have committed fraud based on misrepresentations or omissions that are not specified in any statute.”) Further, like the Commission in *Carey*, in rejecting *Cingular*’s due process argument, the court of appeal stated:

We find no error in the Commission's conclusion that *Cingular* knew or reasonably should have known those actions on its part were neither just nor reasonable. As the Commission stated in *Cingular I*, “[n]o utility, whether one operating in a more traditional, tariffed environment, or one operating in a partially deregulated environment, should expect to be insulated from the obligation to treat its customers fairly.” As the United States Supreme Court has held, “[o]bjections to vagueness under the Due Process Clause rest on the lack of notice, and hence may be overcome in any specific case where reasonable persons would know that their conduct is at risk.”

*Cingular, supra*, 140 Cal. App. 4th 718, 744 (citations omitted). Similarly, PG&E cannot be insulated from its obligation under section 451 to protect the public. Any reasonable

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<sup>22</sup> PG&E’s reliance on federal due process cases are no more helpful to its case (PG&E OB, pp. 35-37). For example, in addition to the fact that *Fox* does not involve section 451, *Fox* is inapposite because, in that case, the government made an “abrupt change” in enforcement of its indecency policy, deciding that a fleeting image of nudity and use of non-expetives were prohibited, contrary to its previous interpretation of its policy. *FCC v. Fox TV Stations, Inc.* (2012) 132 S. Ct. 2307, 2318. PG&E has made no such showing here (for example, that the Commission has interpreted section 451 as not requiring pipeline testing or maintenance records). *Martin v. Occupational Safety and Health Review Commission* (1991) 499 U.S. 144 also is inapposite. The narrow issue before the Court in *Martin* was which of two agency’s conflicting interpretations of a federal regulation (that of the Secretary of Labor or the Occupational Safety and Health Review Commission) was entitled to deference in an administrative adjudicatory proceeding; the Court did not make any ruling on the issue of notice. *Id.* at 147-148.

utility would know that failure to test high pressure gas pipelines and maintain pipeline safety records would render it at risk of violating section 451.<sup>23</sup>

**3. A rose is a rose is a rose:<sup>24</sup> PG&E cannot evade its obligation to, at least, comply with industry-accepted engineering practices**

PG&E also takes aim at CPSD's use of the term "best engineering practices" and argues, without any authority, that it was up to the Legislature to impose a best engineering practices in section 451 if it meant to do so (PG&E OB, p. 28). PG&E also tries to make hay of the fact that CPSD used the terms "best engineering practices" and "good engineering practices" in its testimony. *Id.* at 34. PG&E claims, without authority, that the Commission's expectations for recordkeeping "change week-to-week." PG&E OB, p. 33.

The Commission should reject PG&E's attempt to create inconsistency and confusion where there is none, and to cabin the scope of PG&E's duty to protect the public from the significant hazards inherent in the transmission and distribution of natural gas to compliance only with specific, enumerated requirements. As pointed out in CPSD's OB, pp. 12-13, whether the term "best engineering practices" or some other term describing standard industry practice applies, this is purely a semantic argument, and the bottom line is that PG&E was required to comply, at least, with industry practice.<sup>25</sup> That PG&E now attempts to disown its obligation to meet the standard of industry practice is troubling and conflicts with PG&E's own testimony in this proceeding.

PG&E's record keeping witness, Maura Dunn, testified that best practices for a specific industry means the same thing as a standard.<sup>26</sup> Further where a requirement does

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<sup>23</sup> PG&E's myopic view of its obligation under section 451 also ignores the fact that PG&E's duty to act reasonably is a dynamic duty, and even if PG&E complied with industry standards or regulations, this does not necessarily establish that PG&E fulfilled its obligation to protect the public if PG&E did not act reasonably in light of what it knew or should have known. *See* CPSD OB, pp. 9, 13.

<sup>24</sup> "Sacred Emily," by Gertrude Stein, 1913.

<sup>25</sup> Again, compliance with industry practice does not necessarily establish that PG&E acted reasonably. *See, e.g., Carey, supra*, 1999 Cal. PUC LEXIS 215, at \*32, n. 9.

<sup>26</sup> R.T. at 1362 (Dunn).

not exist, a best industry practice reflects a trend or consensus of what should be done.<sup>27</sup> PG&E’s engineering witness, John Zurcher, also testified that “compliance with the federal regulations is the price of admission” for every pipeline operator, and industry practices must either meet or exceed those regulations.<sup>28</sup> PG&E’s argument also is directly contrary to the Commission’s specific determination in D.12-12-030: “The evidentiary record supports the factual finding that from 1956 on, PG&E’s practice was to comply with then-applicable industry standards for pre-service pressure testing, and that retaining records of such testing was part of the industry standard.” 2012 Cal. PUC LEXIS 600, at \*110.

In sum, PG&E was required to comply, at least, with industry practice. Whether the industry standard is denominated as “good” or “best” engineering practices is irrelevant.

**4. Compliance with ASME B.31.8 was required prior to 1961**

PG&E argues that it was not “required” to comply with ASME B.31.8 prior to 1961. However, CPSD’s OB, pp. 9-15, establishes that section 451 required compliance with industry standards, even absent a specific Commission regulation, prior to 1961. Further, in 1956, the year Line 132 was installed, PG&E represented to the Commission that it followed ASME B.31.8-1955.<sup>29</sup> Accordingly, PG&E inasmuch has admitted that industry standard for gas pipeline safety required compliance with ASME B.31.8 (*see also* PG&E OB, p. 39: “Between 1956 and 1961, PG&E generally adhered to the ASA [ASME] B.31.8 voluntary industry standard, as did other California utilities.”)

**5. PG&E’s ongoing violations constitute separate violations**

PG&E claims that CPSD “does not properly allege ‘continuing’ offenses” (PG&E OB, pp. 39-43). PG&E argues that each day a required record is missing cannot possibly

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<sup>27</sup> R.T. at 1363 - 1364 (Dunn).

<sup>28</sup> R.T. at 751-752 (Zurcher).

<sup>29</sup> PG&E responses to CPSD DR 15, Q.6, and CPSD DR 33, Q 10.

constitute a separate violation or a continuing violation under Public Utilities Code section 2108 and penalized as a separate offense, claiming such a result is “absurd,” “extraordinary” and results in a “boundless theory” of liability contrary to the “plain text” of section 2108 (*Id.*).

It is PG&E’s interpretation of section 2108 that is contrary to the plain text of the statute and Commission precedent. Again, section 2108 provides:

Every violation of the provisions of this part or of any part of any order, decision, decree, rule, direction, demand, or requirement of the commission, by any corporation or person is a separate and distinct offense, and in case of a continuing violation each day's continuance thereof shall be a separate and distinct offense.

PG&E’s purported explanation of its interpretation of section 2108 (“it is the violation that must be ongoing, not its natural consequences”) makes no sense whatsoever. *Id.* Further, contrary to PG&E’s argument, *Qwest* refutes, not supports, PG&E’s interpretation of section 2108. As the Commission explained in *Qwest*, under section 2108, the Commission may impose penalties for each specific violation *or* penalties for practices that occur over a period of time (a continuing violation) and each day the violation exists constitutes a separate violation:

This argument does not constitute a claim of legal or factual error. Section 2108 provides that for penalty purposes, each day of a continuing violation constitutes a separate offense. The Commission has calculated fines on the basis of Section 2108 in cases where the evidence established that cramming, slamming, or other practices that violated statutory or decisional standards had occurred over a period of time, rather than specific instances of violations. Here, however, the record contains evidence of specific violations, and the Commission has not erred in calculating the fine on that basis.

*Qwest, supra*, 2003 Cal. PUC LEXIS 67, at \*20-21.

PG&E’s other argument, that the Commission has interpreted section 2108 as “applying only to violations that are curable,” citing *Strawberry Property Owners Association v. Conlin-Strawberry Water Co.*, D.97-10-032, 76 CPUC2d 46, 1997 Cal.

PUC LEXIS 954, at \*9 (Oct. 9, 1997) (PG&E OB, p. 41), is also legally and factually wrong. Essentially, PG&E argues that its pipeline safety recordkeeping is so broke, it can't be fixed, and therefore PG&E cannot be penalized.<sup>30</sup> But PG&E could have cured, and is fully expected to cure, its deficient recordkeeping. The Commission already has taken steps requiring PG&E to do so. *See, e.g.*, D.12-12-030, 2012 Cal. PUC LEXIS 600, at \*154-155, 163-164. MAOP validation and hydrotesting are just two cures for PG&E's records deficiencies. PG&E knew about its severe record deficiencies since at least 1984,<sup>31</sup> but waited until the San Bruno explosion and the regulatory directives that followed to do anything significant to restore safety.

Moreover, what the Commission actually ruled in *Strawberry* bears no semblance to PG&E's argument. In *Strawberry*, a complaint, not enforcement, proceeding, the Commission determined that the statute of limitations had not run because the violations remained uncured at the time the complaint was filed:

Thus, each day any violation remains uncured constitutes a separate and distinct offense for the purposes of the penalty provisions of the Public Utilities Code from which any relevant statute of limitations may be measured. Since none of the named violations were entirely cured as of the date the complaint was filed, none of the potential fines for the violations would be barred by any conceivably applicable statute of limitations.

D.97-10-032, 1997 Cal. PUC LEXIS 954, at \*9. So, while the Commission did rule that it could penalize the violations because they were not barred by any statute of limitations (the violations were “uncured”), in no way did the Commission rule that under section 2108 the Commission could only penalize violations that were “curable.”

Similarly, while the Commission may consider a utility's good faith to achieve compliance after it was on notice of the violation, nothing in D.04-04-065, 2004 Cal.

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<sup>30</sup> Like PG&E's argument that the clear and convincing evidence standard should apply because of the potential for substantial penalties, addressed above, PG&E's argument that “uncurable” violations cannot be penalized would reward the most egregious wrongdoers with immunity from statutory penalties. It goes without saying that it is not possible that such a result is what the Legislature intended.

<sup>31</sup> CPSD OB, p. 12.

PUC LEXIS 207, at \*23 (May 4, 2004), or Public Utilities Code section 2104.5 provides that a utility cannot be penalized for a violation that is not “curable.” In sum, “curability” is not, as PG&E contends, an “essential element of a ‘continuing violation.’” PG&E OB, p. 41. Nor were PG&E’s violations “incurable” in the least. Rather, the violations and their effects remained uncured only because PG&E chose a course of non-action.

Finally, PG&E expresses disdain for the concept that PG&E could be fined “tens or hundreds of millions of dollars” for missing records that “PG&E is powerless to resurrect or recreate.” *Id.* at 43.<sup>32</sup> PG&E invokes two California Supreme Court cases, *Hale* and *Younger*, claiming they support PG&E’s position. They do not.

PG&E cites *Hale v. Morgan* (1978) 22 Cal.3d 388, 401, stating that the California Supreme Court looks on daily civil penalties with “disfavor” (PG&E OB, p. 40). But on the same page of *Hale* cited by PG&E, the Court specifically noted:

In *People v. Western Air Lines, Inc.*, *supra*, 42 Cal.2d 621, 627-628, we construed Public Utilities Code section 2107, which provides for penalties against a regulated public utility of \$500-\$2,000 per day for violation of the public utilities law or Public Utilities Commission orders. While we conceded that each day of overcharges by an airline constituted a separate violation of section 2107, and therefore upheld a penalty of \$ 138,000 for 69 days of excessive charges, we also stressed the utility's ability, before the trial court, to show "factors in extenuation" of its action.

Accordingly, in contrast to the Commission’s ability to consider mitigating factors in imposing penalties under section 2107,<sup>33</sup> the Court specifically noted that for the

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<sup>32</sup> PG&E’s repeated assertions that penalties for continuing violations are absurd because it is impossible for PG&E to “recreate” the missing records which do not exist (through its own fault) is preposterous. *See, e.g.*, PG&E OB, pp. 41-43. Can PG&E make the original record reappear if it did exist but it is now missing? Of course not. Can PG&E backdate documents to create an original record that does not exist but should? Of course not. But these facts do not immunize PG&E from penalties for the failure to create and maintain essential pipeline safety records over time. PG&E could have inspected and tested pipeline which lacked adequate records or posed a safety hazard, and created new records documenting the actual conditions to replace documents which PG&E does not have. But PG&E did not do so, and nowhere explains why that was not possible.

<sup>33</sup> *See, e.g.*, D.08-09-038, 2008 Cal. PUC LEXIS 401, at \*145-154 (describing the factors the Commission takes into account in assessing penalties).

statutory penalty at issue in *Hale*, no discretion whatsoever was permitted the trier of fact in fixing the amount of the penalty, regardless of the gravity of the conduct, the injury inflicted, or the sophistication or financial strength of the party subject to the penalty. *Id.* at 399. It is dumbfounding that PG&E believes *Hale* supports PG&E's argument.

Nor does *Younger* support PG&E's argument. In *Younger*, as PG&E correctly notes, the California Supreme Court decided between two competing interpretations of the penalty provision of California Water Code section 13350, and upheld statutory penalties for each day that oil was spilled on the water, as opposed to each day the oil remained on the water after the spill (PG&E OB, p. 41). *People ex rel. Younger v. Superior Court of Alameda County* (1976) 16 Cal. 3d 30, 42-45. PG&E concedes that unlike Water Code section 13350, section 2108 is not ambiguous (PG&E OB, p. 41). However, the impact of this concession is apparently lost on PG&E, because section 2108, unlike section 13350, specifically provides that each day a violation continues is a separate offense. These dissimilarities are fatal to PG&E's argument. *Younger* does not apply here.

**6. Penalties for continuing violations for each day records are missing is not “absurd” and do not violate the California Constitution’s Excessive Fines clause**

PG&E attempts to preemptively argue remedies issues that will be briefed in the next phase of this proceeding. CPSD briefly responds to PG&E's arguments.

PG&E argues that CPSD's theory of penalties for each day a violation existed would “produce absurd results.” PG&E OB, p. 41. To the contrary, PG&E is properly exposed to penalties for each day a record remains missing. Day after day after day that installation, testing and maintenance records did not exist, were lost or otherwise disappeared, the public was needlessly exposed to grave and enormous risks, which increased exponentially as time went by and PG&E's pipeline system aged. Safety risk is daily risk, because gas pipelines transport gas daily.

PG&E posits an example of an “absurd” result: that one missing “immaterial” leak repair record from 1930 could generate a minimum fine of \$14.6 million or a maximum

fine of \$150 million. PG&E OB, pp. 41-42. True, it could – although it is difficult to conceive of a pipe leak repair record as “immaterial.” But PG&E’s example is too simplistic. First, as noted above, in *Qwest*, the Commission explained that penalties may be imposed for specific violations or for practices which occurred over time. *Qwest*, *supra*, 2003 Cal. PUC LEXIS 67, at \*20-21. Second, the determination of the amount of penalties imposed under sections 2107 and 2108 is not a purely mechanical mathematical formula. The Commission evaluates a number of factors, including the continuing nature of the offense, the seriousness of physical and economic harm, the size of the utility, the number of victims, the sophistication of the utility, the economic benefit to the utility from the unlawful acts, the number and scope of the violations, the utility’s actions to prevent and detect the violations, and harm to the regulatory process. *See, e.g., Carey*, *supra*, 1999 Cal. PUC LEXIS 215, at \*36; D.08-09-038, *supra*, 2008 Cal. PUC LEXIS 401, at \*145-154. In any event, simply by positing what it believes to be an “absurd” example, PG&E fails to establish that under no circumstance could the Commission impose penalties on PG&E under section 2108 for specific violations or continuing violations for each day the violation existed.

PG&E’s further argument that the failure to maintain this “immaterial” record could not constitute a continuing violation because “CPSD did not provide notice to PG&E of the missing record until after September 2010” (PG&E OB, p. 42) also misstates the law. Under PG&E’s view, it may only be penalized if the Commission previously had discovered a violation and advised the utility of the violation (PG&E OB, p. 41). What about the facts and circumstances PG&E knew or should have known, as PG&E’s own authority holds? *See* D.04-04-065, 2004 Cal. PUC LEXIS 207, at \*23. How could PG&E *not* have known the particulars and deficiencies of its recordkeeping for pipeline installation, testing, repair and maintenance?<sup>34</sup> PG&E was in the very best

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<sup>34</sup> Indeed, PG&E’s OB, p. 1, admits: “PG&E knows that its gas system operations were not what the company, the Commission or PG&E’s customers expect, and has acknowledged this shortcoming and embarked on major improvement efforts.” But PG&E then goes on to state: “In the immediate aftermath of the accident, it became apparent that PG&E’s Geographic Information System (GIS) contained erroneous information.” *Id.* If these errors were supposedly not apparent to PG&E *before* the San Bruno explosion, how were they supposed to be apparent to CPSD?



position to know the status of its recordkeeping, had years to rectify or at least ameliorate the state of its deficient records, and could have acted to remedy the unsafe situation it had created or brought the deficiencies to the Commission's attention. But PG&E chose not to do so. As the Commission explained in D.04-04-065 regarding notice in upholding penalties against SCE:

This approach allows the utility a limited defense in situations where death or injury occurs. For example, under this approach we would not fine the utility for an injury caused when a passerby touches a power line downed by a storm before the utility learned of the damage. On the other hand, if the utility knew of the downed line and unreasonably delayed sending a crew to repair it, we would impose a fine.

Edison has argued that if it has complied with the maintenance intervals of GO 165, it should be excused from liability for GO violations, for example, if a tree has grown enough since its last inspection that it is less than the minimum GO clearance from a power line. We do not agree. GO 165 sets minimum intervals for maintenance inspections. Circumstances may dictate that shorter intervals are required in particular cases. For example, an exceptionally wet or mild winter may result in faster vegetation growth. Simply complying with the minimum intervals set by our GO will not be sufficient to deal with that situation and the utility should be presumed to know that. In the same vein, we note that we may also impose fines if we become convinced that a utility is gaming the system by deliberately allowing violations to pile up until we give them notice.

*Id.* at \*23-24.

CPSD will not brief the Excessive Fines issue here. Suffice it to say that, as the Commission noted in *Carey*, a penalty is unconstitutionally excessive only where it is “so disproportionate as to shock the public sentiment.” *Carey, supra*, 1999 Cal. PUC LEXIS 215, at \*35-36 (citation omitted). To be unconstitutional, a monetary penalty must be “excessive in the extreme when considered in the light of the nature of the violation and the degree of harm done.” *Id.* at 35.

## 7. Laches does not apply as a matter of law

Continuing in the same vein, PG&E argues that laches should bar *all* of CPSD's alleged recordkeeping violations that occurred prior to the San Bruno explosion (PG&E OB, pp. 45-46). Putting aside the sheer chutzpah of PG&E's argument, and the fact that this assertion is the polar opposite of PG&E's grandiose introductory statements in the PG&E OB, p. 1, that PG&E takes full responsibility for its conduct,<sup>35</sup> PG&E is wrong as a matter of law. PG&E's five pages of legal analysis regarding laches wholly overlook the California Supreme Court's holdings that no equitable principle may be invoked against a governmental body "where it would operate to defeat the effective operation of a policy adopted to protect the public." *Kajima/Ray Wilson v. Los Angeles County Metropolitan Transportation Authority* (2000) 23 Cal. 4th 305, 316; *County of San Diego v. California Water & Tel. Co.* (1947) 30 Cal.2d 817, 826.

Laches, like promissory estoppel, is an equitable principle. In *City and County of San Francisco v. Ballard* (2006) 136 Cal. App. 4th 381, 392-395, citing *Kajima*, the court of appeal ruled that laches could not be asserted as an equitable defense in a government action for enforcement of important fire protection statutes and regulations. The holdings of *Kajima* and *Ballard* unquestionably apply here, and bar PG&E as a matter of law from raising the defense of laches. There is no room for debate that section 451 imposes an "unending obligation" on PG&E to protect the public from the inherent and "extreme" dangers of natural gas, and section 451 and the Commission's recordkeeping requirements are intended to protect the public. *See* D.12-12-030, p. 43, 2012 Cal. PUC LEXIS 600, at \*84-87; CPSD OB, pp. 8-10. Thus, CPSD's enforcement of section 451 cannot be barred by laches as a matter of law, as to do so would undermine the important public policy reflected in section 451.

For similar reasons, the Commission has rejected statute of limitations as a defense in Commission investigations. *See* D.07-09-041, 2007 Cal. PUC LEXIS 448, at \*34-38 (Sept. 20, 2007). As the Commission explained:

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<sup>35</sup> "PG&E is morally and legally responsible for this tragic accident and has acknowledged liability to those injured."

Thus, a finding that the statute of limitations does not apply to the case at hand is consistent with the rationale for a statute of limitations. A decision issued in this Commission investigation is designed to ensure that PG&E's rates, practices and service are reasonable and that violations of law that undermine that goal are properly remedied. Clearly the public interest is not served if the Commission, in a fact-finding investigation of a regulated public utility, must limit the relief it fashions to address violations of state law, as if it were an adversarial litigant.

*Id.* at \*36; *see also Carey, supra*, 1999 Cal. PUC LEXIS 215, at \*34-35 (statute of limitations does not apply in Commission enforcement proceeding).

Even if the application of laches were not barred as a matter of law, PG&E's general assertions that the CPSD should have discovered the violations sooner does not come even close to satisfying PG&E's burden to prove the facts necessary to establish its defense by a preponderance of the evidence. *See* CPSD OB, p. 21. PG&E cites no evidence, let alone specific facts, that CPSD had any good reason to suspect the scale and scope of PG&E's recordkeeping deficiencies, which were not revealed until after the San Bruno explosion on September 9, 2010. To the contrary, as Ms. Halligan, then Deputy Director of CPSD explained:

The fact that we don't find or we may have not found an issue or a violation in any particular audit or listed that in any annual report shouldn't be assumed – or shouldn't be taken to mean that there were no issues there. It is simply a fact that the USRB in their reviews of the utility operations did not – was not able to look at every single record or every single issue. And the annual reports [of USRB] are a summary of the work that they have done. But to the extent the annual reports require – reflect that USRB audited utilities' records, that doesn't mean that the USRB audited ever[y] single utility record.<sup>36</sup>

Finally, it is hard to comprehend PG&E's claim of prejudice. PG&E was required to maintain records documenting the safe construction, operation and maintenance of its

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<sup>36</sup> RT at 152:16 - 153:2 (Halligan).

gas pipeline, period. These records should not have “deteriorate[d] or disappear[ed]” over time (PG&E OB, p. 48), and if they did, PG&E should have known about it. PG&E’s claim that it is prejudiced because it somehow earlier could have provided “contextual information” (*id.*) to recreate the existence or substance of its missing records is simply not credible given that PG&E has identified approximately 20,000 pipeline segments in populated areas alone for which it does not possess records for testing or maintenance as required by state and federal law.<sup>37</sup> At bottom, though, what CPSD knew or should have known is irrelevant as a matter of law, and PG&E cannot escape liability by claiming that CPSD should have discovered PG&E’s violations sooner.

#### **IV. OTHER ISSUES OF GENERAL APPLICABILITY**

Ms. Felts’ supplemental testimony and Dr. Duller’s and Mrs. North’s supplemental testimony provided evidence to show that PG&E has 37 separate and distinct violations in this proceeding. In PG&E’s OB, PG&E makes several general arguments regarding the testimony of Ms. Felts, and Dr. Duller and Mrs. North. First, PG&E attempts to cast doubt on the validity of the start and end dates of the violations asserted by Dr. Duller and Mrs. North.<sup>38</sup> Second, PG&E attempts to cast doubt on the validity of the start dates of the violations asserted by Ms. Felts.<sup>39</sup> Third, PG&E claims CPSD failed to meet its burden to prove specific violations because PG&E alleges that CPSD supported its violations with suppositions rather than evidence.<sup>40</sup> Fourth, PG&E argues that Dr. Duller and Mrs. North used several improper assessment methods.<sup>41</sup> Fifth, PG&E claims that the “traceable, verifiable, and complete” MAOP records verification requirement created new expectations.<sup>42</sup> Sixth, PG&E claims that Ms. Felts

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<sup>37</sup> TURN Exhibit 4, PG&E Response to Joint CPSD-TURN Data Request 01, Question 01, and Attachment GasTransmissionSystemRecordsOII\_DR\_Joint\_001-Q01ACh01.

<sup>38</sup> PG&E OB at pp. 49 and 50.

<sup>39</sup> PG&E OB at pp. 49 and 50.

<sup>40</sup> PG&E OB at pp. 50 and 51.

<sup>41</sup> PG&E OB at pp. 52-54.

<sup>42</sup> PG&E OB at pp. 58-63.

did not ground her opinions in relevant expertise or objective criteria.<sup>43</sup> None of PG&E's arguments have merit, and CPSD will address each of PG&E's arguments below.

**A. The Record Shows that All of the Start and End Dates Accompanying Dr. Duller's and Mrs. North's Asserted Violations Are Valid**

PG&E complains that Dr. Duller and Mrs. North took the approach that the end date for continuing violations was September 2010 because the scoping memo used that date to define the scope of the investigation.<sup>44</sup> Each of the violations corresponding with Dr. Duller's and Mrs. North's testimony would have continued beyond September 2010 if not for the scoping memo. Using the scoping memo to establish the end date for violations was reasonable.

PG&E's opening brief also misstates that Dr. Duller and Mrs. North adopted the approach of sometimes assuming the earliest conceivable start date.<sup>45</sup> In both examples PG&E cites to support this statement, the record shows that Dr. Duller and Mrs. North chose start dates with a rational basis and purposely avoided choosing the earliest possible start date.

For example, PG&E cites to a statement out of context from Dr. Duller that said "While we identified evidence of missing records, evidence of missing records, we can't identify the missing records themselves, evidence of missing records over many decades."<sup>46</sup> PG&E fails to include the rest of Dr. Duller's explanation, which states, "Dating back to the 1930's we've cited a 1955 date here as the date that the ASME B31.8 standard was enacted. And we've used that same date. We selected 1955 as a conservative date simply to be consistent with the introduction of the 1955 standard."<sup>47</sup> In this case, CPSD could easily have chosen to use a point in the 1930's as a start date, but had a rational basis for alleging the start date to be 1955 instead.

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<sup>43</sup> PG&E OB at pp. 55-58.

<sup>44</sup> PG&E OB at p. 49.

<sup>45</sup> PG&E OB at p. 50.

<sup>46</sup> PG&E OB at p. 50 fn. 232 citing RT. 638 (CPSD/Duller and North).

<sup>47</sup> RT 638 (CPSD/Duller and North). (Referring to rationale for choosing start dates of violation C3).

As another example, PG&E claims that Dr. Duller and Mrs. North used the earliest conceivable start date for Violation C.2 because that was the same date that FEMA published a report identifying earthquake risks associated with certain older pipes with bad welds.<sup>48</sup> As CPSD’s testimony explicitly states about the start date of violation C2, “PG&E’s lack of accurate records, and its awareness of that problem pre-dates 1992. Nonetheless, CPSD chose 1992 because that is the publication date of the FEMA study that demonstrably informed PG&E of these earthquake-related problems.”

In short, PG&E’s vague assertions about the start and end dates of the violations asserted by Dr. Duller and Mrs. North hold no merit.

**B. Ms. Felts’ Start Dates Are Supported by the Record**

PG&E seems to criticize Ms. Felts’ approach to determining start dates for alleged violations.<sup>49</sup> However, the examples PG&E cites are cases where PG&E had missing records and could not provide them to CPSD. The example PG&E uses, in which Ms. Felts stated that she “arbitrarily” fixed the start date, is one in which Ms. Felts testified she could have picked a much earlier date, but chose a date based on 1954 records in the Line 132 set of records showing that PG&E was reusing pipe in its system in 1954.<sup>50</sup> Because PG&E could not provide the pertinent records, this date was the most reasonable one to use. Moreover, in light of the fact that PG&E controlled, but could not produce the relevant evidence, when appropriate, Ms. Felts made reasonable inferences against PG&E by using the date of the record-generating event as the start date for a violation. *Cedars-Sinai Medical Center v. Superior Court* (1998) 18 Cal. 4th 1, 11-13.

**C. PG&E, Not CPSD, Should Bear the Burden of Proof**

Without any citation to authority, PG&E claims that “CPSD had the means and opportunity to attempt to prove violations with evidence rather than suppositions. In the case of missing or incomplete records, for instance, it could have identified a specific

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<sup>48</sup> PG&E OB at p. 50 fn 232.

<sup>49</sup> PG&E OB at p. 49.

<sup>50</sup> R.T. 350 (CPSD/Felts).

record that a regulation required PG&E to maintain. But CPSD did not identify any specific missing or incomplete record, preferring instead to allege violations in terms of sweeping generalities. As a consequence it never discharged the burden to prove specific violations.”<sup>51</sup> However, as explained in CPSD’s OB, PG&E, not CPSD, should bear the burden of proof.<sup>52</sup>

**D. Dr. Duller’ and Mrs. North’s Assessment Methods Were Proper, Valid, and Supported by the Record**

PG&E has made various allegations to support its argument that Dr. Duller and Mrs. North did not use proper assessment methods. First, PG&E states that Dr. Duller and Mrs. North did not evaluate PG&E’s records management practices to determine if they comported with best engineering or best records practices and therefore, did not fit what PG&E alleges to be CPSD’s view of what is necessary to comply with section 451.<sup>53</sup> Second, PG&E claims that destruction of Dr. Duller’s and Mrs. North’s notes may have prejudiced PG&E.<sup>54</sup> Third, PG&E alleges that the ARMA Generally Accepted Recordkeeping Principles were new, and gave PG&E no notice of the method used to judge PG&E’s past recordkeeping practices.<sup>55</sup> CPSD addresses each of these points below.

**1. PG&E Has Mischaracterized CPSD’s Testimony**

PG&E claims that CPSD expects that a utility will use best engineering practices to comply with California Public Utilities Code section 451.<sup>56</sup> However, PG&E mischaracterizes CPSD’s view.<sup>57</sup> As discussed in more detail in the legal section of this

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<sup>51</sup> PG&E OB at p. 51.

<sup>52</sup> See CPSD OB, pp. 17-20; See also *Cedars-Sinai Medical Center v. Superior Court* 18 Cal. 4th 1, 8, and 11-13.

<sup>53</sup> PG&E OB at p. 52.

<sup>54</sup> PG&E OB at p. 52.

<sup>55</sup> PG&E OB at pp. 52-54.

<sup>56</sup> PG&E OB at p. 52.

<sup>57</sup> The explanations of why PG&E has mischaracterized CPSD’s view are explained in Section VI.A.A1.b of the reply brief.

reply brief, PG&E’s own recordkeeping and engineering witnesses have testified that best industry practices must meet or exceed standards and regulations.<sup>58</sup>

In fact, the Duller and North testimony shows that PG&E’s various records management deficiencies contributed to PG&E’s failure to promote the safety of its pipeline transmission system, which was Dr. Duller’s and Mrs. North’s basis for identifying 10 violations of section 451.<sup>59</sup> Passages from Dr. Duller’s and Mrs. North’s executive summary and introduction to its review findings and analysis sections of its opening testimony properly characterize its focus.

“This report forms part of an investigation that was initiated on February 24<sup>th</sup>, 2011 by CPUC. This investigation set out to “determine whether. . .(PG&E) violated any provision or provisions of the California Public Utilities Code, Commission general orders or decisions, or other applicable rules or requirements pertaining to safety record-keeping for its gas services and facilities.”<sup>60</sup>

“As a result of our extensive efforts during the course of the recordkeeping investigation, we have come to believe that PG&E failed to maintain the records management practices necessary to promote the safety of its patrons, employees and the public.”<sup>61</sup>

PG&E’s effort to confuse the plain meaning of the Duller/North testimony should be rejected.

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<sup>58</sup> See Section III.b.iii.

<sup>59</sup> See for example, CPSD Exhibit 6, p. 1-11, Lines 14-17; p. 6-1, Lines 5-7; p. 6-25, Lines 20-21; p. 6-38, Table 6-5; p. 6-41, Line 9; p. 6-45, Lines 35-38; p. 6-47, Lines 18-21; p. 6-48, Lines 22-25; p. 6-49, Table 6-7; p. 6-49, Lines 15-17; p. 6-50, Lines 32-35; p. 6-51 Table 6-8; p. 6-55, Table 6-11; p. 6-57, Table 6-12; p. 6-60, Table 6-15; p. 6-64, Lines 21-23; p. 6-68, Lines 13-20; p. 6-68, Table 6-18; p. 6-76, Lines 3-4; p. 6-78, Table 6-24; p. 6-82, Table 6-27; p. 6-85, Table 6-28; p. 6-86, Table 6-29; p. 6-88, Table 6-30; p. 6-89, Lines 17-18; p. 6-90, Table 6-31; p. 7-102, Table 7-3; p. 7-104, Table 7-4; p. 7-105, Lines 3-4; and p. 7-106, Lines 31-34.

<sup>60</sup> CPSD Exhibit 6, p. 1-7.

<sup>61</sup> CPSD Exhibit 6, p. 6-1, Lines 5-7.



**E. Contrary to PG&E’s Claim, It Had All of the Information Upon Which Dr. Duller’s and Mrs. North’s Report Was Based, and Therefore Was Not Prejudiced**

PG&E claims that destruction of Dr. Duller’s and Mrs. North’s notes *may* have prejudiced PG&E.<sup>62</sup> PG&E suggests that these notes “would likely have revealed contemporaneous and first-hand observations.”<sup>63</sup> However, the record shows that CPSD provided PG&E all of the audio recordings of, and photographs taken at the site visits CPSD’s expert witnesses made to PG&E facilities.<sup>64</sup> Therefore, PG&E had the means to observe precisely the same things that CPSD’s expert witnesses observed, and in precisely the same manner that they observed those things. PG&E could have entered those audio recordings in the record, but did not. Moreover, PG&E issued a data request asking Dr. Duller and Mrs. North to identify and describe all materials and notes with as much detail as possible, and CPSD provided a data response. However, PG&E elected not to include that data response in the record.

PG&E also asserts that Dr. Duller’s and Mrs. North’s notes could have offered other insights into areas in which their observations or opinions may have diverged, and that the notes may have shown cases where Dr. Duller and Mrs. North formed a favorable impression of PG&E’s records management practices.<sup>65</sup> In fact, PG&E performed a fairly robust cross-examination of both of these witnesses and could have asked them questions along these lines, but apparently opted not to do that.

In short, PG&E had access to all observations and inferences Dr. Duller and Mrs. North made en route to producing their final report. Therefore, PG&E was not prejudiced.

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<sup>62</sup> PG&E OB at p. 52.

<sup>63</sup> PG&E OB at p. 53.

<sup>64</sup> Tr. 641-642.

<sup>65</sup> PG&E OB at p. 53.

## 1. PG&E's Assertion that the Generally Accepted Recordkeeping Principles Were New Is Contradicted by the Record

PG&E alleges that the ARMA Generally Accepted Recordkeeping Principles were new, and gave PG&E no notice of the method used to judge PG&E's past recordkeeping practices.<sup>66</sup> However, PG&E's recordkeeping witness has already acknowledged that these very principles are not new.<sup>67</sup> Hence, PG&E's argument is invalid.

## 2. The Law Supports Dr. Duller's and Mrs. North's Use of Occam's Razor in This Case

PG&E Claims that Occam's Razor (the present is key to the past), cannot stand as a substitute for proof in a legal proceeding. PG&E further claims that the principle leads to a failure of proof and an impermissible attempt to shift the burden of proof to PG&E to rebut the presumption.<sup>68</sup> In support, PG&E claims that "[E]xpert opinions. . .are worth no more than the reasons and factual data upon which they are based. . . . If [an expert's] opinion is not based upon *facts otherwise provided*. . .it cannot rise to the dignity of substantial evidence." Citing *Griffith v. L.A. Cnty.*, 267 Cal. App. 2d 837, 847 (Ct. App. 1968). However, in *Griffith*, the court was referring to the market evaluation of a property appraiser, who admitted on cross examination that his expert appraisal opinion would have been different if the facts surrounding the property had been different (such as terms in existing leases and credit standing of the tenants). *Id.* at 846-7. In other words, the appraiser had all of the facts in his control and made opinions based upon facts of his choosing.

However, *Griffith* does not apply to the case at hand. Here, PG&E, the wrongdoer controls the facts, not the experts. To require CPSD's experts to base opinions on facts withheld or not produced by PG&E actually sets a perverse incentive for PG&E to continue to withhold them. A classic example of this is discussed in CPSD's opening brief, where PG&E had initially provided a data response to a joint CPSD/TURN data

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<sup>66</sup> PG&E OB at pp. 53-54.

<sup>67</sup> PG&E Exhibit 62, p. MD-9.

<sup>68</sup> PG&E OB at p. 54.

request asking for all of PG&E’s records of GIS records. In response, PG&E initially informed CPSD and TURN it did not keep its records that way, only to later provide its audit change log toward the end of hearings at approximately the same time its GIS witnesses were available for cross examination.<sup>69</sup>

For this reason, the applicable standard comes from *Cedars-Sinai*, not *Griffith*. As discussed earlier, the burden of proof or imposition of a discretionary inference is against PG&E, the spoliator that the missing evidence was unfavorable to it. *Cedars-Sinai*, *supra*, 18 Cal. 4th 1, 11-13. In this case, because PG&E’s records are missing, inaccurate, incomplete, and not available in the state they were in prior to the San Bruno explosion, Dr. Duller and Mrs. North make a legally valid inference that the present state of PG&E’s records is the key to the past state of those records, and the burden of proof shifts to PG&E to show this is not the case. PG&E has not met its burden.

**F. PG&E’s Claim That “Traceable, Verifiable, and Complete” MAOP Records Verification Requirement Set New Expectations Is Belied by the Record**

PG&E claims that the “Traceable, Verifiable, and Complete” MAOP records verification requirement for MAOP was newly established by the NTSB,<sup>70</sup> but this is contradicted by the evidence in the record.

Records in the natural gas pipeline transmission industry had to be traceable, verifiable and complete prior to NTSB’s January 3, 2011 safety recommendations, according to an Advisory Bulletin provided by the PHMSA, a branch of the United States Department of Transportation (“DOT”). PHMSA’s Advisory Bulletin provides in pertinent part:

On **January 10, 2011**, PHMSA issued an Advisory Bulletin 11—01. This Advisory Bulletin **reminded** operators that if they are relying on the review of design, construction, inspection, testing and other related data to establish MAOP

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<sup>69</sup> See CPSD Opening Brief at pp. 176-178

<sup>70</sup> PG&E OB at p. 58

and MOP, they must ensure that the records used are reliable, **traceable, verifiable, and complete.**<sup>71</sup>

PHMSA Advisory Bulletin 11—01 also provides a Section on Establishing MAOP or MOP Using Record Evidence, which provides in pertinent part,

‘As PHMSA and NTSB recommended, operators relying on the review of design, construction, inspection, testing and other related data to calculate MAOP or MOP must assure that the records used are reliable. An operator must diligently search, review and scrutinize documents and records, including but not limited to, all as built drawings, alignment sheets, and specifications, and all design, construction, inspection testing, maintenance, manufacturer, and other related records. These records shall be traceable, verifiable, and complete. If such a document and records search, review, and verification cannot be satisfactorily complete, the operator cannot rely on this method for calculating MAOP or MOP.’<sup>72</sup>

These passages show that PHMSA and federal regulations recognize that requirements as of January 2011 to keep traceable, verifiable and complete records were reminders to natural gas pipeline transmission operators. This evidence further supports CPSD’s view that the requirements to keep “traceable, verifiable, and complete” records applied within the natural gas pipeline transmission industry in the United States prior to NTSB’s January 3, 2011 safety recommendations.<sup>73</sup>

Moreover, PG&E’s authority for claiming that PHMSA acknowledges that the terms “traceable, verifiable, and complete” . . . “were initially used by the NTSB” is its witness, Mr. James Howe. Mr. Howe’s resume indicates he has spent his career working for industry, not for government, and certainly not for PHMSA.<sup>74</sup> Therefore, PG&E’s assertion about PHMSA should hold no weight.

Finally, the concept of traceable, verifiable, and complete records has been a known and accepted part of records management for many years. The terms boil down to

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<sup>71</sup> The source of this regulation is 77 Fed. Reg. 26822 (May 7, 2012).

<sup>72</sup> 76 Fed. Reg. 1506 (January 10, 2011).

<sup>73</sup> PG&E Exhibit 74, CPSD Supplemental Data Response to PG&E Data Request 6 Question 4.

<sup>74</sup> PG&E Exhibit 61, pp. 1-9.

the concept that the records must be readily available and trustworthy of providing full and accurate information. These concepts are understood by laypersons, and should be well understood by PG&E that has borne legal responsibilities for many years to retain and reasonably maintain full and accurate information needed to safely operate its gas system.

For all of these reasons, PG&E's claims that the terms "traceable, verifiable, and complete" were newly established with the NTSB's safety recommendations is belied by the facts in the record.

**G. Ms. Felts' Testimony and Conclusions Are Consistent with CPSD's Views and Her Expertise Is Relevant to Her Testimony**

PG&E claims that Ms. Felts did not ground her opinions in relevant expertise or objective criteria.<sup>75</sup> First, PG&E asserts that Ms. Felts never linked her testimony to CPSD's standard for determining a Section 451 violation, which PG&E characterizes as a "best engineering practices" standard.<sup>76</sup> Second, PG&E claims Ms. Felts is not an expert in any field relevant to her testimony.<sup>77</sup>

Ms. Felts' testimony is consistent with CPSD's standard for determining a Section 451 violation. The matter of the applicable standard and related terminology is addressed in CPSD's opening brief and in the Legal Issues section of this reply brief.

Regarding the witness' expertise, CPSD notes that Ms. Felts' has decades of engineering experience, which includes frequent appearances before the California Public Utilities Commission in investigation proceedings. CPSD is confident that Ms. Felts' evaluation of PG&E's engineering deficiencies in this proceeding is of the highest caliber, and we are fortunate to have the benefit of her expertise.

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<sup>75</sup> PG&E OB at pp. 55-58

<sup>76</sup> PG&E OB at p. 55.

<sup>77</sup> PG&E OB at p. 55.

**V. ALLEGED VIOLATIONS PREDICATED ON THE REPORTS AND TESTIMONY OF MARGARET FELTS<sup>78</sup>**

**A. Alleged Records Violations relating to Line 132, Segment 180, San Bruno Incident**

**Violation 1: Salvaged Pipe Records**

Under Section 451, PG&E has a continuing obligation to provide gas through a transmission pipeline system that is safe. PG&E failed to promote safety and, therefore, endangered its patrons, employees and the public when it failed to create and maintain accurate, complete, and accessible records of pipe salvaged from its transmission system and reused in Line 132. Compliance with Section 451 requires the use of good engineering practices. The creation and retention of basic construction records is exactly such a fundamental engineering practice. Record retention is especially essential when the facility constructed will ultimately be covered with dirt and will operate for decades underground where it can no longer be viewed or easily inspected. Beyond understanding this basic concept, no special expertise in gas engineering is required to grasp the need to create and retain construction records that reflect how a system was built.<sup>79</sup> PG&E clearly understands this concept, because its records retention guidance includes the requirement to preserve these records for the life of its facilities.<sup>80</sup>

PG&E claims that CPSD presented no proof that salvaged pipe was used in the construction of Segment 180.<sup>81</sup> PG&E both misstates the violation, and fails to acknowledge clear evidence that PG&E used salvaged pipe somewhere in Segment 180. First, the basis for the violation CPSD alleges is that PG&E failed to preserve any documentation about the source of the pups installed in Segment 180 of Line 132.<sup>82</sup> PG&E acknowledges that its job file documents “do not foreclose the possibility that

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<sup>78</sup> Note: The list of these alleged violations is drawn from the Revised Table 1 of Supplemental Testimony of Margaret Felts, submitted September 10, 2012 (CPSD Exhibit 15).

<sup>79</sup> Note: These records are referred to by engineers and by PG&E as “As-Built” records.

<sup>80</sup> Note: PG&E Response to DR 9 Q 1 Atch 1, a table that shows in the right hand column that PG&E keeps records for the life of the facility.

<sup>81</sup> PG&E OB, p. 63.

<sup>82</sup> CPSD Exhibit 4 fn. 4.

some pipe used on the Segment 180 job may have been reused.’<sup>83</sup> However, it is immaterial to the violation whether in fact salvaged or new pipe was used in the pups that failed in 2010, and whether during the 1956 job salvaged pipe was instead installed elsewhere in Section 180. CPSD’s point is that PG&E has failed to create or maintain the records and data needed to conclusively understand these basic engineering and safety matters.

Second, CPSD identified PG&E records that established that in 1956 salvaged pipe was installed somewhere in Segment 180. The safety violation occurs because PG&E records fail to show the location within the pipeline segment the salvaged pipe was installed. There are two records provided by PG&E that confirm the use of salvaged pipe in Segment 180, which was installed by project GM 136471. The first record is a transfer tag for 90 feet of pipe.<sup>84</sup> PG&E Exhibit 54 shows the reuse on GM 136471 of 90 feet of 30” diameter pipe originally installed in GM 98015, which was the project that installed Line 132 from Crystal Springs to Martin Station in 1948.<sup>85</sup>

The second record is PG&E’s own accounting of 30-inch diameter pipe it purchased and salvaged during the years surrounding the 1956 GM 136471 project. PG&E’s reconciliation of inventories of purchased and salvaged pipe, by project, is recorded in a document provided to the NTSB titled “Who Manufactured the Pipe at the Accident Site and the Manufacturing Process.”<sup>86</sup> In this document, PG&E’s accounting record shows salvaged pipe was shipped to the company’s stores and mixed in inventory with purchased pipe. PG&E did not document whether the pipe withdrawn from the

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<sup>83</sup> PG&E OB, p. 65.

<sup>84</sup> PG&E Exhibit 54.

<sup>85</sup> Note: It was on GM 98015 that radiographic records showed cracked longitudinal welds were accepted and left in the pipe. While there is insufficient evidence to link the specific radiographs with the welds in the 90 foot section, the general poor quality of the welds made during the installation of Line 132 under GM 98015 as suggested by the preserved radiographic reports may be an indication of the quality of welds in the 90 foot section that was salvaged. We know the pipe was reused because the transfer tag, typically used to show transportation of pipe from one job to another, shows the 90 feet of pipe transferred from GM 136471 to GM 136471 and notes that the pipe was originally installed in 1948 on GM 98015.

<sup>86</sup> CPSD Exhibit 2, fn. 4, p. 9 (GTR0107484).

company store for GM 136471 was new or previously salvaged pipe. However, the PG&E record shows that no new pipe was purchased specifically for the project.<sup>87</sup>

Although PG&E has suggested that reconditioned pipe was new pipe that was re-wrapped,<sup>88</sup> PG&E's own notes show this claim to be incorrect. Under PG&E's "Explanation-Help" in the same pipe reconciliation document provided to the NTSB PG&E states:

"The transfers in and out are only counted if we have clear evidence the material was transferred directly between the jobs. Most transfers are sending the material to a storage location or warehouse, so these footages end up in the "available pool" in the spreadsheet. We might be under counting on salvaged pipe. On most relocation jobs, the job calls for "salvaging" the pipe because it is in the way of the construction project and must be moved. However, just because it says "salvaged" we did not consider it to be pipe sent back into the system for re-use. We only counted pipe as "salvaged for re-use" if we have evidence of "re-conditioning" charges or shipment to be re-wrapped or similar additional information."<sup>89</sup>

Thus, PG&E's own personnel consider re-conditioning to be inextricably linked to salvaged pipe.

PG&E argues that CPSD's witness mistakenly assumed Figure 5 from the NTSB August 2011 Report on the San Bruno accident to be a PG&E product. However, even if NTSB produced Figure 5, it could not have produced it without relying on PG&E records for content. The very fact that NTSB and PG&E may disagree on the interpretation of the underlying records relating to the source of pipe installed in Segment 180 proves once again that PG&E failed to keep the necessary records to conclusively determine the source of the pipe installed. And, because PG&E itself identifies salvaged pipe as reconditioned pipe (as noted in the quoted passage above), it appears likely that the pipe the NTSB identified in PG&E records as reconditioned was actually salvaged pipe.

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<sup>87</sup> Note: Although the PG&E pipe reconciliation is fairly detailed, PG&E failed to identify the 90 feet of pipe reused on GM 136471 from GM 98015, possibly because the pipe was not sent back to the company store before it was reused.

<sup>88</sup> Joint Tr. Vol 3, pp. 23-26 and PG&E OB p. 65

<sup>89</sup> CPSD Exhibit 2, fn. 4, p. 10, last paragraph (GTR0107485).



PG&E faults the CPSD witness for not checking the accuracy of Figure 5 in the August 2011 NTSB Report. CPSD believes it was reasonable to rely on NTSB Figure 5 in the witness' prepared testimony, however, as she has testified further, she tried to determine what pipe went into Segment 180 using PG&E's records when additional records were provided, which was late in the discovery process.<sup>90</sup> This reconciliation effort occurred just after Rebuttal Testimony was filed.<sup>91</sup> Ms. Felts' notes were provided to PG&E during her cross-examination.<sup>92</sup> Even with the additional information, it was impossible to determine conclusively the source of the pipe used in the construction of Segment 180.<sup>93</sup>

PG&E also states that codes identified by NTSB on Figure 5 identify new, never-used pipe instead of salvaged pipe.<sup>94</sup> PG&E fails to say that the code it provided is dated 1967 – 11 years after the construction of Segment 180 – and that the code numbers cited only identify the type of pipe and whether it was double wrapped or bare, which could apply to salvaged as well as to new pipe, depending on the purpose of including the codes on the form.<sup>95</sup>

PG&E misstates CPSD's testimony when it says that “[u]ltimately, Ms. Felts acknowledged she was unsure whether any pipe used in Segment 180 was salvaged.” Ms. Felts said nothing of the sort. The witness' testimony pertained to her earlier statement that most of the pipe in Segment 180 was salvaged: “Ms. Felts testified that “[w]hat I told you is that I think that the statement<sup>96</sup> may not be accurate now based on new information that I have.”<sup>97</sup> Neither the question nor the testimony addressed whether any of the pipe was salvaged, but whether most of the pipe was salvaged. As discussed

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<sup>90</sup> TR. Vol 4, p. 501-503.

<sup>91</sup> TR. Vol 4, p. 501-503.

<sup>92</sup> CPSD Exhibit 12.

<sup>93</sup> CPSD Exhibit 12.

<sup>94</sup> PG&E OB, p. 64.

<sup>95</sup> PG&E Exhibit 53.

<sup>96</sup> TR. Vol 3, p. 473, lines 2-3, “that most of the pipe in Segment 180 was salvaged”.

<sup>97</sup> TR. Vol 3, p. 473, lines 5-7.

above, the evidence is clear that salvaged pipe was used in Segment 180, but records reveal neither the amount of the pipe that was salvaged and reused or its location on September 9, 2010.

PG&E claims that it has records of reused and reconditioned pipe in every job file and suggests it therefore has a record of where reused pipe was used within its system.<sup>98</sup> PG&E's continued efforts to locate reused and reconditioned pipe, more than two years after the San Bruno tragedy, establishes just how useless those records were to provide PG&E engineers before 2010 with timely and accurate information and location of reused pipe in Line 180 and elsewhere.

PG&E has also repeatedly admitted that it did not track salvaged or reused pipe.<sup>99</sup> PG&E began tracking salvaged pipe in 2011.<sup>100</sup>

### **Violation 2: Construction Records for 1956 Project GM 136471**

As discussed under Violation 1, above, Section 451 requires PG&E to operate a safe transmission pipeline system and preserving basic engineering design and construction records is fundamental to ensuring the required safety.

PG&E did not retain a construction job file for GM 136471 that installed Segment 180 in line 132.<sup>101</sup> In fact, PG&E did not even discover that it did not have a job file for Segment 180 during its data collection effort for Integrity Management. We know this to be true because the first time PG&E looked for the job file was after the pipe in San Bruno exploded.<sup>102</sup> And, when it searched, instead of finding PG&E's "primary file of record" in Walnut Creek engineering records, the only file it could find was an accounting file stored in the Bayshore storage facility.<sup>103</sup>

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<sup>98</sup> Joint TR. p. 434-35.

<sup>99</sup> CPSD Exhibit 2, fn. 177.

<sup>100</sup> PHC November 1, 2011 (PG&E Supplemental Response, October 31, 2011, Atch A refers to collection of reuse tracking data through the MAOP validation process).

<sup>101</sup> Joint Tr. Vol. 3, pp. 305-306 Harrison/PG&E.

<sup>102</sup> Joint Tr. Vol. 3, pp. 300-301 Harrison/PG&E.

<sup>103</sup> Joint Tr. Vol. 3, pp. 305-306 Harrison/PG&E, Note: During cross examination, Harrison stated that they had a file at Walnut Creek that contained similar documents to those found in the Accounting file

The records CPSD expected PG&E to include in the GM 136471 file included drawings showing the location of the former span over the creek and the new elevation of the Segment 180 pipe above the former span; a drawing showing a cross section elevation of the pipe to be installed with the amount of cover detailed; and documents showing details of planned pipeline construction for construction personnel and welders. These records were similar to records which today can be found in some other PG&E engineering job files from 1956 or before. In addition, there should be a clear and unambiguous record of the request, source, and receipt of specific pieces of pipe and other materials, field notes by the project engineer written during the construction project, a radiographic report showing x-rays of welds, a stress test report and a full accounting of salvaged pipe.<sup>104</sup> There should be an “as-built” drawing that shows exactly how the pipe was completed, with the usual pipeline details as found on other PG&E as-built transmission line drawings.<sup>105</sup> PG&E does not have As-built drawings for Segment 180.<sup>106</sup>

As examples of detailed documents expected to be found in the Segment 180 job file, Ms. Felts identified two PG&E documents from job files for other PG&E projects that clearly identify the existence of pipe pups and small pipe pieces welded together.<sup>107</sup>

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that was produced to NTSB and CPSD. During the course of this proceeding, frequent review of documents scanned into ECTS, revealed only the occasional addition of duplicate documents found in the Accounting file, probably as a result of continued file-scanning during PG&E’s job file collection process related to the MAOP validation process. PG&E never produced, and CPSD never saw an actual, engineering file with original construction documents for GM 13647, which should have been stored with the job files at Walnut Creek.

<sup>104</sup> CPSD Exhibit 2, fn. 125 citing PG&E response to DR 51 Q 4.

<sup>105</sup> Note: PG&E defined As-Built drawings as those red-lined drawings (markings from the field superintendent, contractor or field engineer) that show how a project was actually completed. CPSD inspected numerous job files at the Emeryville facility and found as-built drawings in every job file viewed.

<sup>106</sup> Joint Tr. Vol 3, at p. 367, Harrison identifies Joint CPSD Exhibit 12, drawing no. 282764 as an As-Built drawing for Segment 180, but not an original. Note: In fact, this drawing has no red-line markings, is dated 1959 (not 1956 when the project was built) and is not stamped or marked “As-Built” like other as-built drawings found in PG&E files.

<sup>107</sup> CPSD Exhibit 4, fn 26, citing PG&E Response to DR 7 Q 12, Atch 4 and PG&E record No. MAOP06003579 – (an annotation on a Pipeline Survey Sheet for Line 132, installed in 1948, (GM 73429) showing “short lengths welded together at Milpitas Pipe Yard,” and, Line 132 project at

The first instance is an annotation on a drawing for Line 132, dated 1948 (for GM 73429) that says “short lengths welded together at Milpitas Pipe Yard,” and, the second instance is also an x-ray record in a 1967 Line 132 job file (GM 16913) that says there are 4 “pups welded together.”

The evidence shows that by 1956 PG&E created detailed engineering records in the course of its regular records practice from 1948 to 1967.<sup>108</sup> PG&E does not have a record of the installation of the pups into Segment 180, and thus indicates either that PG&E lost or destroyed the record, or considered the job under a housing complex to be too small to provoke an engineering drawing done with granular detail.<sup>109</sup> But, PG&E’s expert believes the existence of the pups would have been indicated on original as-built drawings for the Segment 180 project.<sup>110</sup> The resulting San Bruno explosion is proof that lack of records can lead to catastrophic results because, if PG&E had retained the record in its job file, it would have discovered the construction anomaly of welded-together pups during its records review for Integrity Management and presumably would have investigated the pipe construction further before determining it was safe for continued operation. So, whether PG&E once had good engineering records for Segment 180 and discarded or lost them, or never created them, in any case PG&E violated the law and contributed to causing the terrible failure at San Bruno.

CPSD notes that PG&E has asserted that that Section 451 contains no explicit standard for recordkeeping.<sup>111</sup> CPSD agrees that nowhere in the statute may the word “recordkeeping” be found. CPSD’s charges PG&E with violations of 451 because the

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Woodside Rd. in 1967 (GM 16913, 30 inch pipe), which notes on an x-ray report that there are 4 “pups welded together.”)

<sup>108</sup> CPSD Exhibit 4, p. 5, Lines 12-14 and fn. 28.

<sup>109</sup> CPSD Exhibit 2, p. 33 and fn 130.

<sup>110</sup> Joint Tr. Vol. 3, Harrison/PG&E, p. 367 “if we knew about the pups, it would appear that they would have marked them because these are details . . . This is not the original . . . as-built drawing. I’m sure there was some sort of an as-built drawing from the field originally.” And p. 368: “If they had known about the pup sections, I believe they would have drawn them.”

<sup>111</sup> PG&E OB, p. 67.

statute charges PG&E with a duty to “promote safety”, and because sound engineering and recordkeeping practices are essential to promote safety.

### **Violation 3: Pressure Test Records**

By 1956, ASA B 31.8 (1955) became available for use. In 1955 and later, PG&E represented to the Commission, in safety proceedings, that the company and other gas operators followed the ASA Code.<sup>112</sup> The ASA Code, and PG&E’s repeated statements, required PG&E both to conduct a hydrostatic test (water forced into pipe under pressure) on all pipe prior to being placed into service, and to create written pressure test results and maintain each of them for the operating life of the facility.<sup>113</sup> However, PG&E failed to retain pressure test records for the pipe installed in Job No. 136471, the project that installed a segment of pipe within PG&E’s pipeline system referred to as Segment 180 for the period from July 1956 to September 2010.<sup>114</sup> PG&E admits that it has not located records showing that a post-installation hydrostatic pressure test was conducted on Segment 180.<sup>115</sup>

PG&E summons its defense that “[i]n 1956, no state or federal regulations mandated post-installation pressure tests”, and because “PG&E used ASA B31.1.8 practices as guidance in its gas pipeline construction practices during the 1950s does not alter the fact that the ASA was voluntary at the time Segment 180 was constructed.”<sup>116</sup>

CPSD addressed this matter in our opening brief, and will not belabor it here. We only wish to point out that hydrotesting and retaining of hydrotest records for the life of the pipe was an accepted and good industry practice by 1955, and PG&E has agreed that it followed the practice and represented to the Commission in 1955 that it intended to continue doing so. We also note that in D.12-12-030 the Commission rejected the same

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<sup>112</sup> PG&E Response to DR 15 Q 6.

<sup>113</sup> CPSD Exhibit 4, Page 30, lines 22-25 and P3-30006, p. 26.

<sup>114</sup> PG&E June 20, 2011 Response, Page 6D-4, lines 8-10.

<sup>115</sup> PG&E Exhibit 61, pp. 4-6, lines 9-10.

<sup>116</sup> PG&E OB, p. 69.

PG&E argument about the “voluntary” nature of PG&E’s compliance with the ASME Code.<sup>117</sup>

**Violation 4: Underlying Records Related to Maximum Allowable Operating Pressure on Segment 180**

PG&E engaged in unsafe practices when it failed to create or retain the underlying records supporting the Maximum Allowable Operating Pressure for Segment 180 of Line 132. CPSD disagrees that PG&E could legally increase the MAOP for line 132 from 390 to 400 psi without first hydrostatically testing the pipeline to ensure it could withstand operating at 400 psi. The disagreement lies in the interpretation of records, as well as the absence of supporting records.<sup>118</sup> In short, for 26 years PG&E operated Line 132 at 375 psi while it carried on the books MAOPs for Line 132 of 375, 390 and 400 psi for various sections of Line 132. Regulations require PG&E to establish the MAOP at the lowest MAOP in the system to ensure safety. Instead, in 2003, PG&E edited historical records to show the MAOP to be 400 psi and then proceeded to operate the pipeline at this pressure for two periods of 2 hours each to qualify the MAOP for 5 year increments under new regulations.<sup>119</sup>

CPSD relies on its opening brief to describe this violation. We only point out that the clash of evidence here - and the lack of it from PG&E - is striking. For over a quarter of a century PG&E operated Line 132 at a maximum of 390 psi, for reasons that are now lost along with PG&E’s records in general. In 2003, a PG&E employee decided that the 26 years of this operation – and the diminishment of flexibility in operations and potential for lost sales – resulted from an “error” made by the San Francisco Division. PG&E did so without any idea of the data or records used by PG&E personnel in the 1970s to arrive at 390 psi. In fact, PG&E’s witness on this matter testified that “*I have no idea why [PG&E directed 390 MAOP in 1978]. The only thing I could surmise is they did an*

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<sup>117</sup> D12-12-030 p. 58, and Findings of Fact 16, 17, and 18.

<sup>118</sup> CPSD OB, Violation 4.

<sup>119</sup> CPSD Exhibit 2, p. 3.

analysis, and all they could find was a 390 pressure chart.”<sup>120</sup> Given the PG&E records available in 2003 available about a decision 25 years earlier, CPSD is not surprised that PG&E had no idea of what information caused personnel in 1978 to reduce pressure to 390 psi.

PG&E claims that Line 132 failed on September 9, 2010 at a pressure of 386 psi.<sup>121</sup> If the pipe failed at 386 psi, then the explosion itself provides proof that it was unsafe to increase the MAOP to 400 psi without performing a pressure test. Regardless of the result, it was unsafe to increase MAOP to 400 psi in the absence of solid evidence as to the reasons PG&E had reduced Line 132 to 390 psi years earlier.

#### **Violation 5: Clearance Procedures**

There is no real controversy regarding PG&E’s failure to comply with PG&E’s written clearance policy and procedure, a violation of 49 C.F.R. § 192.13(c). PG&E admits to the violation. However, PG&E argues that the violation caused no actual harm - that is, in PG&E’s view, proper work clearances would not have prevented the pipe rupture at San Bruno. In CPSD’s view, although we can never know the answer to this for certain, good reason exists to conclude that proper clearances might have prevented the pipe failure, at least on the day it occurred.

PG&E’s failure left the PG&E maintenance crew without a written plan for work to be performed and with no assigned Clearance Supervisor, a person designated to oversee the work at Milpitas Terminal in relation to PG&E’s ongoing gas control operations. By failing to follow clearance procedures, PG&E failed to use good engineering practices in operating and maintaining its gas transmission system.

PG&E claims the field crew managed the work safely even though the clearance documentation was not properly prepared. But, PG&E did not sponsor any percipient witness who was actually doing the work or was present at the Milpitas Terminal on

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<sup>120</sup> PG&E OB, p. 73, citing R.T. 1130 and 1131, PG&E/Phillips, italics added.

<sup>121</sup> PG&E Exhibit 61, p. 4-28, lines 14-16.

September 9, 2010, when the clearance work was performed. <sup>122</sup>PG&E's witnesses Mr. Slibsager and Mr. Kazimirsky were not present and did not participate in the clearance work or the communications with the control room before the pipeline exploded on September 9, 2010.<sup>123</sup> And, the testimony of these witnesses is not supported by evidence in this record.

For instance, PG&E states that "prior to beginning work, the crew at Milpitas Terminal conducted pre-work meetings (tailboards) . . . and outlined the steps they would follow."<sup>124</sup> In a data request, CPSD requested a copy of the checklist (with completion markings and signatures) provided by the Contracting Consultant who was supervising the work, and used by the PG&E team, for the pre-work preliminary to replacing the UPS System that was performed at the Milpitas Station on September 9, 2010.<sup>125</sup> PG&E responded that its response "includes handwritten notes that (Contracting Consultant) is believed to have made on September 9, 2010 while at Milpitas Terminal."<sup>126</sup> This response consists of two pages of scribbled numbers (no text) and a list of 6 items: lose chron, cont man, lose i/c, power up, cont auto, and comm.<sup>127</sup> This list of 6 items is apparently the "steps they would follow."

There was no Supervisor, no PG&E Engineer, and no gas Control Operator on site during the maintenance work.<sup>128</sup> So, when the power failure and pressure increase problems arose, PG&E did not have the appropriate personnel on site to diagnose and respond quickly to the problem. Of the people present, the only one who could access SCADA to view data was the operating (maintenance) technician who was performing

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<sup>122</sup> PG&E Responses to DR 74 Q 1 and Q 4 lists the people present and the times they were present.

<sup>123</sup> Joint Tr. Vol 2, p. 152. Mr. Slibsager was on a cruise in Alaska and Mr. Kazimirsky arrived at Milpitas at 8:40 p.m., after the pipeline explosion.

<sup>124</sup> PG&E OB, p. 74.

<sup>125</sup> CPSD Exhibit 4, fn 52.

<sup>126</sup> CPSD Exhibit 4, fn 51.

<sup>127</sup> CPSD Exhibit 4, fn 51.

<sup>128</sup> PG&E Responses to DR 71 Q 1 and Q 4 lists the people present and the times they were present.



the maintenance.<sup>129</sup> Because the problem disrupted the transmission of data to the San Francisco control room, operators at that remote location could not assist the maintenance crew because they could not see the instrument data and therefore could not diagnose the problem.<sup>130</sup> The SCADA data was apparently also not viewable locally at the Milpitas Terminal because the technician went outside of the control room to manually measure pressures on the pipelines using a pressure gauge. During this time, the pressures were increasing downstream of the Milpitas Station in the Peninsula pipelines, including Line 132.<sup>131</sup> The absence of a required work plan combined with a minimum work crew that did not include an engineer, a supervisor and a control operator created the “perfect storm” for a disaster if anything went wrong during the maintenance procedure. By any standard, PG&E created an extremely unsafe situation on September 9, 2010 which had catastrophic consequences.

Transcripts of the communications between the field crew and the control room operators during the maintenance work on September 9, 2010 show five status calls between 3:36 p.m. and 4:47 p. m. including the initial call to start the project and the final call saying they were “going to kill the comm and transfer it over.”<sup>132</sup> Neither party confirmed the completion of the project by phone, or closed it out (reporting off) using the PG&E logging system Clearance Procedure and clearance log protocol.<sup>133</sup>

PG&E refers to Mr. Kazimirsky’s testimony saying that the work performed on September 9, 2010 was not expected to impact system operations.<sup>134</sup> Clearly, the possibility existed for such an impact, as demonstrated by the very real loss of SCADA data communication and subsequent overpressure of gas transmission lines. PG&E’s Clearance procedure is designed to identify potential impacts to system operations. All of

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<sup>129</sup> Ibid.

<sup>130</sup> CPSD Exhibit 4, fn. 71: at 5:28:35 p.m.

<sup>131</sup> CPSD Exhibit 4, fn. 71: at 5:28:51 p.m.

<sup>132</sup> CPSD Exhibit 4, fn. 71: at these times in the transcript: 3:36:50, 4:04:19, 4:31:53, and 4:46:19 p.m.

<sup>133</sup> CPSD Exhibit 2, fn 29, Work Procedure WP4100-10, p. 14.

<sup>134</sup> PG&E OB, p. 76.

these steps in the procedure are designed to create a safe maintenance process.<sup>135</sup> PG&E's bypass of an appropriate clearance and clearance process created an unsafe maintenance procedure.

PG&E states that the Milpitas Terminal was functioning and no problems were occurring at 5 p.m. after all steps in the electrical work were completed.<sup>136</sup> PG&E fails to say that the first controller error alarm came into the Control Room at 5:01 p.m.<sup>137</sup> and that no one at Milpitas noticed the continuous series of alarms until a control room operator in San Francisco noticed the high pressures in the lines downstream of Milpitas and called the maintenance crew at the Milpitas Terminal at 5:26 p.m. to find out what was happening.<sup>138</sup>

PG&E states that the pressure limiting system functioned as designed.<sup>139</sup> In the course of its investigation CPSD has found additional information that calls PG&E's conclusion into question. Specifically, pressure data, alarm data and real-time statements by PG&E personnel suggest pressures were not controlled.<sup>140</sup>

Had PG&E followed its own Clearance Procedure for planning and documenting the events during the maintenance work at Milpitas Terminal on the afternoon of September 9, 2010, not only would there have been the possibility of controlling the problem before the pressure went out of control, but there would also be a written record that could be used to determine what happened.

### **Violation 6: Operations and Maintenance Instructions**

Having current O&M instructions on site is critical for the safe operation of any facility, especially one that controls the flow, quality and pressures of transmission gas supplying a public system. There is no evidence that PG&E had maintained a current

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<sup>135</sup> CPSD Exhibit 2, fn 29.

<sup>136</sup> PG&E OB, p. 75.

<sup>137</sup> CPSD Exhibit 2, fn. 50.

<sup>138</sup> CPSD Exhibit 4, fn. 71.

<sup>139</sup> PG&E OB, p. 76.

<sup>140</sup> CPSD Exhibit 4, p. 13.

copy of the Operations and Maintenance Instructions for the Milpitas Terminal at the Terminal as of September 9, 2010 and, therefore, CPSD alleges a violation of Section 451. PG&E produced a copy of documents found at the Milpitas Terminal after September 9, 2010.<sup>141</sup> A copy of an O&M manual was not in that set of data, but a 1991 manual was shown on a separate list of un-scanned records as being present.<sup>142</sup> PG&E had stated that it could not be sure there was an updated manual at any of 11 Terminals, including the Milpitas Terminal.<sup>143</sup>

PG&E's argument on burden of proof for this violation is one of a number of its attempts to shift the costs of evidence uncertainty to CPSD for uncertainties that PG&E itself created. PG&E has concluded that “[s]imply put, CPSD has failed to meet its burden of proof”<sup>144</sup>. PG&E, not CPSD or any other party, knows or should know the exact manuals that were at the Milpitas Terminal on September 9, 2010, and were available to personnel there when an emergency condition developed in the afternoon. After the rupture, PG&E was under an immediate requirement from the Commission and from PG&E senior management to preserve all evidence.<sup>145</sup> And yet, PG&E did not preserve the Milpitas evidence so that the NTSB, the Commission, CPSD, or other parties, can identify the exact operational manual that was available to personnel at Milpitas on the afternoon of September 9, 2010.

Contrary to PG&E's assertion, no one “jumped” to conclusions about the manuals that were available and unavailable at the Milpitas terminal.<sup>146</sup> PG&E, not CPSD, controls PG&E data. When PG&E represented that it could not be certain of what manual was available at Milpitas on the day of the pipe failure – a certainty it owed by

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<sup>141</sup> CPSD Exhibit 4, fn. 55.

<sup>142</sup> CPSD Exhibit 4, fn. 54.

<sup>143</sup> PG&E Exhibit 61, p. 4-17, line 31 through p. 4-18, line 2

<sup>144</sup> PG&E OB, p. 79.

<sup>145</sup> CPSD Exhibit 3, p. 4 lines 15-26: citing Commission Resolution L-403 and PG&E instructions from its General Counsel.

<sup>146</sup> PG&E OB, p. 77.

law – CPSD assessed the best available evidence to ascertain that the 1991 manual was the latest available version at the terminal on September 9, 2010.

**Violation 7: Drawing and SCADA Diagrams of the Milpitas Terminal**

Current and accurate facility drawings are essential to the safe operation of a gas transmission system. Violation 7 pertains to PG&E’s failure to create and maintain accurate and accessible records, i.e., drawings. The drawing at issue in Violation 7 is a drawing of the piping and normal valve positions of the Milpitas Terminal. PG&E provided two drawings and indicated that it had changed some of the normal valve positions (whether they are opened or closed during normal operations) on the revised drawing Number 383510, that it had submitted to the NTSB. PG&E claims its changes were “updates” and not “corrections.”<sup>147</sup> PG&E has not explained why it made each of the changes it made to the drawings. However, in the same discussion, the company has described its actions using the phrase “PG&E corrected,” leading one to conclude reasonably that these were corrections.

Although CPSD cannot say precisely how an incorrect indication of a specific valve position or valve number might have influenced operational decisions at the Milpitas Terminal on September 9, 2010, CPSD can say that accurate drawings are essential to safe operations. PG&E’s drawing was inaccurate, and therefore created a potentially unsafe condition for operations at the Terminal.<sup>148</sup> PG&E’s preference for the term “updated” rather than “corrected” has no bearing on the substantive analysis of this violation.

PG&E’s SCADA display, showing a diagram of pipelines and valves at the Milpitas Terminal, was also inaccurate. Specifically, a by-pass line and its associated valves were missing from the display. PG&E says this conclusion is incorrect because the SCADA display on September 9, 2010 accurately reflected bypass piping and valves

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<sup>147</sup> PG&E OB, pp. 80 – 81.

<sup>148</sup> CPSD Exhibit 4, p. 11, lines 3-12.

used in daily operations at the Milpitas Terminal.<sup>149</sup> PG&E does not claim that the alternate by-pass line and valves were on the SCADA display on September 9, 2010, but continues to argue that the alternate station bypass line was not “involved” in the events of September 9, 2010.<sup>150</sup> PG&E seems to argue, without actually stating it as such, that even in the case of a catastrophic emergency, the only by-pass information needed on the SCADA display was that used “in daily operations.” As Ms. Felts has explained in her testimony, the 30-300 by-pass line was purposely installed for emergency purposes and can be used to by-pass the entire Milpitas Terminal, and it is unsafe that the line was not visible on the SCADA display during the San Bruno emergency.<sup>151</sup>

PG&E’s SCADA diagram was incomplete by its own admission. Accurate diagrams are essential to the safe operation of PG&E’s gas transmission. PG&E’s SCADA diagram was inaccurate, and created an unsafe condition for operations in the Control Room.<sup>152</sup>

PG&E also complains about CPSD’s beginning date of 2008 and ending date of 2010 for the violation. The end date of 2010 represents the end of the unsafe condition created by the violation, by reason of the September 10, 2010 pipe rupture at San Bruno. The start date of 2008 represents CPSD’s misreading of the date on the drawing in question.<sup>153</sup> However, we accept now PG&E’s representation that the date of the earliest drawing was December 2, 2009.<sup>154</sup> CPSD thus requests that the Commission reduce the date of the alleged violation to December 2, 2009 through September 9, 2010.

PG&E’s argument is specious that it has no basis to understand the continuing nature of the alleged violation until it knows the beginning and end date of the violation. PG&E’s transport of gas through Line 132 occurred daily from December 2, 2009

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<sup>149</sup> PG&E OB, p. 82.

<sup>150</sup> Ibid.

<sup>151</sup> CPSD Exhibit 4, pp. 11-14.

<sup>152</sup> Note: This unsafe situation existed regardless of whether it contributed to the San Bruno rupture.

<sup>153</sup> The most recent date on Drawing no. 383510 is 2009.

<sup>154</sup> PG&E OB, p. 83, footnote 450

through September 9, 2010. The violation exposed the public and PG&E employees to danger during this entire period.

### **Violation 8: Back-up Software at Milpitas Terminal**

The lack of backup software is another records violation that exacerbated the emergency situation that PG&E personnel encountered on September 9, 2010. For this violation, CPSD alleges an unsafe situation— contrary to the law and to PG&’s own requirements – occurs when PG&E cannot access a software backup for pressure controllers, in this instance at Milpitas on the date of the rupture.

A PG&E rule and the promotion of safety required backup software at the Milpitas terminal during the work on the day the San Bruno pipe failed.<sup>155</sup> The software that required replacement using the backup software functions to control pressure, which is absolutely necessary in any emergency. Yet, PG&E admits that it did not have the software or the cable to upload the software needed to reprogram the three valve controllers that developed serious problems on September 9, 2010.<sup>156</sup>

PG&E admits that it had no backup software present or means to reprogram the valve controllers on the day of the rupture and the emergency that preceded it.<sup>157</sup> PG&E claims instead that “the lack of the software and cable played no role in the unexpected pressure increase or the response to it.”<sup>158</sup> The evidence indicates that PG&E is wrong about this, but a finding on competing evidence is irrelevant to establish a violation. We certainly agree that the point may be relevant in the fines and penalty phase. However, since PG&E raised the point we will briefly respond to it.

CPSD evidence relied on depositions of PG&E personnel who had been present at the Milpitas Terminal and personnel statements recorded in the San Francisco Control Room recording conversations and calls made on September 9, 2010 (and later

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<sup>155</sup> CPSD Exhibit 2, p. 10, citing in footnote 44 PG&E response to DR1, Q. 1b, Attachment 42, Milpitas Manual, Rev. 6, pp. 77-78.

<sup>156</sup> PG&E Exhibit 61, p. 4-25.

<sup>157</sup> PG&E Exhibit 61 p. 4-25.

<sup>158</sup> PG&E brief, p. 84, footnote 453 citation omitted.

transcribed). The statements of PG&E personnel demonstrate that PG&E lacked the necessary software to recover the use of important valves at the Milpitas Terminal.<sup>159</sup> Further, CPSD relied on the 2009 PG&E O&M Instructions that say back-up software is to be kept at the Terminal.<sup>160</sup> PG&E acknowledges that the gas technician at Milpitas Terminal did not have the software or cable connection needed to reprogram the three valve controllers that experienced problems on September 9, 2010.<sup>161</sup> PG&E's explanation about these controllers has changed over time and PG&E now claims the controllers never lost power or programming.<sup>162</sup> PG&E's latest position cannot explain, why there was so much conversation among PG&E personnel on September 9, 2010 about the fact that the controllers were not working, and why it was necessary for an engineer to go to the Terminal later that evening to fix the problem so the controllers could be restored to service.<sup>163</sup>

PG&E must operate its gas transmission system in a manner that is safe at all times. PG&E's technician lacked the necessary software to respond to an emergency when it occurred. The software, an electronic record, should have been readily available to ensure safe operation of PG&E's gas transmission system. Therefore, PG&E was in violation of Section 451 and its own written requirement.

### **Violation 9: Supervisory Control and Data Acquisition System**

A gas operator must monitor the operations of its gas transmission system at all times to promote safety.<sup>164</sup> A company that chooses to monitor its system using electronic communications must therefore create, operate and maintain an electronic

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<sup>159</sup> CPSD Exhibit 2, pp. 10-11.

<sup>160</sup> CPSD Exhibit 2, fn. 44.

<sup>161</sup> PG&E OB, p. 84.

<sup>162</sup> Note: PG&E SF Control Room operators, as recorded in a transcript of recordings from September 9, 2010 stated that the PLC had been lost, leading Felts to believe the PLC had been lost and that software would be required to restore it. (CPSD Exhibit 4, fn 71 at 6:13.32, 7:04.56, 7:07.57, 7:28.38, 7:30.26, 7:39.36, and 7:50.16 p.m.) These statements supported the conclusion that PG&E disputes in its Opening Brief at p. 85.

<sup>163</sup> CPSD Exhibit 4, p. 14 and fn. 45.

<sup>164</sup> CPSD Exhibit 2, pp. 11-12.

system that will promote safety in the operation of the transmission system. PG&E has acknowledged that there were problems related to its SCADA system during the September 9, 2010 emergency.<sup>165</sup> CPSD notes that PG&E rejects its own expert's assessment of the timing of PG&E's response to the pipeline explosion at San Bruno, i.e. that it took 34 minutes for the Control Room Operators to recognize the break in Line 132.<sup>166</sup> The precise number of minutes involved in any given interval can be precisely determined based on available records, but is not a necessary issue to resolve. The critical issue, which is not in reasonable dispute, is that PG&E's SCADA system was inadequate to PG&E's needs.

The chronology provided below, incorporating PG&E's control room transcript and SCADA data, shows that even though SCADA data shows a low pressure alarm right after Line 132 failed, PG&E operators were looking at other data. The operators believed it was their own upstream actions that had caused high pipeline pressures to appear to come under control when, in fact the gas was rushing out of Line 132 at the rupture site in San Bruno and fueling a fiery inferno that relieved the gas pressure in the system.

PG&E operators did not notice the low and low-low alarms at Martin Station until after a call from PG&E's Concord dispatch personnel who asked what was going on at Martin Station. PG&E acknowledged in its Response:

PG&E recognizes that the alarms that resulted from the power issues and pressure increase at Milpitas Terminal made it difficult for the gas system operators to respond to each alarm.

And also:

The fact is that they could not and did not evaluate every alarm that they received.<sup>167</sup>

CPSD has compiled a chronology using evidence in the record to establish the timing of events during the September 9, 2010 emergency. The events, communications,

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<sup>165</sup> PG&E Exhibit 61, pp. 4-26 through 4-28.

<sup>166</sup> CPSD 4, p. 4, lines 12-14 and fn. 82.

<sup>167</sup> PG&E Exhibit 61, p. 4-26



and SCADA data provided below clearly illustrate that on September 9, 2010, either the SCADA system was inadequate to inform control room operators quickly of the drop in pressure, or the control room operators were poorly trained in use of SCADA, or both. The interval between the 5:50 “High-High” alarm and the phone notification of a break in the line at 6:29 is 39 minutes. The interval between the actual break in the line at 6:11 p.m. and the phone notification at 6:29 is 18 minutes. Again, the significant information in the chronology is that the SCADA system did not give the Gas Control Operators in the control room the information and support they needed to deal with the events as they occurred.

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**Compiled Chronology** - using SCADA data taken from DR 1 Q 14 Atch 2,<sup>168</sup> the Control Room Transcript provided to the NTSB (TRANSCRIPT\_SF\_9.9.2010\_2.05.43\_PM\_11.57.23\_PM\_20110113),<sup>169</sup> the San Francisco Operations (SFO) Log<sup>170</sup> and the August 30, 2011 NTSB Report<sup>171</sup>

5:49:54 p.m.<sup>172</sup>

<Unidentified Male1>: 62 is wide open

<Unidentified Male2>: Yes, 62 is wide open and 63 is shut, okay good. Can you close 62 Yes please

<Unidentified Male1>: Yeah <Unintelligible>

5:50:07 p.m.<sup>173</sup>

SCADA – “High-High” alarm at Martin Station goes unacknowledged by Control operators.

5:52:52 p.m. (SFO Log)<sup>174</sup>

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<sup>168</sup> CPSD 2, fn 50.

<sup>169</sup> CPSD 4, fn 71.

<sup>170</sup> CPSD 4, fn. 74.

<sup>171</sup> Pipeline Accident Report, NTSB/PAR-11/01, PB2011-916501 “Pacific Gas & Electric Company Gas Transmission Pipeline Rupture and Fire, San Bruno, California, September 9, 2010,” August 30, 2011, p. 3

<sup>172</sup> CPSD 4, fn 71.

<sup>173</sup> CPSD 2, fn 50.

<sup>174</sup> CPSD 4, fn. 74.

Pressures on incoming lines were reduced: PLS A and B from 525 psig to 370 psig and Sheridan Rd. from 565 psig to 370 psig.<sup>175</sup>

5:55:12 p.m.<sup>176</sup>

<Barry>: Gas control, Barry speaking.

<Oscar>: Barry, this is Oscar. 62 is closed

<Barry>: 62 is closed in manual. All right. Thank you

<Oscar>: <Unintelligible> right now. Monitor valve 5 is closed and monitor 6 is starting to come open but it's still closed.

<Barry>: Yeah it should stay closed cause we showing almost 500 pounds downstream

6:02:18 p.m.<sup>177</sup>

<Larry>: Okay, that genius block it reset everything in and opened up the bypass valve.

<Keith>: Oh no, not 62.

6:04:17 p.m.<sup>178</sup>

<Barry>: Yeah, this is Barry

<Dave>: Hey Barry, this is David from Milpitas.

<Barry>: Hey Dave

<Dave>: What do we do? Or, what's happening right now?

<Barry>: Right now, what we have done is gone upstream to all the supplies coming into Milpitas and set them down to 370 so that we can get control of this. It looks like pressures are coming down so that's good. The best thing

<Dave>: Everything opened up?

<Barry>: Actually, well we can't see it. I don't know what opened up and what didn't. But every time I asked Oscar something, it looked like it opened up.

Yeah. You know the station bypass apparently opened, valve 62, the mixer bypass, valve 29 opened. Our 300B was our primary support for the mixer and apparently those valves went open. Pretty much every time we asked him, he said it was opened.

About 6:11 p.m.<sup>179</sup>

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<sup>175</sup> Note: PLS A and PLSB control the pressures on Lines 300 A and B. Sheridan Road is a Pressure Limiting Station for monitoring and regulating downstream pressure on Line 303. The downstream (D/S) MOP on line 303 is 590 psig. (PG&E Response to DR 1 Q 12 Atch 149).

<sup>176</sup> CPSD 4, fn 71.

<sup>177</sup> CPSD 4, fn 71.

<sup>178</sup> CPSD 4, fn 71.

FACT: The pipe at San Bruno ruptured. (per NTSB Report, August 2011)  
(note: gas is rushing out of the 30 inch pipeline and will continue for over an hour while PG&E locates the valves and turns off the gas flow.)

6:15:36 p.m.<sup>180</sup>

SCADA “Low” alarm at Martin Station goes unacknowledged by Control operators.

6:15:56 p.m.<sup>181</sup>

SCADA “Low-low” alarm at Martin Station goes unacknowledged

6:19:40 p.m.<sup>182</sup>

. . .

<Barry>: Since B was originally feeding the mixer, we wanted to make sure that to try and get that under control because 7 and 7R and 8 and 8R were wide open so 5 and 6 are monitor valves 5 and 6 which are 300B are set down to 370.

<Matt>: 300B

<Barry>: Yeah, the monitors they are set down to 370

<Matt>: and they are controlling

<Barry>: Well they are shut because downstream is higher than that. It didn't matter because it looks like things were getting sent from everywhere. It looks like everything went open. So in light of that, what we have done is gone back to PLS7 and set the a and b down to 370 there to control that coming in at 370 and that Sheridan we're set down to 370. Line 107 is dead headed anyway. So, so we're getting things back under control as you can see right now it looks like all our pressures are coming back normal

<Matt>: Feeding downstream of Milpitas mixer. What feeding it

<Unintelligible>

<Barry>: Well, we aren't 100% sure. Cause we are not exactly sure of the status of all the valves.

<Matt>: They are showing all closed

<Barry>: Yeah they are not. Most likely they are all open. The only pressure, the only pressures

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<sup>179</sup> NTSB Pipeline Accident Report, NTSB/PAR-11/01, PB2011-916501 “Pacific Gas & Electric Company Gas Transmission Pipeline Rupture and Fire, San Bruno, California, September 9, 2010,” August 30, 2011, p. 3

<sup>180</sup> CPSD 2, fn 50.

<sup>181</sup> CPSD 2, fn 50.

<sup>182</sup> CPSD 4, fn 71.

indication we have that are reliable are the valves are the header valves. Because see they are showing 370. Those are real and those are what you can expect to see downstream of the mixer also. If you look at San Jose distribution screen you can see Sierra Vista and Aborn and White, Tully, all those pressures are following along with those header pressure at Milpitas.

Okay so we know that the mixer valves 21 and 21R are open, so.

<Matt>: Valves 21 and 21R are open

<Barry>: Yes

<Matt>: All right. So the regulation like you said earlier is incoming line 300B probably on the monitors 4 and 5 set at 370.

<Barry>: 5 and 6 are set at 370 but we are assuming that all the control valves feeding the mixture have gone open. Okay. If you trend

<Matt>: <Unintelligible>

<Barry>: Yeah. We think everything in the station went open basically

6:24:25 p.m.<sup>183</sup>

<Unidentified Male 1>: The solution to that problem is to pinch everything off upstream and control there so we should start to see

<Unidentified Male 2>: You think 300A is also feeding into Milpitas

<Unidentified Male 1>: Yeah I know it is, if you go to PLS7, look at the pressure

<Unidentified Male 2>: They're all open monitor control 3 4 5 6

<Unidentified Male 1>: Yeah

<Unidentified Male 2>: 131 and 107 monitor valves maybe they closed those manually

<Unidentified Male 1>: No they haven't done anything like that yet no. You know, we were just blinded the whole station. We just couldn't see anything. So we made a couple of quick checks hey did the bypass open, did the mixer open, did the B valves go open. Those were the obvious culprits because that is what you know what could cause what happened. But, we're still not.

<Unidentified Male 2>: 131 was wide open because the same pressure matches that <Unintelligible>

<Unidentified Male 1>: Yeah exactly, exactly. Everything is matching. Look at, look at, look at A at PLS7 is 370. Everything is matching up.

<Unidentified Male 2>: Monitor valve <Unintelligible>

<Unidentified Male 1>: So you know if you look at PLS7, are you there.

<Unidentified Male 2>: Yeah, I looked at it earlier.

<Unidentified Male 1>: It's feeding now. It's feeding. It's showing 56% open. Let's go over to Sheridan and see what it's doing

6:25:57 p.m.<sup>184</sup>

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<sup>183</sup> CPSD 4, fn 71.

<Unidentified Male>: Everything is matching up.

6:26:33 p.m.<sup>185</sup>

<Unidentified Male 1>: It's opening too it's starting to feed. So we've got our supplies coming in. I'm going to trend Sheridan here and see if it's coming open. Yeah. It's opening up now too so we've got our supplies coming in. We've got the pressures under control. And, right now it's just a matter of the people at Milpitas getting everything back for us.

<Unidentified Male 2>: All right. . . .

6:27:22 p.m.<sup>186</sup>

<Valenti>: Gas control, Valenti

<Shawn>: Yes this is Shawn calling from Concord Dispatch

<Valenti>: Yeah, hi Shawn

<Shawn>: Quick question. You guys lose any pressure or anything out in San Bruno because I'm getting a couple of calls right now. They are saying there is a flame I guess that shot up in the air about 3 or 4 3 stories I guess. It sounds like a jet engine.

<Valenti>: In San Bruno?

<Shawn>: Yes, in San Bruno off of Sneath and Skyline.

<Valenti>: Sneath and Skyline. We have not received any calls yet.

<Shawn>: Okay. I'll keep you guys informed. I've got a group of guys heading out there. They want a supervisor and GSR to figure out what is going on. They literally said it sounded like a jet engine crashed or something or you know I have no idea at this point. But, I figured maybe you guys had some information if it was our line.

<Valenti>: Okay . . .

No time stamp on page – est. 6:29 p.m.<sup>187</sup>

Matt: What's going on in Martin here?

Voice X: What's going on in Martin?

Background: San Bruno's got 101, 109 . . .

Matt: Alright. Well, it sounds like you guys are going to be there for a little bit?

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<sup>184</sup> CPSD 4, fn 71.

<sup>185</sup> CPSD 4, fn 71.

<sup>186</sup> CPSD 4, fn 71.

<sup>187</sup> CPSD 4, fn 71, note: This page of the transcript was transcribed by PG&E for NTSB after the initial transcript was produced. This is “chatter” in the control room heard over the phone lines that were open at the time.

Barry: Yeah. Yeah, we'll be here for a bit. Okay, we'll talk to you ... we'll talk to you later.

Voice X: Okay.

Matt: Alright. Alright. Bye

Background (picked up in-between/behind busy signal): Hey. What's going on in Martin? Guys, hey. Hey guys. We got crews in route. (Unintelligible) San Bruno. (Unintelligible) He said it sounds like, he said it sounds like a jet engine just crashed. Oh, that's at Martin, look we got a low-low at Martin here. San Bruno just had a plane crash. Plane crash. . . . That's exactly what happened. (Unintelligible) What happened? What happened? ..... alarm? ..... flames? ..... Martin? ..... . A pipe, we might have a line broken (Unintelligible) San Bruno (Unintelligible) line (Unintelligible to the end of the sound clip)

6:29:22 p.m.<sup>188</sup>

. . .

<Unidentified Male 2>: We have a line break of San Bruno with flames.

Sounds like a jet engine and Martin Station is dropping like a rock

<Unidentified Male 1>: Line break San Bruno.

<Unidentified Male 2>: Yeah, while we have Milpitas going down. Line break in San Bruno. Line break in San Bruno, check it out.

As PG&E has done on a number of occasions in this proceeding, PG&E resorts to arguments that CPSD believes are unfortunately semantic rather than based on sound principles of safety. PG&E argues that “[c]ontrary to Ms. Felts’ version of events, PG&E did not lose control of the valve controllers: pressure at the Milpitas Terminal and on the Peninsula did not exceed the MAOP (much less go “out of control” as Ms. Felts characterizes it”).<sup>189</sup>

When a pipe ruptures and kills eight persons, after desperate and unsuccessful PG&E efforts to reduce and control pressure, PG&E is not in a position to assert that PG&E had control of the pressure on Line 132. This is true regardless of whether the pressure on the line exceeded MAOP. Regardless of whether the SCADA system contributed either to exceeding Line 132 MAOP or otherwise contributing to the pipe failure, PG&E has no justification for claiming that it “controlled “Line 132 pressure in the hour before the rupture.

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<sup>188</sup> CPSD 4, fn 71

<sup>189</sup> PG&E brief, p. 87, footnote citation omitted.

### **Violation 10: Emergency Response Plans**

Good engineering practices and regulations require a gas operator to maintain an Emergency Response Plan that can be implemented in response to an emergency to promote safety through quick and reasonable actions by response personnel.<sup>190</sup> PG&E's Emergency Response Plans were too complicated, too voluminous, and too difficult to use under actual emergency conditions.<sup>191</sup> PG&E's plans were clearly inadequate to deal effectively with the gas emergency of September 9, 2010.<sup>192</sup> The ultimate proof that the plans were inadequate is PG&E's inexcusably tardy response in San Bruno. PG&E first shut the gas off at 7:30 p.m., 1 hour and 19 minutes after the break;<sup>193</sup> there were clearly major deficiencies in PG&E's emergency response plan or implementation. CPSD also notes that PG&E apparently did not significantly improve its emergency response plan and response time after the Rancho Cordova explosion in 2008. In that case a homeowner called in to PG&E the odor of an outdoor leak, a gas emergency under 49 CFR 192.615. No one at PG&E evacuated the homes in the area or called the fire department. Four hours later a PG&E employee finally arrived at the house with equipment needed to detect outdoor leaks. A home exploded just after he arrived, killing the homeowner and injuring others including the homeowners' daughter and granddaughter, and neighbors.<sup>194</sup>

CPSD does concede that, besides written plans that were too long and complicated, other possible contributing factors and violations of the law may have contributed to the unacceptably slow PG&E response time at San Bruno. We note that such other matters are addressed by CPSD and other parties in I.12-01-007. In addition, the evidence in this proceeding supports a finding that PG&E's written plan contributed to the unacceptable delay in PG&E's emergency response.

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<sup>190</sup> CPSD Exhibit 2, p. 12.

<sup>191</sup> CPSD Exhibit 2, p. 12, Section 2.8 and CPSD Exhibit 4, pp. 15-17, Section 10.

<sup>192</sup> CPSD OB, pp. 70-71.

<sup>193</sup> NTSB Accident Report, August 30, 2011, p. 16.

<sup>194</sup> Decision 11-11-001, p. 15.

**Violation 11: Incidents of Operating Line 132 in excess of 390  
Maximum Allowable Operating Pressure**

With the implementation of Integrity Management regulations, threat assessment became a significant issue for PG&E because of the older pipe in its system. PG&E wanted to maintain an MAOP and MOP of 400 psi on all of Line 132.<sup>195</sup> 49 CFR, Subpart O, Integrity Management, sets out a 5 year rule in 49 CFR 192.917 (e) (4) which says that in order to uprate the maximum operating pressure (MOP) of a covered line *segment* beyond the highest operating pressure experienced in the previous 5 years, a pressure test in accordance with 49 CFR 192, Subpart J is required. CPSD found that on at least three occasions, PG&E violated Public Utilities Code section 451 by operating Line 132 at pressures greater than safety and the federal code of regulations permitted. The violations occurred in 2003, 2008, 2010.<sup>196</sup>

PG&E claims that CPSD does not have proof that PG&E operated Line 132, and specifically the section between mileposts 35.84 and 46.59, which includes Segment 180, over 390 psig. CPSD relies on the following evidence to prove the 3 instances of over pressuring:

December 11, 2003 - PG&E based its first 5 year period of operating Line 132 from Milpitas Terminal to Martin Station at 400 MOP on the highest pressure reading of 403 psig listed for covered Segment 171.25, which runs from milepost 32.74 to milepost 32.92. Given that this milepost is just 2.92 miles upstream from milepost 35.84, and that there is no regulating valve between those points, CPSD concludes the pressure in the line just 2.92 miles downstream was also 403 psig.<sup>197</sup> CPSD cannot prove how PG&E arrived at this pressure reading or the length of time the pressure was maintained above 390 psig in 2003, if this was a result of an excursion (an abnormal event) PG&E would not have been justified in using the pressure reading as a basis for establishing a 5 year MOP for Line 132. CPSD

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<sup>195</sup> CPSD Exhibit 4, fn. 95.

<sup>196</sup> CPSD Exhibit 4, p. 17, lines 9-12.

<sup>197</sup> CPSD Exhibit 4, fn. 92 and PG&E Exhibit 61, p. 4-12, lines 4-7.



assumes PG&E was not using abnormal event pressure data to meet the 5 year rule.

December 13, 2008 (Correct date is December 9, 2008) – CPSD based the date of this test on PG&E’s spreadsheet summary,<sup>198</sup> but notes that, based on the date of the referenced email,<sup>199</sup> and the actual Clearance showing the completion date as December 9, 2008, it seems clear that the date for this event should be December 9, 2008. PG&E’s completed and signed clearance for this pressure test states:

“The clearance is to operate L-132 and all associated piping on L-132 to the MAOP of 400#. This is to be done every 5 years to keep the stated MAOP. For the clearance they will isolate L-132 from the other 2 penninsula (sic) lines (l-109 and L-101) and then use L300A gas at Milpitas to pressure L-132 to the 400 MAOP. Please ensure there is sufficient pressure on L-300A to keep L-132 from Milpitas Term to Martin Station at 400# for 2 hrs. The valving to isolate L-132 will be done on Mon. Dec. 8<sup>th</sup>, and then the pressure increase will be done on the 9<sup>th</sup>. Dec 10<sup>th</sup> was added in case problems arise. The Milpitas Terminal station bypass run will be used to route L300A gas to L-132. V-62 will be set at 400# to control the L-132 pressure and the monitor valve 63 will be set at 420#. [XXX XXX] suggest we have 450# available on L-300A at Mil Term to keep L-132 at a constant 400# to Martin station.”<sup>200</sup>

September 9, 2010 CPSD initially relied on PG&E’s corrected record of pressures showing the highest pressure in Line 132 at Milpitas Terminal to have been 394 pounds per square inch gauge (pounds).<sup>201</sup> PG&E data shows the difference between the Milpitas Terminal and Martin Station under normal operations is typically 2-4 pounds, with a peak difference of

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<sup>198</sup> CPSD Exhibit 4, fn. 92.

<sup>199</sup> CPSD Exhibit 4, fn. 93.

<sup>200</sup> PG&E Response to DR 39 Q 6 atch 2.

<sup>201</sup> CPSD Exhibit 4, fn 97.

37.1 during the 40 minutes before the San Bruno line exploded.<sup>202</sup> PG&E claims the pressure at Martin Station never exceeded 386 pounds.<sup>203</sup>

Please refer to the chronology shown under Violation 9. PG&E's records show initial input pressures from Lines 300 A/B into the Milpitas Terminal were 525 pounds at 5:52 p.m. The by-pass valve number 62 was open, allowing gas to by-pass the Terminal pressure control valves. At 5:55 p.m. PG&E's control operator said he saw pressures of "almost 500 pounds" downstream of the Terminal where instrument readings were not affected by the Milpitas Terminal problems. There is no reason to believe the operator would lie about what he saw.

A few minutes later, the Milpitas Terminal outgoing pressure was measured at 370 pounds by the maintenance technician. By then, the by-pass valve had been closed and incoming line pressures were simultaneously reduced to 370 pounds. There is no record of the length of time pressures exceeded 390 pounds, and no record of the pressure at mile point 35.84 or the maximum in Segment 180 when it exploded.

On the other hand, there is no regulating valve between Milpitas Terminal and Martin Station that would have reduced the pressure from 500 to below 390 pounds.<sup>204</sup> Even assuming a peak of 37 pounds difference between Milpitas Terminal and Martin Station – a distance of about 35 miles – a high pressure of almost 500 pounds immediately downstream of the Milpitas Terminal would yield a pressure of 462.9 pounds at Martin Station and in Segment 180. PG&E's claim that the pressure never exceeded 386 pounds ignores the recorded information from 5:52 and 5:55 p.m. on the chronology of events.

Finally, given that PG&E pressured Line 132 to 400 pounds and held that pressure for 2 hours, it is reasonable to conclude that the pressure that caused the weld in Segment 180 to catastrophically fail on September 9, 2010 exceeded 400 pounds.

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<sup>202</sup> CPSD Exhibit 4, fn 97, p. 1-4.

<sup>203</sup> PG&E OB, p. 87.

<sup>204</sup> PG&E Exhibit 61 p. 4-12, lines 4-7.

Based on the evidence above, CPSD alleges three violations of exceeding the MAOP and MOP of Line 132 without first hydrostatically testing the line to ensure the pipeline could be safely operated under normal operating conditions and continuously at a maximum operating pressure of 400 psi.

**Violation 12: Preservation of Records Related to Brentwood Camera Six Video [WITHDRAWN]**

**Violation 13: PG&E's Data Responses Regarding Brentwood Camera Six Video**

In CPSD's OB, pp.80-83, CPSD explained that PG&E violated Rule 1.1 of the Commission's Rules of Practice and Procedure by providing CPSD and the Commission with data responses that were contradictory and misleading, and that impeded the investigation of important and relevant issues in this proceeding. In essence, PG&E's data response from October 10, 2011, which stated that the Brentwood control room video recording for September 9 and 10, 2010 was overwritten after 60 days, was contradicted by PG&E's own later data response from March 9, 2012 that claimed that no video was recorded onto its digital video recorder. *See* CPSD OB, pp. 80-82.

In PG&E's OB, p. 98, PG&E states that its October 11, 2011 response provided "facts it thought to be true at that time. ... As it turned out, that response was not entirely correct." How can PG&E claim *facts* it knew at the time to be true and then later disavow that the facts were ever true? CPSD has no way of knowing whether only one or both answers from these contradictory data responses contain false statements. However, assuming solely for the sake of argument, that PG&E's second response is accurate, that shows PG&E's first response was false and misled the CPSD and the Commission.

In PG&E's OB, p. 98, PG&E takes the untenable position that regardless of wasting CPSD's time by giving the wrong reason why the recording was not available, it did not mislead CPSD because the recording did not exist either way. This is nonsense. If PG&E's original data response were accurate and PG&E did not take measures to preserve the recording, then CPSD would be listing as another issue in this proceeding a violation of the Commission's preservation order or pursuing an Order to Show Cause

why PG&E should not be held in contempt. This was the subject of numerous follow-up data requests, because the recording could have been preserved if the first response were true. Indeed, in PG&E's OB, p. 97, PG&E admits that its General Counsel had instructed all employees to disable automatic deletion files of relevant electronic records.

Therefore, the reason why the recording did not exist made a difference. If PG&E's recording was overwritten 60 days later, it meant that the corporate security personnel could have preserved the recording. If they chose not to do so, it would have been a violation of the CPUC's preservation orders and against the directions of PG&E's General Counsel. In fact, PG&E's witness, Mr. Cochran, stated that he did not think that the General Counsel's preservation direction even applied to the cameras, because they involve "security matters."<sup>205</sup> PG&E witness Cochran's explanation lacks credibility, because the recording, if it existed, was relevant evidence regardless of the purpose of why it was created. At the minimum, he should have checked with the contact person at the Law Department at PG&E if he had any questions as to its relevance.<sup>206</sup>

In PG&E's OB, pp. 99-100, PG&E states that CPSD has not shown that PG&E's data responses were intentionally misleading. But these were *contradictory* data responses, so at least one of them, if not both of them, was purposely misleading. In any event, even the precedent cited by PG&E's OB, p. 99, do not provide that Rule 1.1 violations always require a showing of intentional misleading. Rule 1.1 violations can be shown if there is "purposeful intent, recklessness *or* gross negligence." *See, e.g., S. Cal. Edison*, D.04-04-065 at 35-36, 2004 Cal. PUC LEXIS 207 at \*17. In addition, in CPSD's OB, p. 82, CPSD has cited D.01-08-019 at 16, 2001 Cal. PUC LEXIS 653 at \*12-13 in which the Commission found that Sprint had violated Rule 1 (predecessor to Rule 1.1), because it did not accurately respond to the staff's data request. Sprint was required to provide truthful and complete answers to the data requests propounded and to exercise

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<sup>205</sup> RT 1529:1-6.

<sup>206</sup> CPSD Exhibit 3, fn.100 (PG&E's General Counsel's Instructions, Appendix A to Felts Supplemental Report March 30, 2012).

“due professional care” to ensure the integrity of information transmitted to the Commission and its staff.

As a recent ALJ ruling in I.09-01-018 (January 10, 2012) found, citing both D.04-04-065 at 35-36 and D.01-08-019 at 15-16: “Violations of Rule 1.1 are flagrant when there is purposeful intent to mislead the Commission, but violations can also occur unintentionally when there is recklessness, gross negligence, or lack of due professional care in communications with the Commission.”

In PG&E’s OB, p.98-99, PG&E relies upon the testimony of its witness, Mr. Cochran, for explaining PG&E’s original October 11, 2011 data response, because he had originally determined remotely that there was no video recording of the Brentwood Control Room for the date of September 9, 2010 and “presumed, erroneously, as it turned out, that the video from that day had been overwritten.” Therefore, even assuming, *arguendo*, that Mr. Cochran were telling the truth, it was clearly reckless or a lack of due professional care for him to answer this data request by merely presuming something about the video recording without even bothering to go check it out at the site.

This is the same witness, however, who testified that he did not think that a videotape of the Brentwood Control Room from the day of the explosion needed to be preserved regardless of the Commission’s Resolutions, Orders or PG&E’s General Counsel’s directions, because its purpose was for security. Therefore, he lacks credibility as to PG&E’s October 11, 2011 data response.

In PG&E’s OB, p.99, PG&E continued its reliance on PG&E’s witness Cochran’s testimony in the hearing to justify PG&E’s second data response. However, the answers he provided concerning PG&E’s second data response further undermined his credibility. For example, he stated that when he checked the equipment to make sure it was installed, he did not verify that the program was installed properly. When the Presiding ALJ asked him “No, you didn’t?” His response was “No, not at that time.”<sup>207</sup>

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<sup>207</sup> RT 1530:5-14.

Mr. Cochran further stated that Acme Security has been installing these cameras and recorders for PG&E since 1987. But this is the only time of which he knew that Acme did not properly install the camera.<sup>208</sup> He further stated that to ensure that none of the 183 digital recorders within the PG&E system are broken, they are checked under a maintenance schedule once a year.<sup>209</sup> However, the Brentwood recorders were not checked for two years, until PG&E had to respond to the specific technical data request.<sup>210</sup> And when the Presiding ALJ asked “Why is that?” Mr. Cochran stated, “Because we’re in the process of creating a maintenance schedule and a maintenance requirement.”<sup>211</sup> This appears to be complete doubletalk.

Finally, Mr. Cochran stated that after seeing it was a programming error, he personally did a spot check to make sure that all of the other cameras with recorders were programmed properly, and, not surprisingly, this recorder was the only one that was not programmed properly.<sup>212</sup> Moreover, Acme Security should have verified that it had programmed the recorder properly when they turned it over to PG&E two years earlier, but, of course, they do not provide anything in writing when they verify it.<sup>213</sup>

Mr. Cochran’s answers at the hearing were not reliable. According to Mr. Cochran, everything that could go wrong with ensuring that the sixth video recorder at Brentwood’s Control Room was properly programmed purportedly did go wrong, in contrast to each of the other 183 recorders at PG&E. What is so incredible is that this was the only video camera and recorder facing the inside of the control room of one of the two control rooms witnessing the events as they were happening on Line 132 on September 9, 2010. The other five video cameras and recorders at Brentwood faced the

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<sup>208</sup> RT 1525:8-27.

<sup>209</sup> RT 1531:8-16.

<sup>210</sup> RT 1531:25-1532:6.

<sup>211</sup> RT 1532:7-10.

<sup>212</sup> RT 1532:11-19.

<sup>213</sup> RT 1532:20-1533:2.

outside of the control room and worked fine and the San Francisco control room did not have video cameras.<sup>214</sup>

In view of the above, CPSD submits that Mr. Cochran lacks credibility, and we may never know whether or not there was a video recording that was destroyed. In any event, PG&E cannot deny that at least one of its contradictory answers is misleading. Therefore, at a minimum, pursuant to its authority under Cal. Pub.Util. Code § 2108, the Commission should impose a penalty for each day from October 10, 2011 until PG&E allegedly corrected its erroneous response on March 9, 2012. That is 150 days of violations.

**Violation 14: PG&E Data Responses Regarding Personnel at Milpitas Terminal on September 9, 2010**

As CPSD explained in CPSD's OB, p. 91-92, in several data responses to CPSD, PG&E failed to identify all personnel at the Milpitas terminal for whom CPSD sought identification. Despite several CPSD data requests, PG&E failed to respond accurately to identify all of the people present at the Milpitas terminal who were working on the pressure problem of September 9, 2010. For the same reasons that the Commission should find that PG&E violated Rule 1.1 in the previous section involving Violation 13, the Commission should find that PG&E violated Rule 1.1 as to its failure to identify all of the people at the Milpitas Terminal.

PG&E's first attempt to justify its failure to properly answer the CPSD's data requests (8a-8d) was to allege that CPSD did not ask the proper question. PG&E's OB, p. 100. PG&E answered the data request 8d based upon what it perceived was the "clear import" of the data request. Thus, PG&E "understood" the CPSD's questions to only be asking about the "field crew" that were involved. So PG&E, in effect, edited the CPSD's questions by writing in this limit to the data requests and then answering the data requests based upon PG&E's edited version. This is a deliberate and intentional violation of Rule 1.1. Just as the Commission found in D.01-08-019, 2001 Cal. PUC LEXIS 653 at

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<sup>214</sup> PG&E response to CPSD DR 8, Q16; and PG&E Rebuttal Testimony Exhibit 5-8.

\*16, that it was unpersuasive and a violation of Rule 1 when Sprint had presumed what the staff had known when staff asked Sprint questions, and Sprint selectively edited its responses based upon Sprint's presumption, so too is it unpersuasive for PG&E to presume that CPSD only wanted to know about the field crew in these data requests, and for PG&E to selectively answer this question on that basis.

As to the second data request, PG&E's violation of Rule 1.1 is even more blatant. Notwithstanding its emphasis added to the word "headquartered,"<sup>215</sup> PG&E knew this headquartered argument would not work, because CPSD's data request explicitly asked PG&E to provide the names of the maintenance personnel and the maintenance supervisor at the Milpitas Terminal on September 9, 2010. So, PG&E knew that information about the acting maintenance supervisor had to be provided, but PG&E nevertheless gave only partial information, concerning the supervisor.

In CPSD's OB, pp.85-86, CPSD explained how PG&E's answer to CPSD's data request 30-Q02 was very misleading. The information, which CPSD requested in this data request could not be any clearer in that there was no limit to the time or hours (so long as it was on September 9, 2010): "Specify the hours each person identified was present at the Milpitas Terminal on September 9, 2010 and summarize the work that person performed during that time." PG&E specifically represented in its response that "[named employee] was the acting supervisor at Milpitas terminal on September 9, 2010. He was present at Milpitas Terminal from approximately 7:30 AM to 11:30 AM, at which time he went to Hollister station until leaving for the day at approximately 4:30 p.m." As CPSD's OB, p. 85 explained, the only way to interpret PG&E's response is that [named employee] was never at Milpitas on September 9 after 11:30 a.m., because PG&E does not state that he returned. Also, the phrase "leaving for the day at approximately 4:30 p.m." misleads the reader that [named employee] work day was over at 4:30 p.m. and that he left without returning. As shown by the transcripts, [named

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<sup>215</sup> PG&E's OB, p. 101.



employee] was indeed present at Milpitas Terminal after 5:00 p.m. on September 9, 2010.”

In PG&E’s OB, p. 102, PG&E states that neither of the data requests had requested that PG&E provide the names of each person who was at Milpitas Terminal after 5:00 p.m. or after the rupture. As pointed out in CPSD’s OB, pp. 93-94, the data requests both asked for people present at Milpitas Terminal throughout September 9, 2010, not merely those who were present before 5:01 PM on that day. For these reasons, CPSD maintains that PG&E’s data responses did not identify all of the people in Milpitas handling the pressure problem on September 9, 2010.

The absurdity of PG&E’s artificial limits to these questions is that PG&E ignores the very context of these questions. CPSD was investigating the contributing causes of the San Bruno explosion, and these questions were trying to get to the role that the events that Milpitas had in contributing to the explosion. CPSD was not conducting a random survey about the typical things that happen during the shift of an acting supervisor or an employee at the Milpitas Terminal. What PG&E never addresses is that this part of CPSD’s investigation was not just about the events at Milpitas leading up to the end of people’s shifts, it was an investigation of the events leading up to the explosion, during the actual explosion, and thereafter. CPSD did not write anything in these questions to suggest otherwise. If PG&E seriously had any doubts about this, PG&E’s counsel should have called CPSD’s counsel, so that the purpose and scope of these data requests could be made crystal clear.

These utility actions can and did impede CPSD’s investigation and could compromise the Commission’s ability to make a fully informed decision. For PG&E’s OB, p. 102, to state that PG&E provided “good faith and complete responses to the questions it *understood* CPSD to be asking,” by reading into the questions words that were not in the questions, strongly suggests the opposite. Indeed, PG&E now admits: “In hindsight, PG&E would have added to the description of the supervisor’s scheduled workday an additional statement that he returned to assist after the rupture.” PG&E’s OB, p. 102. All PG&E is stating is that in hindsight, it wished it would have answered

the questions as they were written. However, there was no reason to not have disclosed his presence as soon as possible. Because PG&E never disclosed that the Acting Maintenance Supervisor was present at the Milpitas Terminal after 5:00 p.m., there are no records of the Supervisor being drug tested on September 9 or 10, 2011, and he was not deposed after the incident, perhaps because the NTSB and private parties to lawsuits never learned he had been present. PG&E's failure to let anyone know about the Acting Maintenance Supervisor's presence at the time of the incident prejudiced the Commission's investigation. CPSD would have had reason, earlier in the proceeding when time was available, to follow up on a full and accurate answer.

When PG&E takes absurd positions (such as our requirement to specify the hours on September 9, 2010 did not include the phrase after 5:00 p.m.), CPSD can only wonder what other rationalizations PG&E came up with to not directly respond to other data requests in these very important investigations. Therefore, it is critical that the Commission specify that PG&E's conduct is unreasonable and sanctionable under Rule 1.1 and specify large fines as a precedent herein even though they are but a small portion of the totality of all of the fines in these three enforcement proceedings.

**Violation 15: WITHDRAWN**

**B. Alleged General Records Violations for all Transmission Lines including Line132**

**Violation 16: Job Files**

CPSD Violation 16 alleges that that PG&E's job files violated the law before 2010. There are two major bases –both supported by more than ample evidence – to support CPSD's charges. First, PG&E's job files before 2010 were missing vital safety information. That deficiency remains today. Second, PG&E's files were virtually impossible for the company to access, retrieve, and use in a timely manner for gas safety matters before 2010.

PG&E's brief refers to three defenses to Violation 16. First, PG&E denies that any of its job files are missing or that job file information is missing. Second, PG&E argues that CPSD does not support its allegations that PG&E's job files are inaccessible

or otherwise impractical to use for safety purposes. Third, PG&E claims that a violation of the law is not a continuing violation.<sup>216</sup> PG&E's arguments are devoid of merit.

The evidence clearly demonstrates that PG&E is missing thousands of job files necessary for safety and that the company is missing safety information from the job files it can locate.<sup>217</sup> CPSD will not repeat its opening brief discussion, but we will point out a few evidence highlights.

By its very nature, it is not possible to present a missing job file as evidence. However, CPSD has been able to use PG&E's job file catalogues and GIS data to show where records should exist but do not. The evidence shows that of PG&E's first 10000 job file numbers alone, PG&E is missing at least 6748 job files, or 67.5% of them (one job file or more for each of the missing 6748 job numbers).<sup>218</sup> Despite PG&E assertions that the missing job numbers were used by PG&E divisions other than gas, the evidence proves that they were not. Nearly half (49%) of the job numbers reviewed in the 1-10,000 range in PG&E's new GIS were from these missing job files<sup>219</sup> - files that had been identified on the primary source documents and plat sheets used to populate the GIS. This demonstrates that these job numbers were in use within PG&E's Gas Division, but the corresponding job file(s) associated with them are now missing.

Over a third (3580 out of the 10,051) of the job numbers recorded in PG&E's Live GIS 2.0 system do **not** have a matching job number, or at least one corresponding to a physical job file, in the Emeryville catalog and records store (the location of PG&E's MAOP validation gas transmission job files) – this is evidence of 3580 missing job folders.<sup>220</sup> Similarly, over a third (1619 out of 4669) of the job numbers recorded in PG&E's new GIS (Intrepid) were also missing their corresponding physical job files in the Emeryville catalog and records store – further evidence of at least 1619 missing job

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<sup>216</sup> PG&E OB, pp. 102-106 (these will change when PG&E re-files its brief).

<sup>217</sup> CPSD Exhibit 6, pp. 6-57 through 6-59 and Exhibit CPSD-8, pp. 39 of 72 through 42 of 72, Exhibit CPSD-9, pp. 1 - 3, and CPSD OB p 143.

<sup>218</sup> CPSD Exhibit 6, pp. 6-57 through 6-59 and Exhibit CPSD-8, pp. 39 through 42 of 72.

<sup>219</sup> CPSD Exhibit 9, pp. 1 - 3.

<sup>220</sup> CPSD Exhibit 9, pp. 1-3.

files.<sup>221</sup> The evidence thus establishes that, while the exact number of missing PG&E gas transmission job files remains unknown, “a significant proportion of PG&E’s entire collection” remains missing.<sup>222</sup>

PG&E continues to misstate CPSD’s testimony pertaining to PG&E’s “decentralized approach to records management.”<sup>223</sup> CPSD has never contended that a decentralized records approach was inherently unsafe and inappropriate for PG&E to have adopted and used for 50 years. CPSD does contend that duplicate or partially duplicate files spread between multiple locations, with no means of comparing or updating the data at the locations, no indexing, missing files in all locations, and other job file data deficiencies have created an intolerable and unlawful situation at PG&E, regardless of whether the system was decentralized for valid reasons, or not.

Although PG&E has defended its “decentralized approach,” it is worth noting that from at least 1983 to 1993, PG&E’s Gas Engineering records system was maintained and controlled by PG&E’s Records Department - “a centralized facility in San Francisco” supported by a “satellite facility in Antioch”<sup>224</sup> with “everything set up by line number” (the ‘Pipeline History Files’ and supporting documents).<sup>225</sup>

The gas transmission job files that do still exist and can be located are missing vital safety information. PG&E’s brief pertaining to Violation 16 is completely silent on this point, despite CPSD’s direct allegations on this matter and perhaps because of the large body of un-contradicted evidence that supports the allegations. The record evidence establishes that important safety information is missing from job files that do

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<sup>221</sup> CPSD Exhibit 8, pp. 39 of 72, Line 10-23.

<sup>222</sup> CPSD Exhibit 8, p. 41.

<sup>223</sup> PG&E OB, p. 103.

<sup>224</sup> CPSD Exhibit 6, page 6-32, footnote 76 (attachment 13.pdf): "Telephonic Interview of Larry Medina"; Investigation of: Pacific Gas & Electric Company September 9, 2010 Accident San Bruno, California; Docket No.: DCA-10-MP-008; National Transportation Safety Board; June 27, 2011, Page 74, Line 4-10.

<sup>225</sup> CPSD Exhibit 6, page 6-32, footnote 76 (attachment 13.pdf): "Telephonic Interview of Larry Medina"; Investigation of: Pacific Gas & Electric Company September 9, 2010 Accident San Bruno, California; Docket No.: DCA-10-MP-008; National Transportation Safety Board; June 27, 2011, Page 35, line 22-23.

exist – including thousands of segments of hydrotest records,<sup>226</sup> pipe manufacturer records, age of pipe (as opposed to date of installation),<sup>227</sup> and other safety criteria. PG&E has provided no evidence to deny these missing safety data, and in fact has admitted that the data is missing or otherwise unknown. PG&E instead has rationalized how this may have happened (e.g. industry problems retaining documents) and its lack of importance to the law or safety (e.g. “conservative” values for missing information).

In the instance of the September 9, 2010 tragedy, there remains a clear example of why retaining this safety data is critical. CPSD is well aware of PG&E’s contention that after PG&E had installed the bad pipe in 1956, the company was powerless to have prevented the pipe failure in 2010. If this is true, it is only because, as we now know PG&E did not create or maintain the records needed to accurately assess pipe safety, nor did PG&E assess the safety of unknown pipe by inspecting or hydrotesting or, barring that, by pipe replacement. The record evidence demonstrates that PG&E operated a pipeline system for many years without the data needed to locate and remedy the weakest and most risky portions of the system, and that it never acted to seek to restore safety even when it knew data was missing.

CPSD has also charged that PG&E’s job files are so disorganized and difficult to access and use, as to be useless to achieve safety.<sup>228</sup> PG&E denies this.<sup>229</sup> This conflict means that the Commission, as the finder of fact, must evaluate and weigh the evidence supporting both positions.

On the one hand, PG&E has produced evidence, in the form of the testimony of two current employees, to support its position that PG&E’s job files are organized in a safe and accessible manner. As PG&E states in its Opening Brief, PG&E employee Todd Arnett testified that “he fully understood the numbering system for PG&E’s job files and that he is able to locate necessary items within a job file ‘pretty quickly from my

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<sup>226</sup> CPSD OB, pp. 107.

<sup>227</sup> CPSD OB, pp. 137-141.

<sup>228</sup> CPSD OB, p 4 and p 139.

<sup>229</sup> PG&E OB, pp. 103-105.

experience.”<sup>230</sup> PG&E employee David Harrison added that “job files in my experience are quite well organized, the paper job files in the system. They’ve been there for 50 years. The systems are well established.”<sup>231</sup>

On the other hand, CPSD has introduced evidence that we believe outweighs the testimony given by PG&E’s employees. CPSD recordkeeping experts have studied and analyzed the job files and have found the following. Among other deficiencies found, there has been “no infrastructure to provide staff with education and training in records management principles and practices.”<sup>232</sup> Job files were not indexed before 2010.<sup>233</sup> PG&E’s records management deficiencies were reflected in multiple uncontrolled copies and partial copies of job files for the same job, stored in one or more locations, multiple storage locations for the same document, and multiple storage locations for duplicate documents.<sup>234</sup> Further, many job files for the same job have data and documents that are not found in other files for the same job, so that no single file in any location can be deemed the full and complete “master file.”<sup>235</sup> Despite PG&E assurances that a master copy of all job-related folders were retained in the Walnut Creek engineering library, CPSD identified 3248 jobs that had all of their job folders stored outside of Walnut Creek, and highlighted the fact that PG&E stored twice as many jobs/Job folders outside of Walnut Creek as there were at Walnut Creek prior to Sept 2010.<sup>236</sup>

PG&E even provided information two days before CPSD rebuttal testimony was first due that it had recently located thousands of job files pertaining to 15,045 job numbers amongst the 107,700 boxes transferred to Iron Mountain following the Cow Palace Review earlier in 2011. Of these, 2,149 of the 15,045 job numbers had not previously been recorded in PG&E’s ECTS database or its Emeryville catalogue. Up

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<sup>230</sup> PG&E OB, p. 104.

<sup>231</sup> PG&E OB, p. 104, citing Joint R.T. 282, Harrison/PG&E.

<sup>232</sup> CPSD Exhibit 6, p. 6-30.

<sup>233</sup> CPSD Exhibit 6, p. 6-78 and 6-79.

<sup>234</sup> CPSD Exhibit 6, p. 6-40.

<sup>235</sup> CPSD Exhibit 8, p. 35-36.

<sup>236</sup> CPSD Exhibit 6, p. 6-63, Line 5-10.

until that time, PG&E was apparently unaware that these job files were missing, despite the fact that the job files contain important safety-related records that “may be valuable for constructing PFLs [Pipeline Feature Lists] for the remaining GIS routes.”<sup>237</sup>

Most importantly, PG&E’s own use of its job files for MAOP validation establishes without any doubt exactly how disorganized and unusable the files are to promote safety. After the January 3, 2011 NTSB and Commission directives to validate MAOP in populated areas, 1500 PG&E employees spent a total of 30 man years to gather, review, and locate strength test records alone – the very first phase of MAOP safety validation.<sup>238</sup> This phase of PG&E's efforts consisted of a "triage effort" involving "more than 200,000 cubic feet of documents."<sup>239</sup> In CPSD’s view, pipeline safety requires that job file data of strength test records – by law to be kept for the operating life of the pipeline asset – be organized and accessible and readable at PG&E personnel’s fingertips. Instead PG&E instituted a massive data rummage for strength test data in the job files that PG&E contends are “well organized” and from which information can be located “pretty quickly.”

PG&E employees have racked up a total of 250,000 man days of work from January 2011 through to March 26, 2013 to gather, review, catalogue and index, copy, and analyze PG&E job files for all phases of MAOP validation.<sup>240</sup> If PG&E’s job file organizational system was as useful and uniformly applied across PG&E’s offices as their expert witness suggests,<sup>241</sup> it remains an unsolved mystery why PG&E has taken so long and used so many resources to address this matter. And, despite a PG&E expenditure of

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<sup>237</sup> CPSD Exhibit 8, p. 37 of 72.

<sup>238</sup> CPSD Exhibit 8, p. 37 of 72, Line 6-9.

<sup>239</sup> PG&E Exhibit 62, p. MD-59.

<sup>240</sup> Administrative Law Judge’s Ruling Granting Motion of the Consumer Protection and Safety Division for Official Notice of: PG&E Pipeline Safety Enhancement Plan (PSEP) Expedited Application Workshop presentation. March 26, 2013. 15pp. E-mail to service list April 4, 2013.

<sup>241</sup> Joint Tr. p. 281-284 (PG&E/Harrison).

more than 250,000 man days of effort on the MAOP validation project,<sup>242</sup> PG&E still has not located a number of pressure test records that it is required by law to have.<sup>243</sup> Also, as far as CPSD knows, PG&E still has not been able to use its job files to locate all of its reused pipe currently in service, some two and a half years after the San Bruno pipe rupture. CPSD believes this evidence clearly defines the lack of accuracy, completeness, and accessibility of safety information kept in PG&E's job files.

PG&E asserts that CPSD lacks "any principled basis by which to allege a continuing violation."<sup>244</sup> The principled basis by which CPSD alleges a continuing violation is this. PG&E daily transports flammable and explosive gas daily through its pipes. PG&E pipe safety is compromised because of missing or inaccessible engineering information that should be in the job files. Each day that PG&E sends gas through its pipes is a day when a continuing daily safety violation exists.

#### **Violation 17: Pipeline History Records**

CPSD Violation 17 charges that PG&E's abandonment of its pipeline history files violated Section 451, ASME Section B31.8, and PG&E's own internal standards.

Pipeline history files were files that had records and data in them pertaining to each and every one of PG&E's transmission pipelines, arranged in pipeline order. In December of 1969, PG&E promulgated Standard Practice (SP) 463.7 for all pipelines with an MAOP resulting in a hoop stress equal to or greater than 20% of Specified Minimum Yield Strength (SMYS). Standard Practice 463.7 required PG&E personnel to retain specified information on a pipeline by pipeline basis, for the entire operating life of the pipe. The information required to be maintained included dates of installation, design and construction data, MAOP by section, pipe coating, cathodic protection, pipe inspection records, leak surveys and reports, class surveys, hoop stress information,

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<sup>242</sup> Administrative Law Judge's Ruling Granting Motion of the Consumer Protection and Safety Division for Official Notice of: PG&E Pipeline Safety Enhancement Plan (PSEP) Expedited Application Workshop presentation. March 26, 2013. 15 pp. E-mail to service list April 4, 2013.

<sup>243</sup> TURN Exhibit 4.

<sup>244</sup> PG&E OB, p. 105.



strength test data, special studies and surveys, and specifications for materials, testing, installation, and fabrication.<sup>245</sup> The Standard Practice required the records to be retained for the life of the pipeline.

The pipeline history files were the only pipeline by pipeline paper records files that PG&E maintained before the San Bruno pipe rupture. As can be seen by the criteria above, SP 463.7 was designed to ensure that PG&E maintained a “complete, consistent and comprehensive set of pipeline records for the lifetime of the asset.”<sup>246</sup> Pipeline history files were not exact duplicates of job files, as PG&E suggests. Instead, pipeline history files were literally records of the history of pipelines. The pipeline history files included data from job files, which are the record of the original installation project, but also included records of data accumulated during the life of the pipeline and data generated from various types of inspections, class surveys, maintenance, leak repairs and testing. In addition, since unlike job files, pipeline history files were organized by pipeline, it was quick and easy to use pipeline history files to access information about a particular pipeline or pipelines.

In October 1987, PG&E cancelled SP 463.7 and thus discontinued the system that had been in place for almost two decades of maintaining pipeline history files.<sup>247</sup> This fact means that after 1987 PG&E no longer placed information in the files to keep them up to date. Despite the 1987 PG&E written directive, PG&E has stated that it “believes” that the company discontinued SP 463.7 because of the advent of GIS in the early 1990s.<sup>248</sup> The complete disappearance of all of the pipeline history files is even more disturbing because, in addition to any central file PG&E kept, the pipeline history files were maintained by PG&E’s regional divisions (for example, De Anza Division, San Jose Division, San Francisco Division, Sacramento Division, Central Coast Division, etc.). The Pipeline Survey Manual stated:

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<sup>245</sup> CPSD Exhibit 2, p. 30.

<sup>246</sup> CPSD Exhibit 8, p. 45.

<sup>247</sup> PG&E Response to DR 34, Q.1, Atch 5.

<sup>248</sup> PG&E Response to DR 7, Q.9.

“Records. History records for numbered transmission lines shall be filed by line number, with all pertinent inclusions of data shown in paragraphs 5 and 6. Indexed for ready reference, and cross-referenced to other permanent files, such as GM or Work Order files.

“The complete pipeline and main history files shall be maintained up to date by the Division or department for the life of the operating facility.”<sup>249</sup>

Thus, in order to make all of the pipeline history files disappear, PG&E would have had to have implemented a decentralized effort to purge all of these regional files.

By its actions, PG&E abandoned its most useable and most accessible information on its pipelines, as well as the entire set of data records that underlies PG&E’s 2.0 GIS data base. The loss of PG&E’s pipeline history files “removed one of the organizations primary points of reference to its pipeline-related information.”<sup>250</sup> Because PG&E was unable to produce in this proceeding even a single pipeline history file to review, CPSD has no means now to definitively ascertain whether the pipeline history files actually contained important safety information that cannot now be located in job files. However, if PG&E did maintain its pipeline history files in compliance with SP 463.7 directives, clearly these files would have contained significant amounts of safety information now missing from job files. For example, PG&E's search for operating pressure records from 1965-1970 revealed that many of the underlying records that had been reviewed in 1973–1975 for grandfathered pipelines were no longer available.<sup>251</sup> In such instances, the Pipeline History Files would have formed an invaluable and readily available source of primary information in lieu of the Job Files.

Because PG&E is the party that has failed to produce the evidence, in the form of pipeline history files, that could have confirmed whether the files were maintained as

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<sup>249</sup> CPSD Exhibit 2, fn 106, note: this reference is to P2-400, the Pipeline Survey Manual, 1969, p. 92. This manual is updated to 1983 based on dates of included reference documents.

<sup>250</sup> CPSD Exhibit 8.

<sup>251</sup> CPSD Exhibit 61 p. 4-9-19.

required by SP 463.7 – or at least in better shape than PG&E’s job files – the Commission must find against PG&E on this matter. <sup>252</sup> That is the basic holding of the *Cedar Sinai* case.

PG&E raises several defenses to the alleged violation. First, PG&E raises its usual complaint that Section 451 is too broad to provide PG&E with its constitutionally required notice of a violation, and that industry codes such as B. 31. 8 were “voluntary”. CPSD has identified why PG&E is wrong, in our Opening Brief and in this Reply Brief, and believes that repetition of these matters will be unproductive.

Second, PG&E contends that when it rescinded SP 463.7 it also rescinded its need to maintain the pipeline files for the life of the pipeline. <sup>253</sup> Regardless of whether PG&E’s rescinding of SP 463.7 violated specific prescriptive law, rescinding SP 463.7 certainly violated 451 and the applicable industry codes. In addition, specific prescriptive law did not provide PG&E discretion to abandon its safety gas rules at will. PG&E has not bothered to identify or discuss Section 49 CFR 192.13(c). This section requires PG&E to follow its own gas safety rules useful or necessary to comply with the code’s safety. No one, least of all PG&E, has any support for claiming that its safety rules were not an asset to compliance with federal and state gas safety regulations.

As to PG&E’s argument that since it adopted the rule, it could lawfully abandon the rule at will, there is nothing in 49 CFR 192.13(c) or anywhere else in the law that supports that view. Nor is there any showing by PG&E that it ever sought permission from either the Commission or the federal government to abandon its pipeline history files. When a utility follows its own safety practice, as required by law, but then seeks to abandon it, the utility must seek permission to do so and justify the abandonment.

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<sup>252</sup> Note: Such a finding could be that pipeline history files, if maintained properly and had they not been discarded by PG&E or otherwise made unavailable, would have been useful for safety purposes. Another alternate finding would be that PG&E did not maintain the pipeline history files in compliance with SP 463.7. In view of the usefulness that a PG&E employee at the time placed on pipeline history files (see ALJ June 20, 2011 Order Entering Memoranda from Former PG&E Employee into Record, Attachment A), CPSD believes that the best available and accurate finding is the former until 1987, and then that the files even updated after 1987 still maintained some safety value until discarded or destroyed sometime in the 1990s.

<sup>253</sup> PG&E OB, p. 106.

PG&E’s final argument is that “CPSD failed to meet its burden of proving that PG&E’s discarding of the pipeline history files resulted in the loss of any data that PG&E was required to maintain by force of any applicable law or internal standard.”<sup>254</sup> As we have explained before, PG&E is the party with the burden of proof for its defense, and since it either discarded its pipeline files or cannot locate them in its files, it has failed to prove its defense under *Cedar Sinai* and other applicable law.

Evidence in existence, however, establishes that PG&E’s job files do not provide a source of readily accessible information. And, as explained above, a job file for a pipeline segment would not contain all of the information contained in the pipeline history file for the same pipeline segment. The evidence also establishes that PG&E is missing large numbers of job files, and that job files that do still exist are missing vital information (see Violation 16).

PG&E argues that even after pipeline history files were rescinded, PG&E maintained its Pipeline Survey Sheets, a primary source of data for PG&E’s Plat Sheets. The Pipeline Survey Sheets contained “a summary of data about the pipeline reduced to a single sheet of paper”.<sup>255</sup> The fact that each Sheet contains a summary of data is evidently an assurance to PG&E that discontinuing pipeline history files had no effect on safety. This argument and assurance is puzzling.

In 1993, a PG&E records manager wrote the following in an internal memo:

“. . . many of the functions . . . transferred . . . have not been performed or kept current for some time now. Prime examples would be the Pipeline History files for Strength Test and Pressure Reports for the DBU Transmission lines, the regular issuance of gas standards, the Estimator’s manual and a decision made jointly by GSBU and DBU after the formal transfer of responsibilities for the Mapping function to no longer update or keep current the Pipeline Plat Sheets, due to the extensive backlog and the perceived lack of importance of the data reflected in the drawings.”

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<sup>254</sup> PG&E OB, p. 108.

<sup>255</sup> PG&E OB, p. 107.

“The failure to maintain the data formally on the Plat Sheets and the decision not to generate Plat Sheets for new work may be costly to PG&E in the future and it may be difficult to defend the non-existence of the data.”<sup>256</sup>

This PG&E memo and evidence demonstrates several important facts contrary to PG&E’s factual contentions now. First, in 1993 a records manager called to PG&E’s attention the future costs of abandoning its pipeline history files, and identified the plan as a bad idea and a poor practice to implement. Second, Platt Sheets were not an acceptable safety substitute for pipeline history files, because PG&E had ceased keeping them current and therefore accurate.

PG&E finds itself in this proceeding now because it ignored the warnings it has received for years about its data being missing, unknown, out of date, and erroneous. While PG&E maintains that only hindsight showed its data deficiencies and their effects, the evidence shows that PG&E knew about these deficiencies for years and decided to do nothing about the safety hazard that developed from deficient engineering records and data.

### **Violation 18: Design and Pressure Test Records**

PG&E has itself identified thousands of separate failures to retain pressure test records required by law for tests performed on pipe installed in its transmission pipeline system. Each of these instances constitutes a proven and undeniable violation of law.<sup>257</sup>

In CPSD's opinion, PG&E's failures to retain pressure test records are among the most serious violations ever to come before the Commission, for several reasons. The violations pertain to strength testing, the absolute lynchpin requirement of pipeline safety for over 50 years. The violations occurred for the entire period from at least 1956 to

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<sup>256</sup> ALJ June 20, 2011 Order Entering Memoranda from Former PG&E Employee into Record, Attachment A.

<sup>257</sup> Note: As CPSD noted in its opening brief, it remains impossible to ascertain for any given violation whether PG&E failed to conduct a hydrotest, create a record, or maintain a record for the life of the pipe. Each of these failures constitutes a serious and clear violation of law. The inability to ascertain which violation of the three occurred must be attributed directly to PG&E alone, because PG&E was responsible for custody of the information and evidence.

2010,<sup>258</sup> because PG&E is missing large numbers of strength test records from that entire period. Finally, PG&E violated the law regardless of the regulation in effect - whether 451, ASME codes, General Order 112, or a federal code of gas regulation.

These violations also believe PG&E's arguments that violations require the certainty and notice of specific prescriptive mandates or prohibitions. In this instance, since 1961, PG&E has violated GO 112 and the CFR on thousands of occasions. These laws contain crystal clear prescriptive mandates that require PG&E to conduct hydrotests and to create and maintain records on the tests for the operating life of the pipe asset. We also wish to bring to the Commission's attention the significant number of violations after 2000 and even as late as 2010. These violations show that PG&E likely never conducted the required tests during that period, or created the records of the tests. Even given the bad state of PG&E records, it seems unlikely that PG&E created test results in 2010 that the company was unable to locate months later during MAOP validation.

PG&E does not dispute that it has failed to retain "some" test records it was required by law to retain.<sup>259</sup> Despite this admission and despite clear and uncontradicted evidence in CPSD-TURN 4 quantifying the violations in the thousands, PG&E continues to deny that CPSD has proven a violation. PG&E's argument is located in a footnote to PG&E's opening brief introduction:

“The evidence also shows that PG&E has not located a number of pressure test records that, by regulation, it should have. Ex. TURN-4. As David Harrison [a PG&E employee and witness] testified, PG&E has not given up looking for these records and still hopes to find them....Thus, the evidence falls short of proving that PG&E has failed to retain any particular pressure test record it is required by law to have.”<sup>260</sup>

PG&E confuses "hope" with "evidence." About 1500 PG&E employees expended a total of 30 man years of effort during PG&E's massive MAOP validation in 2011 to try to

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<sup>258</sup> Note: The violations on a yearly basis from 1956 through 2010 are shown on the excel spreadsheet in PG&E's data response to Joint CPSD-TURN Exhibit 4. The spreadsheet can be manipulated to ascertain numbers of violations by year.

<sup>259</sup> Exhibit PG&E 6Exhibit TURN 1, p. 1-1.

<sup>260</sup> PG&E OB, p. 2.

locate the hydrotest test records.<sup>261</sup> Two years after that exercise, thousands of test records of HCA pipe segments installed between 1956 and 2010 remain missing.<sup>262</sup> This extensive effort leaves little room for "hope" that PG&E will ever locate those records, and leaves no room at all for PG&E's claims that "evidence" supports its apparent position that test records are not missing. Lingering hope of finding additional records is not a defense to this violation.

PG&E's other argument is that "Violation 18 ignores the relevant industry perspective necessary to determine whether or not the absence of certain vintage records should be considered a violation of law rather than a widespread historical reality."<sup>263</sup> This raw statement illustrates just how far PG&E is willing to go to try to excuse its most serious violations of law.

As CPSD has explained in this brief and on other occasions, PG&E's defense fails for two reasons. One, as a matter of law it matters not one whit whether other utilities violated the law repeatedly by failing to retain their own hydrotest records. Second, PG&E has not proven that its failure to retain thousands of hydrotest records required by law is comparable to the numbers of test records required by law that other operators have failed to retain. PG&E bears the burden of proving its defense.

Instead of proving that other utilities specifically have failed to retain thousands of strength records, PG&E has presented anecdotal observations such as "I can tell you a thousand stories about lost documents."<sup>264</sup> Although CPSD does not challenge Mr. Zurcher's ability to tell anecdotal stories, CPSD cannot agree that his testimony on this matter adds any evidence to support PG&E's defense.

### **Violation 19: Weld Maps and Weld Inspection Records**

CPSD Violation 19 alleges that PG&E violated the law from 1930 to 2010 because it failed to retain weld maps and weld reports that were essential to engineering

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<sup>261</sup> CPSD OB, p. 106.

<sup>262</sup> CPSD OB, p. 107.

<sup>263</sup> PG&E brief, p.108.

<sup>264</sup> PG&E brief, p. 109.

safety. Evidence both proves the safety utility of these maps and reports, and that PG&E has been missing such information for many years. However, PG&E argues three defenses to CPSD Violation 19.

First, PG&E states that "[t] here is no regulatory requirement to maintain weld maps and weld inspection records. CPSD has not identified any specific legal and regulatory requirement that operators maintain weld maps, nor is industry expert Mr. Zurcher aware of any such requirements based on his extensive experience."<sup>265</sup> However, PG&E's weld reports identify weld inspection by weld number and the only way to determine the location of a weld by number is with the accompanying weld map. Thus, if PG&E came across a weld report that showed the acceptance of a weld that in modern day would be rejected and wanted to take a second look at it, doing so would be difficult, if not impossible, without the weld map. Because of this necessary link between the weld inspection report and the weld map, CPSD considers a weld map to be a necessary part of each weld inspection report.

It is true that section 451 does not explicitly or prescriptively refer to either weld maps or weld reports. The basis for the violation is that the promotion of safety mandated by section 451 requires proper engineering practices, which includes the maintenance of weld maps and weld reports. CPSD has discussed in its testimony and opening brief that safety requires such data. As one important example, PG&E integrity management personnel after 2000 had no idea that a longitudinal weld manufacturing defect in 1988 had been detected on Line 132, because the report or summary of the report was unavailable to them.

As another example of the importance of weld records, PG&E integrity management personnel after 2000 evidently never knew that in 1948 PG&E had installed in Line 132 a number of substandard welds. Although this weld report was in the job files, no one assigned to integrity management of Line 132 appears to have been aware of

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<sup>265</sup> PG&E OB, p. 110.



the report until the San Bruno rupture occurred. Thus, although this is not an example of a missing weld report, it illustrates the importance of weld records.

Second, PG&E argues that "CPSD has not proven its allegations regarding PG&E's purported failure to retain weld inspection records."<sup>266</sup> CPSD disagrees.

The evidence shows that less than 6 percent of PG&E's job files contain weld records.<sup>267</sup> This number is significant to the matter of missing weld records because weld records are kept in job files. Considering missing weld records from another perspective, PG&E produced 6,935 individual pages of various weld inspection reports, which each contain from multiple pages.<sup>268</sup> Thus, the 6,935 pages represent far fewer total reports than 6,935. In short, PG&E has only a small percentage of the weld reports it was required to keep for the life of its facilities.<sup>269</sup>

PG&E's final argument is that CPSD has failed to establish a continuing violation.<sup>270</sup> Again, violations of gas safety are by their nature daily violations, for as long as the violation diminishes safety. In the instance of daily transport of gas, a violation continues each day until it is cured.

### **Violation 20: Operating Pressure Records**

CPSD Violation 20 alleges that PG&E's operating pressure records are missing, incomplete or inaccessible. PG&E argues that it asked CPSD witness Felts whether she had "any information that any natural gas pipeline operator in the United States has operating pressure records going back to 1930?" Her answer was simply "no."<sup>271</sup> We note that PG&E quotes its own expert witness, who has extensive experience, merely for the statement that he is unaware of any general requirement that operators maintain such

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<sup>266</sup> PG&E OB, p. 111.

<sup>267</sup> CPSD Exhibit 8, p. 36.

<sup>268</sup> CPSD Exhibit 4, pp. 31-32.

<sup>269</sup> CPSD Exhibit 8, p. 36.

<sup>270</sup> PG&E OB, p. 12.

<sup>271</sup> Tr. Vol 2, p. 343, lines 11-15, CPSD/Felts.

records.<sup>272</sup> These responses are not surprising because the issue of lost or missing records has never prompted a historical investigation such as this one in the case of any gas company other than PG&E.

PG&E also alleges that Ms. Felts could not identify any use of pressure history records other than for integrity management purposes. This is an inaccurate representation of her statement. Ms. Felts specifically identified cyclic fatigue and calculating the remaining life of the pipeline as two uses of operating pressure data. These are two engineering calculations that are included in an integrity management program.<sup>273</sup> CPSD believes operating pressure records should have been preserved for the life of the facility so that its engineers could conduct proper safety calculations at any point in time,<sup>274</sup> not just since 2004 as suggested by PG&E.<sup>275</sup>

In 2004, when PG&E implemented the integrity management rules, it was required to utilize the past 5 years of operating pressure records.<sup>276</sup> As PG&E acknowledges, it needed operating pressure history records back to 1999, but had lost the operating pressure data for 1999.<sup>277</sup> The impact of the loss of data need not be debated. This is a recordkeeping OII specifically concerned with records. PG&E did not retain historical records and admits that it irretrievably lost operating pressure records for the entire year of 1999.

### **Violation 21: Pre-1970 Leak Records**

In Violation 21 CPSD alleges that PG&E's pre-1970 leak records are missing, incomplete and inaccessible. PG&E asserts that the testimony of CPSD witness, Ms. Felts, establishes no credible evidentiary basis for this violation. Although usually it is difficult to prove that missing documents are missing, in the case of this leak data is

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<sup>272</sup> PG&E OB, p. 113.

<sup>273</sup> TR. Vol 2, p. 339-40 lines 2-8, CPSD/Felts.

<sup>274</sup> CPSD Exhibit 2, p. 37, Section 4.5.

<sup>275</sup> PG&E OB, p. 113.

<sup>276</sup> PG&E OB p. 113-114.

<sup>277</sup> Ibid.

possible. CPSD identified leaks that were summarized on certain PG&E documents and then discovered that the underlying data about the leaks could not be found.<sup>278</sup>

PG&E further claims that CPSD has conceded that it lacks an adequate basis to conclude that PG&E's leak records are inaccessible.<sup>279</sup> This statement is inaccurate. PG&E confuses time frames, suggesting that its post-San Bruno activities absolve it of this longstanding violation.<sup>280</sup> However, PG&E's recent efforts to remedy its records accessibility problems do not extinguish a violation that occurred over decades.<sup>281</sup>

Finally, PG&E asserts that CPSD failed to provide specific examples of "incomplete" records of pre-1970 leaks on PG&E's system.<sup>282</sup> In fact, examples were provided by PG&E and were cited and discussed in CPSD testimony.<sup>283</sup>

### **Violation 22: Leak Records from 1970 Forward**

In Violation 22 CPSD alleges that PG&E's leak records from 1970 forward are incomplete and inaccessible. PG&E says it looked at tens of thousands of leak records in local offices at the direction of the Commission in this OII.<sup>284</sup> This claim is a clear indication from PG&E of the number of leaks PG&E is tracking in its system.<sup>285</sup> It was not possible for CPSD's experts to look at every record in every local office, but it was possible to look at a representative sampling of records found in the ECTS job file database and in records provided by PG&E.<sup>286</sup> Based on this review, leak records were

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<sup>278</sup> CPSD Exhibit 2, p. 39, lines 14-38 and CPSD Exhibit 4, p. 33.

<sup>279</sup> PG&E OB, p. 114.

<sup>280</sup> PG&E OB p. 115-116 and fn 658.

<sup>281</sup> CPSD Exhibit 6 p. 6-81 and 6-88 through 6-90, Note: Duller/North provide details regarding the inaccessibility of leak records.

<sup>282</sup> PG&E OB, p. 116

<sup>283</sup> CPSD Exhibit 2, fn 164 citing: Appendix 5; CPSD Exhibit 2, fn 169, amended by CPSD Exhibit 3, p. 17

<sup>284</sup> PG&E OB, p. 115.

<sup>285</sup> PG&E OB, p. 115.

<sup>286</sup> CPSD Exhibit 2, p. 39.

found to be incomplete, disorganized, and generally inaccessible.<sup>287</sup> PG&E says it shares CPSD's finding about the completeness and accuracy of A-Forms.<sup>288</sup>

### **Violation 23: Records to Track Salvaged and Reused Pipe**

CPSD Violation 23 alleges that PG&E violated the law by unsafe use of salvaged and reused pipe. Specifically CPSD charges that PG&E maintained inadequate records to permit the company to track and locate pieces of reused and salvaged pipe in service in its system.<sup>289</sup> This lack of tracking is just plain unsafe. Neither PG&E nor any other operator can conduct failure and risk assessments on pipes that it does not know exist.

PG&E tenders several defenses to its safety failure. First, it argues that "[r]econditioning and reusing pipe has been an accepted practice within the gas industry and among regulators."<sup>290</sup> Despite PG&E's claim, CPSD has long made it clear in this proceeding that its allegation takes no issue with reuse of pipe, but only with PG&E's own actions and admissions concerning such pipe.<sup>291</sup> CPSD's alleged violation is based on PG&E's specific inability to keep records adequate to locate the pipe it has installed and to ascertain its specifications and characteristics, and on PG&E's failure to maintain records adequate to ascertain whether it has properly inspected and tested the pipe before use.

PG&E's brief claims that CPSD has failed to meet its burden of proof of demonstrating that salvaged pipe may not be satisfactory for continued service.<sup>292</sup> PG&E points out that "the records on which Ms. Felts relied included authorization, accounting, transfer and shipping documentation rather than the sort of documents that would be used to maintain detailed material specifications." This defense is bizarre. The reason CPSD had to rely on PG&E's accounting, transfer, shipping, documents rather

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<sup>287</sup> CPSD Exhibit 2, p. 41, and CPSD 6 p. 6-81, 6-88 through 6-90.

<sup>288</sup> CPSD Exhibit 4, fn. 163.

<sup>289</sup> CPSD Exhibit 2, pp. 42-47.

<sup>290</sup> PG&E OB, p. 119.

<sup>291</sup> See November 1, 2011 PHC transcript statement of Legal Division.

<sup>292</sup> PG&E OB, p. 119.

than more appropriate documents that "would be used" to maintain detailed material specifications is that there are no such appropriate records in PG&E's files that contain detailed material specifications. In the next breath after criticizing CPSD for relying on available records, PG&E blandly explains how unsurprised the company is today that it has no detailed material specifications and records of reconditioning, because "the process of inspecting and reinstalling reconditioned pipe was sufficiently routine that he [PG&E witness Harrison] would not expect to find documentation that the process was completed." In addition, PG&E itself argued that the documents found in the accounting file for GM 136471 (Segment 180 installation job) were sufficient to determine the source specifications for segment 180 pipe.<sup>293</sup>

PG&E has introduced no percipient witness to testify on the standards of pipe reconditioning and pre-installation inspection actually used in the 1950's and 1960s. PG&E has been able to locate no such standards from the period.<sup>294</sup> The earliest document in the record purporting to identify these standards was a 1988 document titled "Reconditioned A.O. Smith Pipe Analysis and Policy, Gas Operations."<sup>295</sup> This memo was written about a process believed to be implemented in the 1950's and 1960's when pipe manufactured earlier by A.O. Smith was reused in PG&E's pipeline system. The memo states "Reconditioned A.O. Smith pipe does qualify for use when tested and operated in accordance with the conditions set forth in General Order 112-D."<sup>296</sup> Not only was the memo written considerably after the period when the work actually occurred, but the most that PG&E could say about the work discussed is that the process for reconditioning A.O. Smith pipe "is likely representative of the processes PG&E used when reconditioning other types of pipe."<sup>297</sup> In fact, A.O. Smith was identified by industry and regulators as a type of pipe manufactured before 1947 that potentially had

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<sup>293</sup> PG&E OB, p. 65.

<sup>294</sup> CPSD Exhibit 2, fn. 152: citing PG&E response to DR 3 Q 10.

<sup>295</sup> PG&E Exhibit 61, p. 3-29.

<sup>296</sup> CPSD Exhibit 2, fn 152: citing PG&E Response to DR 10 Q 5 Atch 6.

<sup>297</sup> PG&E Exhibit 61, p. 3-29.

long seam weld problems and therefore, required special inspection. There is no evidence that PG&E applied this process to other pipe it reused.<sup>298</sup>

CPSD cannot agree with PG&E that Mr. Harrison's testimony, the PG&E memo about A.O. Smith pipe reconditioning, or any other evidence provides assurance that PG&E properly inspected and reconditioned pipes 50 or more years ago. The NTSB made it clear that, regardless of whether the failed pipe was new or reused, a PG&E visual inspection should have been sufficient to prevent the pipe's installation.<sup>299</sup>

In any case, even if we accept as an unproven hypothetical, PG&E's theory that all of its reconditioned and salvaged pipe was properly and safely installed, PG&E's claim that it could safely lose track of reconditioned pipe remains completely wrong. Reconditioned pipe was manufactured under entirely different means and vintages than new pipe, as the record reflects with no contradiction. Integrity management personnel need to identify the weakest link in a pipeline system, because that is where the pipeline will fail, as occurred on September 9, 2010. Simply because the Commission permitted the use of reconditioned pipe in the 1960s and earlier does not mean the Commission granted permission to PG&E to lose track of the location of the installed reused pipe.<sup>300</sup> It is an absurd interpretation of safety for PG&E to even imply otherwise, as a PG&E witness has done.

PG&E also argues that it has not lost records of salvaged pipe.<sup>301</sup> In CPSD's view, two and a half years after the San Bruno pipe rupture, an unsuccessful search of job files for reconditioned pipe is equivalent, for practical safety purposes, to losing the data forever. In addition, if PG&E never created the records in the first place, then this

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<sup>298</sup> CPSD Exhibit 2, 152: citing PG&E Response to DR 3 Q 10.

<sup>299</sup> NTSB August 30, 2011 report, p. 96.

<sup>300</sup> A PG&E witness testified that "the fact that an operator does not know where it has placed reconditioned pipe would come as no surprise to policymakers from a different era" - Exhibit 61, p. 3-32. CPSD disagrees, and suggests that it would come as a very unpleasant surprise to regulators from any modern era to learn that PG&E had no means to identify the location of reused pipe in its system.

<sup>301</sup> PG&E OB, p. 120.

represents another unsafe practice that certainly diminished PG&E's ability to track the location of reused pipe.

Finally, PG&E argues once again that CPSD has not demonstrated that losing track of its reused pipe location represents a continuing violation of law.<sup>302</sup> CPSD cannot understand how losing track of reused pipe that daily transports potentially combustible and explosive natural gas can be found to be anything other than a continuing daily violation of law.

#### **Violation 24: Data in Pipeline Survey Sheets and the Geographic Information System**

CPSD Violation 24 pertains to data in pipeline survey sheets and GIS. The data is erroneous and incomplete, and has led to an unsafe PG&E transmission gas system. This unsafe condition has been the case ever since PG&E first populated GIS with data, and remains true today.

A few days after the San Bruno pipe rupture, the NTSB already recognized that PG&E's GIS contained completely wrong information about the pipe that had ruptured along its longitudinal weld. PG&E's GIS identified the pipe that ruptured as seamless 30 inch diameter pipe.<sup>303</sup>

PG&E cannot vouch for its GIS accuracy of key pipeline data for joint efficiency, joint type, girth welds, long seams, SMYS, grade, pipe wall thickness, pipe size, pipe diameter, test data including pressure, test medium, and test duration, depth of cover of pipe, MAOP, MOP, percent SMYS at MAOP, MOP, pipe coating, pipe casing diameter and footage, and location data including classification, GM number, year pipe installed, and other important criteria.<sup>304</sup> Nor, in the case of reused or reconditioned pipe

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<sup>302</sup> PG&E OB, p. 121.

<sup>303</sup> Seamless gas pipe of that diameter did not even exist in 1956 or for many years after. PG&E engineers never apparently brought this to the attention of anyone at the company, or if they did, it was ignored. PG&E raises its usual defense to this by claiming that it would have made no difference to PG&E's risk assessment of the pipe if it had known that it was seamed, because of the strength of DSAW. PG&E's position completely ignores the Code of Federal Regulation's requirement for gas operators to assess known manufacturing threats such as seam defects. It also ignores the 1988 longitudinal weld manufacturing defect in a segment of Line 132.

<sup>304</sup> CPSD OB, p. 171.

previously in service, does GIS show the date of pipe manufacture. <sup>305</sup> PG&E also has stated that each mile of its 5000 plus miles of transmission pipe in its GIS has unknown or assumed values in it. PG&E at the very end of hearings introduced a data response about GIS errors noted after 2010 that PG&E had previously represented as unavailable information. The data response showed significant legal issues in GIS such as maximum operating pressures (MOP) greater than the maximum allowable operating pressures (MAOP).<sup>306</sup> The data response also shows over 87,000 changes in GIS after 2010. <sup>307</sup>

PG&E's Opening Brief raises several defenses to CPSD's allegations of GIS violations. PG&E first states that "CPSD fails to recognize that GIS is generally not PG&E's primary source of data for most day-to-day pipeline operations."<sup>308</sup> This defense is another PG&E semantics exercise. Pipeline safety requires accurate and complete information always, not generally, to achieve safety, regardless of whether the information is used in day-to-day operations or otherwise. Pipeline safety requires knowledge of the location and limits of the weakest link – all pipeline information must be accurate, complete, and accessible – not just generally available for day-to-day operations.

PG&E also complains that CPSD has unfairly asserted a company failure to implement quality control of information that populated GIS. PG&E insists that its quality control in the 1990s was "consistent with industry norms," especially regarding the use of survey sheets.<sup>309</sup> CPSD has never suggested that the use of survey sheets to populate data into GIS per se constitutes improper quality control. The question is just whether there was any quality control on PG&E's part. PG&E's witness could not

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<sup>305</sup> TR. Vol 3, pp. 482-483 Felts/CPSD and Joint Tr. Vol 11 (Jan 17, 2013), p. 1170, lines 18-22: note - PG&E's GIS bases the age of the pipe on the date of installation instead of the date of manufacture. If a pipe is manufactured in 1929, and dug up and re-installed in the ground in 1965, GIS shows the installation date of 1965 and calculations use that date to determine the age of the pipe.

<sup>306</sup> PG&E Exhibit 83.

<sup>307</sup> PG&E Exhibit 83 note: The necessity for those changes and the numbers of changes speaks to great inaccuracies and unknown information in PG&E's GIS, especially before 2010.

<sup>308</sup> PG&E OB, p. 122, underlining emphasis added.

<sup>309</sup> PG&E OB, p. 123.



personally verify quality control occurred<sup>310</sup> and no PG&E percipient witness who had a single thing to do with GIS quality control in the 1990s ever testified.<sup>311</sup> The PG&E witness who opined about quality control efforts came to the company long after GIS was populated. For whatever reason, PG&E chose not to present witnesses who participated in GIS quality control at the time of initial data population.<sup>312</sup> With virtually nothing known by PG&E about quality control – except for the bad results in GIS that are plainly visible now – PG&E consultant witnesses Dunn and Zurcher plainly do not have the information necessary to conclude that PG&E’s efforts have indeed met “industry standards.”<sup>313</sup>

PG&E’s next defense is that CPSD “presents no evidence that the use of conservative assumed values in populating an operator’s GIS systems violates any law or industry standard.”<sup>314</sup> To the contrary, the record is chock-full of evidence which establishes that PG&E’s use of “conservative assumed values” violates safety laws and industry standards. While PG&E raises these terms repeatedly like a mantra, the evidence does not confirm that PG&E’s assumed values are conservative, that they comply with the law, or that they promote safety. As just one example, PG&E has set SMYS values for many pipe segments at values higher than 24000 psi, although the Code of Federal Regulations explicitly requires a default value of 24000 psi for pipe when actual specifications are unknown. Furthermore, the use of so-called “conservative values” to replace missing data and records destroys PG&E’s ability to use integrity management to meaningfully prioritize the relative risk of a particular pipeline segment with respect to other pipeline segments, which is one of the goals of its integrity management model.<sup>315</sup>

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<sup>310</sup> Tr. Vol.13, p. 1987, Cowsert-Chapman/PG&E.

<sup>311</sup> Tr. Vol.13, pp. 1968-1987, Cowsert-Chapman/PG&E.

<sup>312</sup> Tr. Vol. 13, pp. 1981-1983, Cowsert-Chapman/PG&E.

<sup>313</sup> PG&E OB, p. 123.

<sup>314</sup> PG&E OB, p. 124.

<sup>315</sup> CPSD OB, pp. 154 and 155.

Finally, PG&E has contended that currently the company “has in place a robust process for continuous improvement of its GIS data.”<sup>316</sup> CPSD certainly hopes PG&E’s assertion proves to be true in the future, but it has little relevance to the past violations, except to demonstrate that GIS information improvement would have been possible before the San Bruno explosion forced PG&E to make the improvements.

**Violation 25: Data Used in Integrity Management Risk Model**

CPSD Violation 25 alleges that PG&E records and data are incomplete and inaccurate, and fails to realistically or usefully model PG&E’s integrity management decisions. Because the records and data are erroneous and incomplete, PG&E has operated an unsafe gas transmission system. The NTSB concurs, and has stated that PG&E’s integrity management program “was based on a GIS that did not contain, and PG&E did not require it to contain, complete and accurate pipeline information ...”<sup>317</sup> The NTSB also concluded that the “PG&E gas transmission integrity management program was deficient and ineffective.”<sup>318</sup>

In defense, PG&E first raises the argument that Ms. Felts only found two things wrong with the integrity management program – GIS and assumed conservative values.<sup>319</sup> PG&E’s argument is misleading and wrong. Exhibit 3, p. 14 and Violation 25 cited by PG&E, does not limit CPSD’s charges solely to GIS inaccuracies and incompleteness, as PG&E claims that it does. In fact, a reading of CPSD reports clearly demonstrates that CPSD charges are that inadequate information – whether in GIS or another source – damages integrity management efforts. GIS is just one of many sources of deficient records and information for use in integrity management – other sources of important information explicitly identified by CPSD include pipeline history records, job files disorganized and missing data, pressure test records missing, weld maps and weld reports missing and incomplete, operating pressure records deficient, leak records

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<sup>316</sup> PG&E OB, p. 126.

<sup>317</sup> NTSB August 30, 2011 report, p. 114.

<sup>318</sup> ID at 125, Finding 125.

<sup>319</sup> PG&E OB, p. 127, text and footnotes 230 and 231.

deficient, no tracking of reused pipe in system.<sup>320</sup> A CPSD witness reference to “two problems” refers to two integrity management problems with GIS, and without any doubt does not dismiss as irrelevant other major deficiencies in addition to GIS. PG&E has always understood fully that CPSD violations are based on deficient information derived from a number of sources.<sup>321</sup>

PG&E has even cramped its discussion of GIS alone into the small confines it has chosen. As CPSD discussed in the previous section, PG&E cannot vouch for its GIS accuracy of key pipeline data for joint efficiency, joint type, girth welds, long seams, SMYS, grade, pipe wall thickness, pipe size, pipe diameter, test data including pressure, test medium, and test duration, depth of cover of pipe, MAOP, MOP, percent SMYS at MAOP, MOP, pipe coating, pipe casing diameter and footage, and location data including classification, GM number, year pipe installed, or the pipe manufacture.<sup>322</sup>

Despite this wealth of matters important to integrity management, PG&E’s brief only addresses GIS’s ignorance that Segment 180 contained longitudinally welded pipe, rather than the seamless pipe GIS identified it as.<sup>323</sup> PG&E contends that “for seamless pipe and DSAW, they both are joint efficiency 1.0. So there would be no difference if it is seamless or it is a DSAW pipe -- they are both characterized as no manufacturing threat.”<sup>324</sup> This is accurate, in the sense that PG&E’s integrity management program at the time was skewed heavily toward third party damage rather than to weld or to other manufacturing defects. Although PG&E’s integrity management model weighted design and manufacturing threats at 10%, the actual experience of PG&E from 2004 through

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<sup>320</sup> CPSD Exhibit 2, pp. 26-47.

<sup>321</sup> On the same page that PG&E’s opening brief contends that CPSD’s charges are limited to the GIS inaccuracies, PG&E also argues that “CPSD fails to recognize that GIS data is but one component of a much broader data gathering and integration process.” In fact, CPSD has always recognized this as a fact established by the evidence, and has stated as such clearly in charging Violation 25.

<sup>322</sup> CPSD OB, p. 174.

<sup>323</sup> PG&E OB, p. 127.

<sup>324</sup> PG&E Opening Brief p. 127, citing testimony of witness Chih-Hung Lee.

2010 was 24% from leaks, failures, and incident experience. Third party damage was weighted as 45% but actual experience was 24% during that period.<sup>325</sup>

Nor did PG&E cite the testimony of Chih-Hung Lee pertaining to the 1988 leak along a longitudinal DSAW weld on Line 132.<sup>326</sup> This engineer, who was responsible for Line 132 integrity management, testified that he would have considered this leak and information associated with it for integrity management if PG&E had made him aware of it.<sup>327</sup>

PG&E's next defense is that integrity management regulations specifically endorse the use of conservative assumed values.<sup>328</sup> There are two reasons why PG&E is wrong. First, evidence establishes that PG&E ignored the law requiring particular conservative default values when information about the SMYS value of the pipe was missing or unavailable.<sup>329</sup>

Second, for some factors in its Integrity Management model, PG&E assigned all segments of pipes the same "conservative" assumptions. As an example, the third party threat and the incorrect operations threat was assumed to be the same for all segments.<sup>330</sup> The Independent Review Panel commented on how this kind of treatment damaged appropriate prioritization of integrity management risk assessment:

"Data used to establish the risk values for pipeline segments are missing. Where data were missing, PG&E used default values....The default Value resulted in higher pipeline segment risk scores, all other things Equal, which is a seemingly conservative assumption, but in a ranking system where the highest risk segments are subject to inspection first and constraining the number of segments that would be inspected, PG&E's use

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<sup>325</sup> NTSB August 30, 2011 report, p. 110.

<sup>326</sup> Tr. Vol 12, 1893, lines 10-23, Lee/PG&E.

<sup>327</sup> Tr. Vol 12, 1893, lines 10-23, Lee/PG&E.

<sup>328</sup> PG&E OB, p. 128.

<sup>329</sup> CPSD Exhibit 64.

<sup>330</sup> RMP-08, pp. 28 and 29.

of default values did not necessarily lead to inspecting the riskiest segments first.”<sup>331</sup>

### **Violation 26: Missing Report for 1988 Weld Failure**

CPSD Violation 26 charges PG&E with a failure to maintain and access records and data pertaining to a 1988 long seam weld failure on Line 132, the same Line on which the San Bruno rupture occurred on a long seam over 20 years later.

PG&E raises two defenses in its Opening Brief. First, PG&E argues that CPSD “has not proved that the report [a complete failure report] ever existed,”<sup>332</sup> and that even if the report had existed, “CPSD failed to prove when it went missing.” CPSD agrees that it does not know for certain whether PG&E ever made what CPSD would consider a full report of this leak. However, PG&E made findings that the leaking weld displayed “pre-service defects....from the original manufacturing of the pipe joint.” PG&E also found that “x-ray inspection showed the weld to be of low quality, containing shrinkage cracks and voids, lack of fusion, and inclusions.”<sup>333</sup> CPSD assumed that this kind of important safety information was generated in a full report, and CPSD assumed that PG&E would have wanted to retain such information for future pipeline integrity management reference for Line 132. One or both of these assumptions may have been erroneous.

However, CPSD is not in error for charging PG&E with a violation of failing to generate and retain a full and complete failure report, or for PG&E’s failure to retain the report if created, or at least to have retained the information from 1988 that did exist, in a form accessible to PG&E integrity management personnel. In May of 2011, PG&E apparently discovered the material in its job files. This was more than 7 months after the San Bruno pipe failure and after the NTSB commenced its investigation.

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<sup>331</sup> Independent Review Panel June 24, 2011 report p. 61.

<sup>332</sup> PG&E Ex. 61, pp. 3-42, 3-44, 3-45, and 3-47 show the only documents provided by PG&E about the 1988 failure. Those documents appear to CPSD to be summaries of a report, not the report itself. If the documents do represent the only report done of this failure, then PG&E violated the law by not retaining the data available for integrity management use.

<sup>333</sup> PG&E Ex. 61, p. 3-44 Figure 3C-2.

CPSD contends that PG&E violated the law by not considering the 1988 Line 132 weld failure in its integrity management efforts after 2000. The NTSB drew attention to this exact failure.<sup>334</sup> Despite the NTSB finding, PG&E continues to assert that a “pinhole leak would not generally have raised questions about the integrity of other parts of Line 132”, and that a pinhole leak that has “not experienced in-service growth would not necessarily be considered an integrity threat.”<sup>335</sup>

PG&E’s defense is once again semantics based rather than safety based. CPSD agrees that not every pinhole leak presents an integrity threat. In this instance, however, PG&E information characterizes the weld as a low quality defect in pipe manufacture – i.e. a potential manufacturing threat. Armed with this information, PG&E did nothing in 1988 or later to assess whether similar manufacturing defects were present anywhere else in Line 132. Further, PG&E never used the records it had to allow future integrity management personnel the ability to assess the effect of the 1988 weld failure on Line 132 failure risk.<sup>336</sup>

#### **Violation 27: Missing Report for 1963 Weld Failure**

In 1963, a gas leak and explosion occurred on Line 109 near Alemany Boulevard in San Francisco. Line 109 is one of three transmission gas lines that transport gas through the San Francisco Bay Peninsula and that terminate in San Francisco.<sup>337</sup> A San Francisco Fireman died of heart failure, and nine other firemen were injured during the incident.<sup>338</sup>

A third party metallurgist apparently created a metallurgical report relating to this incident. PG&E is unable to locate the report now.

PG&E’s discard of a metallurgical report for a catastrophic pipe failure, especially one that occurred in an urban area, is poor engineering and records practice. Line 109 is

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<sup>334</sup> NTSB report, p. 109.

<sup>335</sup> PG&E Opening Brief, p. 130.

<sup>336</sup> Tr. Vol 12, 1893, lines 10-23, Lee/PG&E.

<sup>337</sup> Ex. 61, pp. 3-40 and 3-41.

<sup>338</sup> PG&E Exhibit 61, p. 3-40, line 20, citing P7-7094.

one of three major Bay Area transmission lines that are tied together. The discard of this pipe failure report has forever lost potentially important information about a pipe failure. The information, if available, might have provided valuable information to prevent other Bay Area pipeline failures.<sup>339</sup>

PG&E raises its routine defense that CPSD fails to “identify any specific rule, regulation, or industry standard...that required the record to be maintained.”<sup>340</sup> CPSD agrees that we have not done so. We rely on the Section 451 requirement to promote safety and on the good sense and engineering judgment and responsibility of a large public utility not to discard metallurgical related to serious incidents such as the 1963 failure.

## **VI. ALLEGED VIOLATIONS PREDICATED ON THE REPORTS AND TESTIMONY OF DR. PAUL DULLER AND ALISON NORTH<sup>341</sup>**

### **A. Alleged General Records Management Violations**

#### **Violation A.1: Gas Transmission Division Records Management Practices**

CPSD Violation A1 alleges that PG&E’s systemic, comprehensive and sustained records management failure has resulted in substandard records, and poor quality data, which in turn has compromised system safety over many years. CPSD Violation A1 further alleges that many of PG&E’s records and data have been and remain, missing, inaccurate, incomplete, untraceable, and/or unverifiable. CPSD Violation A1 also alleges that PG&E did not maintain a definitive and complete master set of job files, and that many of the ones it had were duplicative in part or in whole and spread across the organization. Finally, CPSD Violation A1 alleges that PG&E did not maintain a

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<sup>339</sup> CPSD agrees that it cannot now prove that the information, if not lost by PG&E, definitely would have helped prevent other later Bay Area pipe failures. Again, PG&E – as the party that lost or discarded the evidence – must bear the costs of the uncertainty created by its own actions.

<sup>340</sup> Ex. 61, p. 3-41.

<sup>341</sup> The list of these alleged violations is drawn from the Revised Table of Violations from Dr. Paul Duller and Alison North Supplement to March 12<sup>th</sup> Report, PG&E Violations, submitted September 10, 2012 (CPSD Exhibit 16).

definitive and complete master set of job files relating to its gas pipelines or a definitive index of the location of all job files for all of its jobs.

PG&E's argues to several defenses to Violation A1. First, PG&E asserts that CPSD cannot evaluate PG&E's past recordkeeping practices using the Generally Accepted Recordkeeping Principles because those principles were published in 2009.<sup>342</sup> Second, PG&E claims that CPSD views Code section 451 as requiring PG&E to use best engineering practices, and that the Duller/North report did not evaluate past industry practices, which means that the asserted violation of section 451 is invalid.<sup>343</sup> Third, PG&E claims that its recordkeeping witness disagrees with Dr. Duller's and Mrs. North's conclusions.<sup>344</sup> Fourth, PG&E claims that its records practices are similar to others in the industry.<sup>345</sup> Fifth, PG&E suggests that Dr. Duller and Mrs. North used a records centric approach that did not consider how PG&E used records in the past.<sup>346</sup> Sixth, PG&E has suggested that Dr. Duller and Mrs. North have no experience in evaluating records programs of U.S. based utilities. As shown below, each of PG&E's assertions is belied or unsupported by the evidence in the record. CPSD will address PG&E's assertions in order.

**a) Dr. Duller and Mrs. North Validly Use the Generally Accepted Recordkeeping Principles to Determine PG&E Practiced Substandard Recordkeeping**

PG&E wrongly asserts that Dr. Duller and Mrs. North used a new method, the Generally Accepted Recordkeeping Principles (GARP), to evaluate PG&E's poor records management practices.<sup>347</sup> Even PG&E's recordkeeping witness testified that these

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<sup>342</sup> PG&E OB at p. 133.

<sup>343</sup> PG&E OB at p. 136.

<sup>344</sup> PG&E OB at p. 137.

<sup>345</sup> PG&E OB at p. 139.

<sup>346</sup> PG&E OB at p. 142.

<sup>347</sup> PG&E OB at p. 133.



principles are not new.<sup>348</sup> GARP is a compilation of long-known and "generally accepted" records principles, as the very name identifies.

PG&E claims that Dr. Duller's and Mrs. North's use of the "Occam's Razor" methodology, that the present state of PG&E's records is the key to the past, was invalid to make generalizations about PG&E's practices going back to 1955.<sup>349</sup> However, CPSD and other parties repeatedly asked PG&E for accounts of past records and records practices and PG&E regularly failed to provide those in a timely or complete fashion.

For example, CPSD and TURN asked PG&E to identify the nature of each GIS error or data inaccuracy of which PG&E was aware, but in July, 2012, PG&E responded that it "does not maintain all errors in information listed in GIS ... .in a way that the requested data can be readily extracted."<sup>350</sup> Months later, at the end of the first round of hearings, in October, 2012 PG&E disclosed that it had an audit change log identifying some of this information.<sup>351</sup>

Even if PG&E had provided timely information, the audit change log did not provide a complete answer to CPSD's question. PG&E has not identified all of the errors or inaccuracies with GIS.<sup>352</sup> As the NTSB has concluded, PG&E's GIS information is incomplete and missing.<sup>353</sup> Therefore, PG&E's attempt to blame or find fault with CPSD for using the "Occam's Razor" approach should be rejected.

**b) Like Dr. Duller and Mrs. North, PG&E's Recordkeeping and Engineering Witnesses Recognize That PG&E Must Comply with Regulations and Standards and That Best Industry Practices Must Meet or Exceed Such Requirements**

PG&E asserts that Dr. Duller's and Mrs. North's analysis is inconsistent with CPSD's view because CPSD's policy witness, Ms. Julie Halligan required PG&E to use

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<sup>348</sup> PG&E Exhibit 62, p. MD-9.

<sup>349</sup> PG&E OB at p. 134.

<sup>350</sup> CPSD Exhibit 64; PG&E Response to CPSD-TURN Joint Data Request 01, Question 02, Supp. 01.

<sup>351</sup> PG&E Response CPSD and TURN Joint Data Request 1, Question 2.

<sup>352</sup> CPSD Exhibit 64.

<sup>353</sup> CPSD Exhibit 6, fn 1, Attachment 1 Page110 (NTSB August 30, 2011 Accident Report).

“best engineering practices” to comply with California Public Utilities Code Section 451, and the Duller/North report does not evaluate past industry practices of any kind.<sup>354</sup> However, PG&E’s record keeping witness in this proceeding has testified that best practices for a specific industry means the same thing as a standard.<sup>355</sup> PG&E’s record keeping witness testified that where a requirement exists, a best industry practice exceeds that; and where a requirement does not exist, a best industry practice reflects a trend or consensus of what people do.<sup>356</sup>

Consistent with its recordkeeping witness, PG&E’s engineering witness testified that “compliance with the regulations is the price of admission” that every pipeline operator must meet, and that industry practices must either meet or exceed those regulations.<sup>357</sup> No witness has testified that best engineering practices can fall short of federal, state, or industry requirements. Best engineering practices must at least meet or exceed all of those requirements.

Dr. Duller and Mrs. North identified violations in which PG&E failed to employ reasonable recordkeeping practices and or maintain records as are necessary to promote the safety, of its patrons, employees, and the public, in violation of California Public Utilities Code Section 451.

**c) The Record Supports Dr. Duller’s and Mrs. North’s Conclusions**

PG&E argues that its recordkeeping witness disagrees with Dr. Duller’s and Mrs. North’s conclusions.<sup>358</sup> PG&E also repeatedly claims that Dr. Duller’s and Mrs. North’s findings are subjective because they rely upon what PG&E alleges to be new Generally Accepted Recordkeeping Principles.<sup>359</sup> However, PG&E’s witness

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<sup>354</sup> PG&E OB at p. 136.

<sup>355</sup> R.T. 1362 (Dunn).

<sup>356</sup> R.T. 1363-1364 (Dunn).

<sup>357</sup> R.T. 751-752 (Zurcher). Mr. Zurcher was referring to the Code of Federal Regulations. But he gave no indication that, in his view, best engineering practices can fall short of state requirements, including California Public Utilities Code Section 451.

<sup>358</sup> PG&E OB at p. 137.

<sup>359</sup> PG&E OB at pp. 7, 133, 136, 137 and Finding of Fact 266.

provided testimony that acknowledges that at the time it was served, the Duller/North report liberally referenced and quoted the latest available observations from PG&E's own recordkeeping consultant, PwC.<sup>360</sup> CPSD asked PG&E whether it disputed any of the facts in the PwC preliminary or final report. In response, PG&E stated that it did not reject PwC's preliminary observations, and that it accepted that PwC's final report recommendations were based upon its observations about the state of the Gas Transmission Organization's records management practices.<sup>361</sup>

Moreover, PG&E chose not to submit testimony of PwC records management report writers even though PwC spent approximately four months reviewing, analyzing and reporting in depth upon PG&E's records management.<sup>362</sup> Instead, PG&E opted to proffer a records management witness who spent only 24 hours conducting interviews of PG&E staff,<sup>363</sup> and an unspecified number of hours reviewing CPSD's testimony and providing opinions and conclusions about it.<sup>364</sup> PG&E itself acknowledges that Ms. Dunn's "primary client over the past several years has been 'a regional U.S.-based utility that has a similar profile and footprint to PG&E's.'"<sup>365</sup> Apparently, PG&E believes a witness who has allegedly reviewed records of a company similar to PG&E is preferable to one that has actually reviewed PG&E's records. Indeed, PG&E's opening brief has omitted any reference to the PwC report.

In fact, PG&E's recordkeeping witness did not review the facts that Dr. Duller and Mrs. North used in their extensive fact based, quantitative and qualitative analysis underlying their conclusions, as shown by a few examples. First, Ms. Dunn did not review a single PG&E data response to CPSD's questions in this proceeding,<sup>366</sup> whereas

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<sup>360</sup> PG&E Exhibit 61 at p. 1-29; PG&E Exhibit 62 at p. MD-36.

<sup>361</sup> PG&E Response to CPSD Data Request 71, Question 7.

<sup>362</sup> TURN Exhibit 16, Appendix B, p. 6.

<sup>363</sup> PG&E Exhibit 62, Appendix C.

<sup>364</sup> September 14, 2012 Tr. p. 1379.

<sup>365</sup> PG&E OB at p. 133, citing Exhibit PG&E 62 at MD1 to MD-3.

<sup>366</sup> PG&E Exhibit 62, Appendix B.

Dr. Duller and Mrs. North reviewed PG&E's answers to hundreds of questions in almost one hundred data requests.

Second, PG&E's recordkeeping witness has not reviewed a single PG&E job file,<sup>367</sup> whereas Dr. Duller and Mrs. North have reviewed detailed listings of tens of thousands, and have compared and matched those listings against millions of pieces of information in PG&E's current and proposed GIS systems and the Emeryville database to determine which of those job files were present and which were absent in PG&E's systems that it uses for operations. Moreover, CPSD has quantified the wide age and storage distribution of PG&E's job folders, and PG&E has not contested this. Yet, Ms. Dunn characterizes Dr. Duller's and Mrs. North's complex and detailed analysis of the universe of records PG&E relies upon for operational safety as "one fact" that she uses to disagree with the Duller/North conclusions.<sup>368</sup> Ms. Dunn did not conduct a thorough independent analysis of PG&E's records and practices or of the discovery in this proceeding. Thus, her conclusions should be given limited weight at most.

**d) PG&E's Claim That Its Records Practices Are Similar to Others in the Industry Is Unsupported by the Record and Would Not Excuse Violating the Law**

PG&E claims that "To support a records assessment of such historic breadth using subject assessment methods, there must be some effort to benchmark PG&E's practices against those of others in the industry."<sup>369</sup> PG&E's handful of examples of other gas utility's alleged, but unproven recordkeeping "challenges" do not establish that it is the prevailing industry practice to maintain records in violation of the law or to maintain pipelines in an unsafe manner.<sup>370</sup>

CPSD's experts focused on PG&E's recordkeeping practices because the scoping memo of this proceeding explicitly addresses PG&E's recordkeeping practices, whether

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<sup>367</sup> PG&E Exhibit 62, Appendix B.

<sup>368</sup> PG&E Exhibit 62 MD-19.

<sup>369</sup> PG&E OB at p. 139.

<sup>370</sup> PG&E Exhibit 61, pp. 1-12 to 1-15.

PG&E violated the law, and whether its recordkeeping practices made PG&E's gas transmission system unsafe.<sup>371</sup>

As discussed in CPSD's opening brief, even if PG&E had conformed to unsafe industry practice, doing so would not excuse PG&E's unlawful conduct.<sup>372</sup> *People v. Casa Blanca Convalescent Homes* (1984) 159 Cal. App. 3d 509, 527-528.

**e) Dr. Duller's and Mrs. North's Views that PG&E Has Compromised Safety by Failing to Follow Records Centric Approaches in the Past Is Supported by the Record**

PG&E has asserted that Dr. Duller's and Mrs. North's records-centric approach did not consider how PG&E used records in the past.<sup>373</sup> PG&E is wrong on two counts here. First, PG&E's assertion that Dr. Duller and Mrs. North's records-centric approach did not consider how PG&E used records in the past is belied by the record. Second, PG&E's suggestion that it took an acceptable alternative "process-centric approach" in the past is also undermined by the facts in the record. Third, PG&E mischaracterizes Dr. Duller and Mrs. North as saying that they found fault with PG&E's decentralized approach to records management, when in fact they found fault with PG&E's lack of a systematic means of dealing with decentralized records. Each of these points will be discussed here.

**(i) Dr. Duller's and Mrs. North's Records-Centric Approach Considered Facts in the Record about How PG&E Used Records in the Past**

PG&E asserts that Dr. Duller and Mrs. North's records-centric approach did not consider how PG&E used records in the past.<sup>374</sup> In support of this argument, PG&E provides a witness's characterizations of its records that are too generic to be disproven with the facts in the record. For example, a statement that PG&E's job files are fairly

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<sup>371</sup> Assigned Commissioner's Scoping Memo and Ruling, p. 2.

<sup>372</sup> See also *Huntington Memorial Hospital v. Superior Court* (2001) 131 Cal. App. 4<sup>th</sup> 893, 911.

<sup>373</sup> PG&E OB at p. 142.

<sup>374</sup> PG&E OB at p. 142.

well organized<sup>375</sup> is an opinion that tells nothing about the true state of PG&E's records. Does "fairly well organized" account for the fact that PG&E has an MAOP validation effort underway more than two and a half years after the San Bruno rupture, and still cannot find all of its records? As another example, PG&E says its witness explained, "PG&E personnel well understand how job files are maintained and how job files may be located."<sup>376</sup> From this statement, it could well be that PG&E personnel well understand that job files are maintained poorly, and that PG&E personnel do not understand the locations of many of their job files. In short, the testimony PG&E cites in this discussion is meaningless.

However, PG&E's mischaracterizations of Dr. Duller and Mrs. North's records approach completely ignore the factual basis for it in their testimony and other parts of the record. For example, Dr. Duller's and Mrs. North's opening testimony discusses at some length that PG&E's own records manager (Mr. Medina), during his tenure between 1983 and 1993,<sup>377</sup> warned PG&E of tangible records deficiencies, such as lacking pipeline history files, pipeline plat sheets and pressure reports for the DBU transmission lines. However, as the Duller/North report also points out, PG&E did not heed these warnings.<sup>378</sup>

Mr Medina stated:

"The way I kept funding for the records management organization is in General Order 112-D. It said that 'the utilities shall maintain the necessary records to ensure (indiscernible) with the rules and the federal pipeline safety regulations that are applicable. Such records shall be available for inspection at all times by the Commission or Commission staff.' So every time they wanted to cut our budget, I would press the play button on the side of my neck and state that to remind people

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<sup>375</sup> PG&E OB at p. 142.

<sup>376</sup> PG&E OB at p. 142.

<sup>377</sup> "Telephonic Interview of Larry Medina"; Investigation of: Pacific Gas & Electric Company September 9, 2010 Accident San Bruno, California; Docket No.: DCA-10-MP-008; National Transportation Safety Board; June 27, 2011", p. 7.

<sup>378</sup> CPSD Ex. 6, p. 6-32, fn. 76; CPSD Ex. 6, p. 6-37, fn. 89; CPSD Ex. 6, p. 6-48, fn. 111 and 112. All of these portions of testimony cite "Telephonic Interview of Larry Medina"; Investigation of: Pacific Gas & Electric Company September 9, 2010 Accident San Bruno, California; Docket No.: DCA-10-MP-008; National Transportation Safety Board; June 27, 2011."

that we had an obligation to maintain drawings of all facilities that were in operation that accurately depicted the condition.”<sup>379</sup>

Indeed, Mr. Medina pointed out that he repeatedly informed PG&E of the requirements to achieve a records centric and lawful approach to safety.

**(ii) PG&E’s Suggestion that It Took an Acceptable Alternative “Process-Centric Approach” Is Not Supported by the Record**

PG&E cites its recordkeeping witness to argue that it took an acceptable “process-centric approach to records.”<sup>380</sup> Other than stating that this approach made sense to those who did the work,<sup>381</sup> PG&E’s opening brief never actually defines what a “process-centric approach” means in this context. Without stating whether PG&E actually used the approach effectively in a fashion to promote pipeline safety, PG&E’s recordkeeping witness has only explained that “[t]he process-centric approach is more intuitive for staff and is a trend in records management today.”<sup>382</sup>

However, PwC, the recordkeeping experts that PG&E hired, but did not use as witnesses for this proceeding, identified numerous overarching deficiencies with PG&E’s recordkeeping processes in its Executive Summary. In PwC’s carefully chosen words to its client, PG&E’s,

- “Clearly defined (Records Information Management) procedures and quality controls are lacking within key work processes”
- “Existing processes are very manual, heavily paper-based, and may differ between different office locations”<sup>383</sup>

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<sup>379</sup> CPSD Exhibit 6, P. 6-32, fn. 76, "Telephonic Interview of Larry Medina"; Investigation of: Pacific Gas & Electric Company September 9, 2010 Accident San Bruno, California; Docket No.: DCA-10-MP-008; National Transportation Safety Board; June 27, 2011”, p. 53.

<sup>380</sup> PG&E OB at pp. 6 and 132.

<sup>381</sup> PG&E OB at pp. 6, 132 and 142.

<sup>382</sup> PG&E Exhibit 62, p. MD-16.

<sup>383</sup> TURN Exhibit 16, Appendix B, p. 8.

**(iii) PG&E Mischaracterizes Dr. Duller and Mrs. North as Saying that They Found Fault with PG&E’s Decentralized Approach to Records Management, When They Actually Found Fault with PG&E’s Lack of a Systematic Means of Dealing with Decentralized Records**

PG&E mischaracterizes Dr. Duller and Mrs. North as saying that they found fault with PG&E’s decentralized approach to records management.<sup>384</sup> The Duller/North report recognizes the reasonableness of a decentralized records management structure,<sup>385</sup> especially before the computer revolution. CPSD alleges violations here not because PG&E had a “decentralized records system,” but because it had a “dysfunctional records system for which it had “few policies or procedures to allow records to be managed in a systematic and consistent manner across all of the business units/offices.”<sup>386</sup> For example, PG&E “acknowledges that prior to the San Bruno pipe rupture, it did not have a system-wide index of all its pipeline job files.”<sup>387</sup>

**f) PG&E Has Incorrectly Suggested that Dr. Duller and Mrs. North Have No Experience in Evaluating Records Programs of U.S. Based Utilities**

PG&E states that Ms. Dunn, their record keeping witness, has experience evaluating the records programs of U.S. –based utilities, which Dr. Duller and Mrs. North lack.<sup>388</sup> However, Dr. Duller has been directly employed by two US oil and gas companies, and has conducted international information management reviews and/or provided records management training for 60 oil and gas sector clients in many parts of the world, including the United States.<sup>389</sup> Mrs. North has 40 years of experience in

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<sup>384</sup> PG&E OB at p. 137, citing CPSD Exhibit 6 at 6-26; PG&E OB at 142.

<sup>385</sup> CPSD Exhibit 6, at p. 6-26.

<sup>386</sup> CPSD Exhibit 6 at p. 6-26.

<sup>387</sup> PG&E Exhibit 61, Page 3-38, Lines 24-25; For additional evidence showing that prior to August 2010, PG&E did not have a complete and comprehensive master index of pipeline related job files or of job folders associated with each job, see CPSD Exhibit 6, pp. 6-42, 6-56, 6-53, 6-41, 6-55, 6-69, 6-79 and 6-49; See also CPSD Exhibit 8, p. 38 of 72 Lines 17-18; See also CPSD DR 25, A1, p. 10 (December 19, 2011).

<sup>388</sup> PG&E OB pp. 133 and 140.

<sup>389</sup> CPSD Exhibit 2, p. 8-151.



records management, 14 years of which she spent in the oil and gas sector and in particular working with the engineers as an information specialist responsible for managing their records across many sites in many countries. She continues to deliver records management services worldwide, including in the United States.<sup>390</sup> PG&E has not provided a basis to find that U.S. utilities are distinct from the oil and gas companies Dr. Duller and Mrs. North have examined throughout their careers. CPSD is confident that, with their multiple decades of experience and international reputation, the Duller/North evaluation of PG&E's recordkeeping is of the highest caliber and we are fortunate to have the benefit of their expertise.

### **B. Alleged Records Retention Violations**

CPSD Violations B1-B6 allege that PG&E's retention practices violated the law. PG&E has not clearly identified a definitive set of consistent and accurate records retention policies and schedules, and CPSD identified several examples of PG&E's minimal compliance with its records retention policies which violated other requirements.

PG&E makes four general claims in defense of the B1-B6 violations. First, the company claims that Dr. Duller and Mrs. North overlooked key gas standards by exclusively addressing PG&E's corporate retention schedules.<sup>391</sup> Second, PG&E asserts that Dr. Duller and Mrs. North reading of decades old corporate records retention lacks essential context.<sup>392</sup> Third, PG&E believes that Dr. Duller and Mrs. North's review of PG&E's records schedules reflects hindsight judgments.<sup>393</sup> Finally, the company asserts ". . . violations B.1 through B.6 lack internal logic and legal sense."<sup>394</sup> Each of these points is addressed in headings 1a), 1b), 1c) and 2 below.

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<sup>390</sup> CPSD Exhibit 2- p. 8-152.

<sup>391</sup> PG&E OB at p. 143.

<sup>392</sup> PG&E OB at p.144.

<sup>393</sup> PG&E OB at p. 145.

<sup>394</sup> PG&E OB at p. 145.

PG&E also offers specific responses to violations B1 through B6.<sup>395</sup> However, PG&E’s specific defenses miss the overarching point of violations B1 through B5. These violations are based upon evidence in the record that shows that PG&E’s minimal compliance with some of its own specific retention policies violates other requirements.<sup>396</sup> PG&E also argues in its opening brief that Dr. Duller and Mrs. North select “corporate” retention schedules as the basis of violations, but fail to address local “Gas Standards”, which PG&E’s gas transmission division actually followed.<sup>397</sup> However, the Duller / North report shows clearly<sup>398</sup> a number of PG&E retention schedules that related to both the corporate and local levels<sup>399</sup> and that these schedules listed documents to be retained by the gas transmission division. PG&E has asserted other specific defenses to each violation, and those are addressed in the portion of this section entitled “PG&E’s specific responses are not valid”. Each of PG&E specific responses are addressed under subheading 3, below.

#### **1. PG&E’s General Defenses to CPSD’s B Section Violations**

##### **a) PG&E Has Not Provided a Correct, Consistent, or Complete Set of Retention Schedules, Which Means PG&E Staff Does Not Know Which Ones to Follow**

PG&E argues that Dr. Duller and Mrs. North overlooked the records provisions in the Gas Transmission Standards that its gas organization actually used on a daily basis.<sup>400</sup> PG&E’s opening brief insists that, “It was these Gas Standards –more so than corporate retention schedules –”that” drove the records decisions about pipeline records made by personnel in PG&E’s gas organization.”<sup>401</sup> However, PG&E’s data responses consistently muddle the distinction PG&E’s opening brief attempts to make,

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<sup>395</sup> PG&E OB at pp. 146-155.

<sup>396</sup> See CPSD Exhibit 6, Appendix 9.

<sup>397</sup> PG&E OB pp.143 and 144

<sup>398</sup> CPSD Exhibit 6, Appendices 3 and 9.

<sup>399</sup> See CPSD Exhibit 6, Appendix 9.

<sup>400</sup> PG&E OB at pp. 143 and 144.

<sup>401</sup> PG&E OB at p. 148 fn 886 and fn 887 referencing PG&E Exhibit 61 p 2-24 lines 13-16.

repeatedly identifying its corporate retention schedules as those that CPSD should refer to in order to review the retention periods that PG&E followed.<sup>402</sup>

PG&E's confusion about its own retention schedules is shown by several examples in the record. First, PG&E's own consultant, PwC stated that "There is a lack of clear standards, work procedures, and training for how staff should create, manage, transfer, store, and dispose of records and information".<sup>403</sup> PwC also noted that, "Various retention schedules exist with different layouts and scattered throughout the organization".<sup>404</sup> To address this deficiency, PwC suggests that PG&E "Consolidate and update Retention Schedules."<sup>405</sup> PwC's overall finding also contradicts PG&E's claim that its more temporary recordkeeping witness, Ms. Dunn, concluded about PG&E's retention schedules, when she says they "met the essential requirements for an effective program".<sup>406</sup> On the other hand, PwC's overall finding is consistent with PG&E's recognition of Dr. Duller's and Mrs. North's conclusion that PG&E's record retention program was substandard.<sup>407</sup>

The second example of PG&E's confusion about its retention schedules comes from PG&E's own response testimony, which quotes from a 2008 internal audit that PG&E alleges it performed, but failed to provide to CPSD even though CPSD directly asked for it. Nonetheless, PG&E states that the audit found that:

many business leaders, systems owners, and compliance champions do not have any data retention procedures in place, do not monitor compliance with the data retention policies or periodically confirm that the specified retention periods are still valid, and have

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<sup>402</sup> See PG&E Responses to DR23, Question 26; DR04, Questions 02 and 12; DR18, Question 15; DR25, Questions 02 and 08; DR46, Questions 03 and 04; DR45, Q05.

<sup>403</sup> TURN Ex. 16, Appendix B, p. 8.

<sup>404</sup> TURN Ex. 16, Appendix B, p. 8.

<sup>405</sup> TURN Exhibit 16, Appendix B, p. 44.

<sup>406</sup> PG&E OB at p. 137.

<sup>407</sup> PG&E OB at p. 137.

experienced issues concerning obsolete data in key systems they use.<sup>408</sup>

Also, in spite of the point PG&E made in its opening brief that its gas standards were followed by its engineers,<sup>409</sup> PG&E pointed to various standard practices documents, but did not identify exactly which “gas standards” contained the retention periods that were followed by engineers. For example, in its response of June 2012 PG&E provided a list of 96 P2 documents that it provided as part of its rolling production of documents with its June 20, 2011 filing,<sup>410</sup> but it waited until its response testimony to mention these documents related to retention practices.<sup>411</sup> In fact only 16 of the 96 actually mentioned retention. Of the actual retention policies and schedules PG&E has provided, some have not consistently cross referenced to the law, regulation and / or standard that governs the retention of their pipeline documents.<sup>412</sup>

Now, in its opening brief PG&E refers to yet another list referenced as “Gas Transmission Standards for information about gas records requirements”,<sup>413</sup> and again many of these documents do not contain references to records retention. This list only covers the period 1999 to 2010, not the full period identified in the violations. This list also includes some of the aforementioned corporate retention schedules that PG&E states were not the ones that the engineers followed.

As a result of all of this confusion one can only conclude that PG&E did not know which retention practices the staff were following, if any, throughout the life of the pipeline.

**b) Dr Duller and Mrs North Have Read PG&E’s Decades Old Corporate Records Retention Schedules in the Proper Regulatory Context**

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<sup>408</sup> PG&E Ex. 61 p. 2-13; PG&E Ex. 64, Exhibit 2-28; PG&E Data Response to CPSD Data Request 25, Question 08.

<sup>409</sup> PG&E OB, at p. 148.fn 886.

<sup>410</sup> PG&E Exhibit 61, p. 2-24 Lines 13-16.

<sup>411</sup> PG&E Exhibit 61, p. 2-24 Lines 12-13.

<sup>412</sup> See for example, PG&E Data Response to CPSD Data Request 23, Question 26, Atch 8.

<sup>413</sup> I.11-02-016. Opening Brief of Pacific Gas and Electric Company, March 25, 2013, p. 144 fn 860.

In PG&E's Opening Brief, PG&E takes credit for helping the Commission adopt Resolution FA-570 in order to reconcile the Federal Energy Regulatory Commission's (FERC) record retention requirements with the Commission's record retention policies, including the record retention policies under the Commission's General Order 112-C.<sup>414</sup> However, as CPSD pointed out in its opening brief, PG&E's efforts behind FA-570 did not reconcile anything in this regard.<sup>415</sup> This is because the U.S. Department of Transportation (DOT), not the FERC, is the federal agency which Congress has provided with authority over natural gas pipeline safety matters. Therefore, PG&E is confusing safety record retention policies with ratemaking record retention policies.

Even the FERC's regulation explicitly makes clear that its document retention policies do not affect document retention policies required by other Federal or State agencies for other purposes. In particular, 18 CFR § 225.2(2) states: "The regulations in this part should not be construed as excusing compliance with other lawful requirements of any other governmental body, Federal or State, prescribing other record keeping requirements, or for preservation of records for periods longer than those prescribed in this part."

Rather than clarify the situation, PG&E has further confused these matters now, just like it confused them by working with the Finance and Accounts Division in 1976. The Finance and Accounts Division never has had any safety jurisdiction. In 1960, when the Commission issued its General Order 112, the Gas and Electric Branch of the Utilities Division had the authority to enforce these standards, not the Finance and Accounts Division.<sup>416</sup> In 1971, when the Commission fully adopted the federal regulations in General Order 112-C, the Gas Branch of the Utilities Division was charged with the enforcement of them, not the Finance and Accounts Division.<sup>417</sup> And when the Commission voted out Resolution FA 570, which PG&E's witness Phillips stated "may

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<sup>414</sup> PG&E OB at, pp. 144-145.

<sup>415</sup> CPSD OB at pp. 99-101.

<sup>416</sup> CPSD Ex. 57, p. 15 (organizational chart) and P. 40 (General Order 112 enforced by gas engineers).

<sup>417</sup> CPSD-Ex. 58, pp. 98-100.

have been the last instance in which the Commission comprehensively addressed records retention”,<sup>418</sup> nowhere in the Commission’s Annual Report for Fiscal Year 1976-1977 is there any mention of this resolution in the Finance Division Section or anywhere else. However, the same Annual Report prominently discusses how the Gas Branch of the Commission’s Utilities Division has been enforcing the DOT’s pipeline safety regulations for the eight years in a row.<sup>419</sup>

As CPSD pointed out in its opening brief, PG&E attempts to blame the Commission for allowing PG&E to end its Standard Practice 463.7 (maintaining history files for the life of the facility) in October, 1987 and April, 1994, when the Commission adopted General Order (GO) 112-C (1971) and GO 112-E (1995). However, the end dates of PG&E’s SP 463.7 do not coincide with the dates of these GOs,<sup>420</sup> and the content of PG&E’s SP 463.7 does not match that of the Commission’s decisions, which adopted GO 112-C and 112-E, or the contents of the GOs themselves.<sup>421</sup>

Finally, under the certification provisions of the Natural Gas Pipeline Safety Act, 49 U.S.C. §60105, the Commission can and has imposed additional, more stringent safety requirements, beyond the minimum federal regulations. However, the Commission could not be certificated if it had not adopted or subsequently tried to negate any of the minimum federal regulations 49 U.S.C. §60105(f). During cross-examination, PG&E’s witness conceded this point.<sup>422</sup> PG&E’s witness further admitted that even though the Commission had adopted its Finance and Account Division’s Resolution FA-570, PG&E was still required to comply with the federal DOT’s Part 192 regulations, including the record retention requirements under 49 CFR § 192.517.<sup>423</sup>

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<sup>418</sup> PG&E Ex. 61 p. 2-10 Lines 20-21 and RT 1113:21-25 (PG&E/Phillips).

<sup>419</sup> CPSD-59, p. 44.

<sup>420</sup> PGE’s document destruction dates of 1987 and 1994 also do not coincide with the date of Resolution FA-570 (1976).

<sup>421</sup> See CPSD Opening Brief, pp. 99-102.

<sup>422</sup> RT 1052:8-18, (PG&E/Phillips).

<sup>423</sup> RT 1099: 23-1100:4 (PG&E/Phillips).

**c) PG&E Held the Ultimate Responsibility for Auditing and Acting on Audits of Its Retention Schedules, but Failed to Do These Things**

PG&E claims that Dr. Duller and Mrs. North's review of PG&E's records schedules reflects hindsight judgments. PG&E claims that CPSD has already audited the same kinds of PG&E's gas records Dr. Duller and Mrs. North find PG&E has not properly retained.<sup>424</sup> However, the ultimate responsibility auditing PG&E's retention schedules, and acting on the results of those audits rests with PG&E, but it has not shown that it has done these things. CPSD issued a number of data requests asking for documentation to show that PG&E audited its records management (including retention) practices within the gas transmission division and acted on the results of any audits.<sup>425</sup> In response, PG&E failed to provide documentation of a single audit.<sup>426</sup> PG&E has not shown that it systematically reviewed and updated the corporate and local retention schedules, and it should be inferred that PG&E has not done so.

Given that PG&E could not provide documentation to show its own records audits when requested, CPSD would not have seen this critical information in order to learn that PG&E had a problem retaining its records. For example, on August 30, 2012 PG&E identified 23,760 of its pipe segments constituting approximately 435.7 miles, within Class 3 and 4 High Consequence Areas, which lacked strength test records from 1953 through 2010.<sup>427</sup> More than two full years after the San Bruno explosion, PG&E had only completed its search for strength test records across less than a third of its system (2,088 miles of pipeline, while another 4,660 miles of pipeline remained to be done).<sup>428</sup>

Without information from PG&E that strength test records were missing across such a vast set of records, how could CPSD or any external auditing entity reasonably

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<sup>424</sup> PG&E OB, p. 145.

<sup>425</sup> CPSD DR25, Q02(d); DR70-Q12 and Q13; DR71-Q09,Q11,Q13.

<sup>426</sup> CPSD DR25, Q02(d); DR70-Q12 and Q13; DR71-Q09,Q11,Q13.

<sup>427</sup> TURN Exhibit 4.

<sup>428</sup> R.T. 963 (PG&E/Singh).

have been able to ascertain that was missing these documents, much less fathom that PG&E's retention problem was so widespread?

PG&E also references CPSD USRB Electric, Natural Gas & Propane Safety Reports from 1997-2009,<sup>429</sup> in support of its proposition that CPSD has already audited PG&E's gas records.<sup>430</sup> However, the evidence supports the need for a more thorough review of PG&E's records by recordkeeping experts, particularly in the aftermath of the San Bruno pipeline rupture. As CPSD's policy witness testified:

It is simply a fact that the USRB in their reviews of the utility operations did not -- was not able to look at every single record or every single issue. And the annual reports are a summary of the work that they have done. But to the extent the annual reports require -- reflect that USRB audited utilities' records, that doesn't mean that the USRB audited every single utility record.<sup>431</sup>

## **2. Violations B1- B6 Are Legally and Factually Valid**

PG&E broadly claims that Violations B1 through B6 lack logic and legal sense, and then narrowly follows this claim with alleging problems with only four of PG&E's violations (Violations B2-B5). PG&E asserts that CPSD violation B2 had no legal logic or sense apparently because it alleges that violation had inaccurate time frames.<sup>432</sup>

PG&E then asserts that Violations B3 through B5 lack logic or legal sense because it alleges that "Ms. Halligan testified that CPSD did not assert ASME B31.8 violations after GO 112-C took effect in 1971."<sup>433</sup> However, PG&E mischaracterizes Ms. Halligan's testimony and takes it out of context. In fact, Ms. Halligan testified that "CPSD would not bring a *new* violation against -- a *new* violation of B31.8 after the adoption of General Order 112-C."<sup>434</sup> The difference of one word is critical.

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<sup>429</sup> PG&E OB at p. 145, fn. 868.

<sup>430</sup> PG&E OB at p. 145.

<sup>431</sup> R.T. 152-153 (CPSD/ Halligan).

<sup>432</sup> PG&E OB, pp. 145-6.

<sup>433</sup> PG&E OB, p. 146.

<sup>434</sup> R.T. at 67 and 68.



Ms. Halligan was simply reflecting the view expressed in CPSD’s revised supplemental testimony, as stated here:

The purpose of revising. . .(Ms. Felts and Dr. Duller’s/Mrs. North’s) March 30, 2012 testimony is to clarify that CPSD does not seek to count a single violation multiple times. . .CPSD will not seek multiple penalties because a violation in 1962, for example, appears to violate three standards – Section 451, ASME standards of 1961, and General Order 112. . .It simply means that CPSD will avoid duplicating or triplicating the violation when the substantive basis for the violation is the same.<sup>435</sup>

To prompt Ms. Halligan’s response, PG&E’s counsel asked a hypothetical that moved the example quoted above from 1962 to after 1970, when GO 112C became effective.<sup>436</sup> In response to that hypothetical, Ms. Halligan’s testimony merely means that CPSD will not seek multiple penalties for any single particular post-1970 violation if that particular post-1970 violation lists both General Order 112C and ASME through Public Utilities Code section 451.

### **3. PG&E’s Specific Responses Are Not Valid**

#### **Violation B1: The Record Shows that PG&E’s Statements about Leak Survey Maps Are Inaccurate and Incomplete**

Violation B1 states that PG&E’s minimal compliance with some of its own retention policies regarding leak survey maps violates other requirements.<sup>437</sup> PG&E relies upon its witness to suggest that a nine-year retention period amply complies with 49 CFR Section 192.709(c)’s requirement to retain survey records “for at least five years or until the next. . .survey”.<sup>438</sup> PG&E goes on to cite 49 CFR Section 192.706 for the notion that, for pipe like PG&E’s, “[leakage] surveys of a transmission line must be conducted at intervals not exceeding 15 months, but at least once each year.”<sup>439</sup> PG&E

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<sup>435</sup> CPSD Ex. 15, p. 3; CPSD Ex. 16, p. 2.

<sup>436</sup> R.T. at 67 (PG&E/Linn).

<sup>437</sup> CPSD Ex. 16, p. 2.

<sup>438</sup> PG&E Opening Brief, p. 146.

<sup>439</sup> PG&E Opening Brief p. 147, citing 49 CFR §192.706.

cites to its witness to say that “PG&E performs leak surveys of its transmission lines annually for Class 1 and 2 lines and semi-annually for Class 3 and 4 lines.”<sup>440</sup> These defenses have several flaws.

First, PG&E’s argument ignores that ASME standards requires keeping leak survey maps for the life of the facility, which is clearly shown in the opening testimony of Dr. Duller and Mrs. North.<sup>441</sup> Moreover, a violation of ASME is a violation of California Public Utilities Code section 451, and that section is clearly shown as a basis of this violation.<sup>442</sup> Although PG&E’s opening brief discusses replacing one leak survey map with another,<sup>443</sup> ASME does provide for discarding information on older maps merely because a new one is created. PG&E does not address this point in its opening brief.

Second, PG&E’s opening brief cites its own witnesses testimony suggesting that PG&E performs leak surveys on some of its transmission lines annually and semi-annually,<sup>444</sup> but this statement is disproven by other evidence in the record. As PG&E’s own internal correspondence from one of its own mappers shows:

As a result of my findings, I believe tens of thousands if not a hundred thousand jobs. . .or more were or remain unmapped. For gas jobs, both maps and service jobs, that have been mapped in the last couple of years, but which may have been missing from the maps prior to that for up to 8 years or more has created a non-compliance leak survey issue.<sup>445</sup>

The same mapper identified “Unmapped facilities not indicated on the reduced gas plat maps given to Gas Leak Surveyors” as a “compliance exposure to PG&E”.<sup>446</sup> In

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<sup>440</sup> PG&E Opening Brief, p. 147, citing Ex. PG&E -61 at 2-16 to 2-17 (PG&E/Phillips).

<sup>441</sup> CPSD Ex. 6, Appendix 9, Page 9-158; Citing ASME B31.8 (2010) Section 851.6.

<sup>442</sup> CPSD Ex. 16, P. 4.

<sup>443</sup> PG&E OB, p. 147.

<sup>444</sup> PG&E OB, p. 147; citing Ex. PG&E-61 at 2-16 to 2-17 (PG&E/Phillips).

<sup>445</sup> PG&E Data Response to CPSD Data Request 25, Q2(i) Supp02Atch17, p. 2.

<sup>446</sup> PG&E Data Response to CPSD Data Request 25, Q2(i) Supp02Atch17, p. 2.

light of this, PG&E has not complied with its own leak survey map requirements, or those of 49 CFR Section 192.706.

Finally, PG&E's internal audit in April 2011 found that there were no documented controls over the quality of data entered into PG&E's Leak Database (IGIS) or for ensuring retention of original documents.<sup>447</sup> This shows that PG&E did not check to ensure it complied with the CFR, or ASME requirements to keep leak survey records for the life of the facility.

**Violation B2: The Record Shows that PG&E's Defenses Regarding Line Patrol Reports Are Inaccurate**

Violation B2 states that PG&E's minimal compliance with some of its own line patrol report retention policies violates other requirements.<sup>448</sup> PG&E alleges that Dr. Duller's and Mrs. North's data response to PG&E appears to make the violation "substantially (if not completely) mooted".<sup>449</sup> PG&E is wrong about this and about its assertion that the violation lacks merit.<sup>450</sup> PG&E quoted the operative text from CPSD's data response in its opening brief that keeps this a valid violation. Namely, "CPSD notes that a violation would exist with the requirement to keep any non-numbered Gas Transmission Line for only three years."<sup>451</sup>

PG&E has pointed out CPSD's mistake in forgetting to include this data response in rebuttal testimony,<sup>452</sup> but PG&E included this evidence in the records nonetheless.

Aside from this, PG&E's substantive defense boils down to the assertion that Ms. Dunn observed that PG&E's Gas Standards address patrol records and that Gas Standards provided that patrol records were to be maintained for the life of the facility.<sup>453</sup> However,

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<sup>447</sup> CPSD025-Q02(i)Supp02Atch02 - Audit of the Transmission and Distribution Gas Leak Repair Process, April 28, 2011 GasTransmissionSystemRecordsOII\_DR\_CPUC\_025-Q02(i)Supp02Atch02

<sup>448</sup> CPSD Ex. 16, p. 2.

<sup>449</sup> PG&E OB at p. 148.

<sup>450</sup> PG&E OB at p. 148.

<sup>451</sup> PG&E OB at p. 148, citing Ex. PG&E 61 at 2-15 to 2-16 (PG&E Phillips); Ex. PG&E-64 (Tab 2-32) (CPSD Response to PG&E Data Request No. 8, Question 4).

<sup>452</sup> PG&E OB at p. 149.

<sup>453</sup> PG&E OB at p. 149.

CPSD asked PG&E to provide non-corporate record retention policies, and PG&E's data response included the policy to retain non-numbered line patrol reports for only three years.<sup>454</sup> PG&E's defenses are incorrect.

**Violation B3: PG&E's Defenses to CPSD's Line Inspection Report Violation Are Legally and Factually Incorrect**

Violation B3 states that PG&E's minimal compliance with some of its own line inspection report retention requirements violates other requirements.<sup>455</sup> In defense, PG&E first alleges that Ms. Halligan testified that CPSD did not seek to enforce ASME B31.8 after General Order 112-C came into effect in 1971, which would mean that ASME would not apply here.<sup>456</sup> Second, PG&E suggests that the federal regulations eliminated the "life of the facility" requirement in 1996, and that ASME B31.8 requirements to keep the same types of records for life of the facility does not make sense as a matter of law.<sup>457</sup> Third, PG&E suggests that its 1994, 2005, and 2008 retention schedules addressing line inspection reports each reference FERC 23C, when in fact, CPSD asserted a violation of ASME standards and 49 C.F.R. Part 192.<sup>458</sup> Finally, PG&E suggests that gas standards applicable to line inspection reports provide retention periods that comply with the C.F.R. requirements.<sup>459</sup> All of these defenses are wrong, as shown below.

PG&E's assertion that CPSD does not seek violations of ASME when GO 112C was in effect is wrong, as shown by the record. As explained earlier, Ms. Halligan's testimony means that CPSD will not seek multiple penalties for any particular post-1970 violation if that particular post-1970 violation lists both General Order 112-C and ASME

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<sup>454</sup> PG&E Response to CPSD Data Request 23, Question 26, referencing PG&E's June 20, 2011 filing, Pages 194-199.

<sup>455</sup> PG&E Ex. 16 p. 2.

<sup>456</sup> PG&E OB, p. 149.

<sup>457</sup> PG&E OB, p. 149.

<sup>458</sup> PG&E OB, p. 150.

<sup>459</sup> PG&E OB, p. 150.

through Public Utilities Code section 451.<sup>460</sup> For this particular post 1970 violation, CPSD is not asserting a violation of General Order 112C.<sup>461</sup> Therefore, consistent with Ms. Halligan’s testimony, CPSD validly asserts that PG&E has violated ASME section B31.8 through Public Utilities Code Section 451.

Second, PG&E wrongly suggests that the federal regulations eliminated the “life of the facility” requirement in 1996, and that ASME B31.8 requirements to keep the same types of records for life of the facility does not make sense as a matter of law. In fact, the CFR does not preempt industry standards. Instead, the CFR sets a minimum period to keep line inspection reports, which the ASME standards validly exceed. These are not just CPSD’s views, but those of PG&E’s own expert witness, who testified that “compliance with the federal regulations is the price of admission” for every pipeline operator, and industry practices must either meet or exceed those regulations.<sup>462</sup>

Third, PG&E suggests that its 1994, 2005, and 2008 retention schedules addressing line inspection reports each reference FERC 23C, when in fact, CPSD asserted a violation of ASME standards and 49 C.F.R. Part 192.<sup>463</sup> PG&E also suggests that Gas Standards applicable to line inspection reports provide retention periods that comply with the C.F.R. requirements.<sup>464</sup> However, PG&E provided a retention schedule entitled “PG&E Guide to Regional Record Retention”<sup>465</sup> that requires keeping Line Inspection Reports records for 3 years but does not reference a FERC requirement.<sup>466</sup> This is evidence to refute both of PG&E’s claims. First, the title of this retention schedule does not say corporate standard regardless of how PG&E may attempt to characterize it. With a vagueness like this, staff could easily follow it thinking it was *the* standard practice for the gas transmission division, without any basis to know it was not.

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<sup>460</sup> R.T.153 (CPSD/Halligan).

<sup>461</sup> See CPSD Ex. 16, p. 4.

<sup>462</sup> R.T. at 751-752 (PG&E/Zurcher).

<sup>463</sup> PG&E OB, p. 150

<sup>464</sup> PG&E OB, p. 150.

<sup>465</sup> DR23 Q26 Atch 08.

<sup>466</sup> DR23 Q26 Atch08 p 20.

Second, this document illustrates that some of PG&E's line inspection report retention requirements set a minimum of three years, but do not show they are based upon FERC. As such, staff would have no apparent guidance about whether to keep such records in compliance with FERC, ASME or the CFR.

**Violation B4: PG&E's Defenses to CPSD's Gas High Pressure Test Record Violation Are Legally and Factually Wrong**

Violation B4 states that PG&E's minimal compliance with some of its gas high pressure test record retention policies violates other requirements.<sup>467</sup> PG&E suggests that Dr. Duller's and Mrs. North's mistakenly use the term "Gas High Pressure Test Record" as the kind specified in 49 C.F.R. §192.517, but then PG&E attempts to characterize that term as part of its corporate records retention schedule.<sup>468</sup> However, CPSD asked PG&E for retention schedules beyond those identified in the corporate retention policy and in response PG&E provided a retention schedule that requires keeping Gas High pressure test records for 3 years but does not reference a FERC requirement.<sup>469</sup> Given this, it appears PG&E itself did not know if the schedule was a corporate records retention schedule at the time it provided it to CPSD.

If PG&E could not ascertain the schedule's status promptly in response to a CPSD data request in this investigation, PG&E's own staff likely could not either, and would have followed it to prematurely discard the kind of gas high pressure test records that are specified by the C.F.R.

PG&E's reference to 49 CFR, Section 192.517 for Violation B4 is also misplaced.<sup>470</sup> In fact, the B.4 violation clearly states that PG&E retention schedule violated 49 CFR, Section 192.709; ASME Standard B31.8 and California Public Utilities Code Section 451.<sup>471</sup> Therefore, the argument is baseless.

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<sup>467</sup> CPSD Ex. 16, p. 4.

<sup>468</sup> PG&E OB, p. 151.

<sup>469</sup> DR23 Q26 Attc 08 p 15.

<sup>470</sup> PG&E Opening Brief, Pp. 150-151.

<sup>471</sup> CPSD Ex. 16, pp. 4-5.

**Violation B5: PG&E’s Defenses Against Violation B5 Are Legally and Factually Incorrect**

Violation B5 states that PG&E’s minimal compliance with some of its record retention policies of transmission line inspections, including patrol maintenance reports, trouble reports and line logs violates other requirements.<sup>472</sup> PG&E claims that “CPSD’s violation B.5 seeks to vindicate a requirement -- to maintain various kinds of line reports for the life of the facility -- that was removed from the federal Part 192 regulations in 1996.<sup>473</sup> PG&E is correct that CPSD violation B5 does reference 49 C.F.R. §192.709, which ended in 1996.<sup>474</sup> However, CPSD violation B5 references ASME Standard B31.8 and Public Utilities Code section 451; and also references GO 112, 112A and 112B.<sup>475</sup> Moreover, as CPSD identified earlier, the record shows that the C.F.R. does not preempt ASME, but sets a minimum that ASME must meet or exceed.<sup>476</sup>

PG&E also claims that PG&E’s Gas Standards correctly stated a “life of the facility” retention period.<sup>477</sup> However, CPSD asked PG&E for retention schedules beyond those identified in the corporate retention policy and in response PG&E provided a retention schedule entitled “PG&E Guide to Regional Record Retention” that requires keeping line logs for 3 years and trouble reports for 6 years but does not reference a FERC requirement.<sup>478</sup> Again, PG&E's inability to respond accurately and concisely to CPSD's data requests is telling information about the state of PG&E's records and PG&E's own lack of knowledge about them and its lack of control over company data.

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<sup>472</sup> CPSD Ex. 16, p. 5

<sup>473</sup> PG&E OB, p. 151.

<sup>474</sup> CPSD Ex. 16, p. 5.

<sup>475</sup> CPSD Ex. 16 p. 5.

<sup>476</sup> R.T. at 751-752 (PG&E/Zurcher).

<sup>477</sup> PG&E OB, p. 151.

<sup>478</sup> See DR23 Q26 Atch08; and DR23 Q26 Atch08 p22.

**Violation B6: Violation B6 Is Independent of Violation 17 and Validly Supported by Multiple Pieces of Evidence in the Record**

Violation B6 states that “At all times between 1955 and 2010, PG&E was aware of the requirement to retain and maintain certain documents for various lengths of time but failed to implement their practices fully.”<sup>479</sup> In defense, PG&E states that CPSD only provides evidence of one instance (Pipeline History Files) where PG&E failed to comply with specific records retention requirements.<sup>480</sup> PG&E claims that Dr. Duller and Mrs. North’s discussion of pipeline history files overlaps substantially, (if not completely) with Felts Violation 17.<sup>481</sup> PG&E also asserts that by CPSD’s own account, the Pipeline History Files went missing after PG&E rescinded the standard.<sup>482</sup> In PG&E’s view, asserting that PG&E should have retained the Pipeline History Files after 1987 confuses the “desirable with the mandatory.”<sup>483</sup> PG&E incorporates its discussion of Felts Violation 17 by reference into its argument in defense of Violation B6.<sup>484</sup> CPSD also incorporates its Reply Brief discussion of Felts Violation 17 by reference into its argument here.

As discussed in detail in CPSD’s Opening Brief, Violation B6 is based on many facts, which make it an independent and discrete violation from Felts Violation 17. While Violation B6 identifies PG&E’s failure to keep Pipeline History Files, it also identifies PG&E’s failure to follow its own requirements to keep strength pressure test records for the life of the facility.<sup>485</sup> The violation also discusses PwC findings that support the point that PG&E did not follow its own requirements. CPSD should not be penalized into consolidating this violation with Felts Violation 17 simply because it

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<sup>479</sup> CPSD Ex. 16, p. 5.

<sup>480</sup> PG&E OB, p. 152.

<sup>481</sup> PG&E OB, p. 152.

<sup>482</sup> PG&E OB, p. 153, Citing CPSD Ex. 6 at P. 6-37 (quoting NTSB Telephonic Interview with Larry Medina).

<sup>483</sup> PG&E OB, p. 153, citing PG&E Ex. 61, at 2-23.

<sup>484</sup> PG&E OB, pp. 152-153.

<sup>485</sup> See CPSD OB, p. 201, fn 711 and 712.



reiterated PG&E’s problem with discarding a multitude of pipeline history files. CPSD emphasizes that it could have lawfully and appropriately taken the view that the discarding of each pipeline history file constituted one separate violation, but chose to be more conservative. Both violations have sufficient evidence to meet their burden. Indeed, if Violation 17 includes all of the evidence based upon Pipeline History Files, this Violation still meets its burden based either upon PG&E’s failure to follow pressure test requirements, or upon PwC’s general comments.

Moreover, the record shows that PG&E’s wrongly states that it was not required to retain Pipeline History Files after 1987 for several reasons. First, PG&E’s History File Requirements Manual from February 14, 1996 actually incorporated PG&E’s complete standard practice 463.7 from 1969 in its entirety, including the requirement to keep pipeline history files for life of the facility.<sup>486</sup> In the words of that manual,

“The manual is to ensure that all personnel responsible for maintaining GSM's [Gas system maintenance] records are working to the most recent changes in the CPUC General Order 112 (revision "E" was adopted in September, 1995)”.<sup>487</sup>

Second, PG&E cannot simply end its requirement to keep pipeline history files for the life of the facility by discontinuing it.<sup>488</sup> Otherwise, the requirement to keep files for the life of the facility was never valid to begin with, because it would only last until PG&E decided it suited its needs to end that requirement.

### **C. Other Alleged Safety/Pipeline Integrity Violations**

#### **Violation C.1: Wrong Year Used as Upper Limit in Gas Pipeline Replacement Program**

##### **a) Introduction**

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<sup>486</sup> P2-1477 pp. 4 and 563.

<sup>487</sup> P2-1477 p. 4.

<sup>488</sup> CPSD OB, p. 181.

CPSD Violation C.1 alleges that “In 2007, PG&E was informed that in 1995 it selected the wrong year as the upper limit for its Gas Pipeline Replacement Program (1947 rather than 1948) and for assessing the excavation threat to PG&E’s gas transmission pipelines. As a result both line 132 and line 151 were excluded from PG&E’s 1995 Gas Pipeline Replacement Program (GPRP). If line 132 had been included in this program and replaced, the San Bruno rupture and fire could have been avoided”.<sup>489</sup> There is more than ample evidence to support CPSD’s charges, as identified in CPSD’s opening brief.<sup>490</sup>

PG&E’s opening brief refers to three defenses to Violation C1. Firstly, PG&E claims that “sections of Line 132 built in 1948 did not meet other criteria for inclusion in the GPRP and as such they would not have been replaced regardless of the perceived records mistake”.<sup>491</sup> Secondly, PG&E argues that Line 132, Segment 180 would not have been a candidate for replacement under the GPRP because (a) “the girth welds on Segment 180 were constructed using the beveled-edge configuration, and the weld was made using the shielded metal arc welding process” and (b) Line 132, Segment 180 was constructed in 1956.<sup>492</sup> Thirdly, PG&E suggests that the 1990 GPRP reports shows that the GPRP program only contemplated replacing the portion of Line 132 that contained suspect girth welds, not all of it; and not Segment 180.<sup>493</sup> CPSD will address each of these three arguments in the same order shown in this paragraph.

The evidence compiled by CPSD clearly demonstrates that PG&E’s arguments are devoid of merit. CPSD will not repeat its opening brief discussion, but we will point out a few evidence highlights.

**b) If PG&E’s Safety Records Relating to Line 132 Segment 180 Were Present and Accurate, the Record Shows that PG&E Would Have Replaced That Pipe**

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<sup>489</sup> Ex. CPSD-7, page 4 of 5.

<sup>490</sup> CPSD OB, March 26, pp. 209 through 211.

<sup>491</sup> PG&E OB, p. 155.

<sup>492</sup> PG&E OB, p. 156.

<sup>493</sup> PG&E OB, p. 157.

PG&E’s opening brief claims that “sections of Line 132 built in 1948 did not meet other criteria for inclusion in the GPRP and as such they would not have been replaced regardless of the perceived records mistake”.<sup>494</sup> However, for reasons discussed here, and under subheading D of this violation, the evidence shows that if the records for Line 132 Segment 180 had been available and reviewed as part of the GPRP, or for any other reason up until the San Bruno explosion, PG&E would have replaced that segment. Indeed, PG&E’s own expert witness stated, “For the five pups that we were talking about, the records were in error. And I believe that if PG&E had known about it, it's my opinion they would have replaced that pipe”.<sup>495</sup> Moreover, despite over 1000 man years of effort associated with the MAOP project,<sup>496</sup> PG&E has been unable to locate important inspection reports and construction-related records relating to Segment 180 of Line 132.<sup>497</sup> PG&E has provided no evidence to deny this and has admitted that the data is missing or otherwise unknown.<sup>498</sup>

**c) Some of Line 132 Segment 180 Did Not Have Proper Welding and Was Defective, In Spite of Its Alleged Age**

Despite PG&E’s assertions that Segment 180 was constructed using a beveled-edge configuration and metal arc welding, the evidence in the record provided by the NTSB shows that not all of the girth welds on Segment 180 actually used this beveled-edge configuration. In its detailed examination of the failed pipe, the NTSB reports that “square pipe ends, as opposed to beveled pipe ends, were observed along several welds”.<sup>499</sup> According to PG&E’s witness, girth welds not constructed using a bevelled

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<sup>494</sup> PG&E Opening Brief, p. 155.

<sup>495</sup> RT 808:12-9 (Zurcher) and RT 830:17-19 (Zurcher)

<sup>496</sup> Administrative Law Judge’s Ruling Granting Motion of the Consumer Protection and Safety Division for Official Notice of: PG&E Pipeline Safety Enhancement Plan (PSEP) Expedited Application Workshop presentation. March 26, 2013. 15pp. E-mail to service list April 4, 2013.

<sup>497</sup> Ex. PG&E -61, p. 4-1 and Joint RT 536:11-17 (Harrison).

<sup>498</sup> Ex. PG&E -61, p. 4-1 and Joint RT 536:11-17 (Harrison) and CPSD DR 25 A02(i), Atch 11.

<sup>499</sup> Ex.CPSD-6, fn 1, Attachment 1 (NTSB August 30, 2011 Accident Report, NTSB/PAR-11/01, p. 43).

edge configuration would be more susceptible to ground movement-related failure.<sup>500</sup> The NTSB goes on to state that “all girth welds exhibited incomplete fusion, slag inclusion, and porosity defects at one or more locations”.<sup>501</sup>

PG&E also suggests that the fact that Line 132, Segment 180 was constructed in 1956 using more superior configuration and welding methods meant that it would not have been replaced.<sup>502</sup> However, the NTSB provides reasons why the pipe’s age of construction alone is inadequate to determine that it should not be replaced. The NTSB concludes its report by stating that “the accident pipe would not have met generally accepted industry quality control and welding standards in 1956, indicating that those standards were overlooked or ignored” and “PG&E’s inadequate quality control during the 1956 relocation project led to the installation and commissioning of a defective pipe that remained undetected until the accident, 54 years later”.<sup>503</sup>

**d) PG&E Informed the NTSB that It Would Replace All Aging Natural Gas Pipelines in Its System by 2010**

PG&E’s opening brief also claims that “the GPRP program only contemplated replacing the portion of Line 132 that contained suspect girth welds, not all of it; and not segment 180”.<sup>504</sup> However, PG&E’s assertions are at odds with NTSB’s statements made in reliance upon information from PG&E. The NTSB identified the following as part of a “Multiyear Replacement Project”,<sup>505</sup> stating that:

According to the PG&E GIS, in 1995, PG&E replaced several sections of Line 132, including segments that ended about 565 feet to the south and about 610 feet to the north of Segment 180. These replacements were part of a multiyear replacement project

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<sup>500</sup> Ex. PG&E-61 at 3-52 (PG&E/Roth).

<sup>501</sup> Ex.CPSD-6, fn 1, Attachment 1 (NTSB August 30, 2011 Accident Report, NTSB/PAR-11/01, p. 43).

<sup>502</sup> PG&E Opening Brief, p. 155

<sup>503</sup> Ex.CPSD-6, fn 1, Attachment 1 (NTSB August 30, 2011 Accident Report, NTSB/PAR-11/01, p. 96).

<sup>504</sup> PG&E Opening Brief, p. 157. This section also refutes PG&E’s argument that is addressed under subheading C of this violation section.

<sup>505</sup> Ex.CPSD-6, fn 1, Atch1 (NTSB August 30, 2011 Accident Report, NTSB/PAR-11/01, p. 29).

on the peninsula lines to address seismic hazards. . . .According to a PG&E public information fact sheet, the purpose of the multiyear project, which began in 1985, was ‘to maintain safe and reliable gas service to our customers,’ and it would eventually ‘**replace all aging natural gas pipelines in the system over a 25-year period.**’ In addition to seismic hazard, other factors considered in setting replacement priorities for the project were age, construction factors, and condition of the pipe.<sup>506</sup> [*emphasis added*]

If PG&E had replaced all of Line 132 over a 25 year period beginning in 1985, the offending pipe would have been replaced by 2010 and the rupture and fire would have been avoided.

#### **e) Conclusion**

As shown above, the evidence establishes that not all of the girth welds on Segment 180 were constructed using the beveled-edge configuration that PG&E claims – PG&E’s records were in error. As such, this section of pipe should not have been ignored for 54 years, but considered for replacement as part of the GPRP program. If the ‘missing’ inspection reports and other records relating to this segment had been available for review by the GPRP, Integrity Management or other engineers within PG&E, the risk associated with this segment would have been identified and the pipe included as a priority target for replacement. And if the information would not have caused that result, it would only be because PG&E’s integrity management decisions were inadequate and inconsistent with known information or even the lack of it. Moreover, the NTSB identified that PG&E had a multiyear project to replace aging pipelines in 1985, which appears to have included Line 132. Because PG&E disagrees with the evidence presented by CPSD on these matters, CPSD requests that the Commission weigh the evidence and provide findings that reflect its decision as the finder of fact.

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<sup>506</sup> Ex.CPSD-6, fn 1, Atch1 (NTSB August 30, 2011 Accident Report, NTSB/PAR-11/01, p. 29).

## **Violation C.2: Impact of Inferior Records on Predicting Earthquake Damage**

### **a) Introduction**

CPSD Violation C.2 alleges that that “PG&E’s lack of the necessary accurate and readily locatable gas transmission line records meant that it was unable to precisely identify which of its pipelines were more prone to extensive damage during some earthquakes and thereby ensure safe pipeline operation”.<sup>507</sup>

PG&E’s brief adopts five defenses to Violation C2.<sup>508</sup> First, PG&E believes that this violation is based upon a factual misunderstanding about the age of girth welds in reconditioned and reused pipe.<sup>509</sup> Second, PG&E states that “there is no evidence in the record that ground movement poses a significant risk of failure to longitudinal seams on transmission pipe”.<sup>510</sup> Third, PG&E claims that CPSD’s sole initial support for violation C.2 comprises of little more than block quotes from a FEMA Report on earthquake resistant pipeline construction methods.<sup>511</sup> Fourth, PG&E asserts that the FEMA report provides no evidence of PG&E’s recordkeeping practices.<sup>512</sup> Fifth, PG&E claims that CPSD did not address the sufficiency of PG&E’s efforts to address risk from ground movement.<sup>513</sup> The subheadings immediately below address each of these points in the order they are shown here.

The evidence compiled by CPSD clearly demonstrates that PG&E’s arguments are devoid of merit. CPSD will not repeat its opening brief discussion,<sup>514</sup> but we will point out a few evidence highlights.

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<sup>507</sup> Ex. CPSD-7, p. 5 of 5.

<sup>508</sup> PG&E OB, pp. 157 through 160.

<sup>509</sup> PG&E OB, p. 158.

<sup>510</sup> PG&E OB, p. 159, fn 962.

<sup>511</sup> PG&E OB, pp. 157 through 158.

<sup>512</sup> PG&E OB, pp. 157 through 158.

<sup>513</sup> PG&E OB, p. 158.

<sup>514</sup> CPSD Opening Brief, March 26, pp. 213 through 218.

**b) Weld Quality Defects were Identified on Line 132 Both Before and After the San Bruno Explosion**

PG&E suggests a factual misunderstanding about the age of girth welds in reconditioned and reused pipe.<sup>515</sup> PG&E has also asserted that the modern and superior “beveled edge” girth welds used in Line 132 Section 180 are less susceptible to ground movement-related failure than certain older welds.<sup>516</sup> However, as the evidence of Line 132 Segment 180 shows, PG&E is not providing a complete picture of the girth welds and their ages in its system. First, PG&E admits it does not know the origin of pipe used to construct segment 180,<sup>517</sup> and that some of Segment 180 may be reconditioned pipe.<sup>518</sup> Second, according to the NTSB, not all of the girth welds on Segment 180 were constructed using this beveled-edge configuration,<sup>519</sup> and that all girth welds on Segment 180 had other problems.<sup>520</sup>

It was the NTSB, not CPSD experts, that pointed out the problems with the age of pipe and weld quality in Segment 180. The NTSB concluded “the accident pipe would not have met generally accepted industry quality control and welding standards in 1956, indicating that those standards were overlooked or ignored” and “PG&E’s inadequate quality control during the 1956 relocation project led to the installation and commissioning of a defective pipe that remained undetected until the accident, 54 years later.”<sup>521</sup> FEMA’s report on the construction of earthquake resistant pipelines, states that

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<sup>515</sup> PG&E OB, p. 158.

<sup>516</sup> Ex. PG&E-61 at 3-52 (PG&E/Roth).

<sup>517</sup> PG&E Ex. 61, p. 4-1, Lines 11-12.

<sup>518</sup> PG&E Ex. 61, p. 4-2, Line 6-8.

<sup>519</sup> Ex.CPSD-6, fn 1, Atch.1 (NTSB August 30, 2011 Accident Report, NTSB/PAR-11/01, p. 43).

<sup>520</sup> Ex.CPSD-6, fn 1, Atch.1 (NTSB August 30, 2011 Accident Report, NTSB/PAR-11/01, p. 43) (According to the NTSB, these other problems included incomplete fusion, slag inclusion, and porosity defects at one or more locations.)

<sup>521</sup> Ex.CPSD-6, fn 1, Atch.1 (NTSB August 30, 2011 Accident Report, NTSB/PAR-11/01, p. 96).

“Careful quality control over pipeline manufacture and welding is a necessity for achieving the desired performance” (in earthquakes).<sup>522</sup>

PG&E has expressed significant uncertainty about the age and quality of welds in reconditioned and reused pipe. For example, PG&E has already acknowledged that it did not in the past capture data identifying reconditioned pipe in the gas transmission system in its databases.<sup>523</sup> PG&E also admits it does not know the origin (age) of pipe used on segment 180.<sup>524</sup> A reasonable inference from that is other sections of Line 132 contain reconditioned pipe. In light of PG&E’s uncertainty about the records regarding age and welds on Line 132, CPSD observes three examples of PG&E not keeping complete or adequate records of poor quality welds and fabrication defects on other sections of Line 132 that were subject to seismic risk.

**Pre-San Bruno:** In October 1998, a DSAW segment on Line 132 had experienced a longitudinal seam leak at MP 30.44, about 8.78 miles south of the San Bruno rupture.<sup>525</sup> In that case, the NTSB found that:

“...until May 6, 2011, the PG&E GIS had listed the cause of the leak as “unknown”. However, as a result of records discovered during a PG&E post accident records search, information was added to indicate that 12 feet of Line 132 had been replaced “due to a longitudinal defect.” A leak survey inspection and repair report dated October 27, 1988, classified the cause of the leak as a “material failure” and indicated that a material failure report was prepared, but PG&E could not locate any such report”.<sup>526</sup>

In February 2010, 8 months prior to the San Bruno Rupture, PG&E identified a leak on Line 132 at milepost 42.98, three and a half miles from the San Bruno rupture site in South San Francisco, in a known geohazard zone deemed to be at risk of seismic

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<sup>522</sup> Ex. CPSD-6, p. 6-91, citing Yokel, F.Y. and Mathey, R.G. (1992) Earthquake Resistant Construction of Gas and Liquid Fuel Pipeline Systems Serving, or Regulated by, the Federal Government. Federal Emergency Management Agency, FEMA- 233, July 1992. p. 16.

<sup>523</sup> PG&E Ex. 61, p. 3-28, Lines 19-20.

<sup>524</sup> PG&E Ex. 61, p. 4-1, Lines 11-12.

<sup>525</sup> Ex.CPSD-6, fn 1, Atch.1 (NTSB August 30, 2011 Accident Report, NTSB/PAR-11/01, p. 38).

<sup>526</sup> Ex.CPSD-6, fn 1, Atch.1 (NTSB August 30, 2011 Accident Report, NTSB/PAR-11/01, p. 38).



activity. While this leak was eventually recorded as a "Pinhole leak" by PG&E, it was originally described by the PG&E project engineer who undertook the first-hand inspection of the leak as a "a crack-like" fabrication defect caused by pre-existing welding that had simply "popped open" .... "possibly due to soil stresses".<sup>527</sup> Both "incomplete fusion" and "incomplete penetration" were also recorded.<sup>528</sup>

**Post San Bruno:** In support of its suggestion that there is a factual misunderstanding about the age of girth welds in reconditioned and reused pipe,<sup>529</sup> PG&E has asserted that "the 30-inch diameter portion of Line 132 built in 1948 on GM 98015 was constructed using the same bevelled edge shielded metal arc welding technique (as Section 180).<sup>530</sup> However, in 2011 PG&E undertook a video inspection of a segment of line 132 between mile points 41.83 and 42.95 – through a known geohazard zone (a ground movement liquefaction hazard area). During this inspection PG&E found evidence of a "significant lack of penetration in girth welds".<sup>531</sup> These poor quality welding defects were serious enough to require immediate corrective action, as an initial material investigation of these girth welds by PG&E determined that "the welds could fail in a major earthquake".<sup>532</sup> The corrective action undertaken by PG&E included the insertion of 16-inch diameter insert pipe into the existing 30-inch diameter pipe between mile points 41.83 to 42.06, and from 42.19 to 42.95 to mitigate that potential risk of failure of Line 132 during an earthquake.<sup>533</sup> This is another example of the poor quality inspection records on Line 132 from 1948. A reasonable inference is that these weld quality defects could have been observed by visual inspection in 1948.

**c) Government Is Aware of the Risk of Ground Movement on Pipe Welds Other than Just Girth Welds**

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<sup>527</sup> CPSD DR-72, AGUIAR, DAVE, DAVE AGUIAR\_05-18-2012\_Redacted.pdf, pp. 240-243.

<sup>528</sup> CPSD DR-72, AGUIAR, DAVE, DAVE AGUIAR\_05-18-2012\_Redacted.pdf, pp. 240-243.

<sup>529</sup> PG&E OB, p. 158.

<sup>530</sup> PG&E Ex. 61, p. 3-52.

<sup>531</sup> CPSD DR-72, STRACKE, EDWARD ALAN STRACKE 03-26-2012\_Redacted.pdf, pp. 97-107.

<sup>532</sup> CPSD DR-72, STRACKE, EDWARD ALAN STRACKE 03-26-2012\_Redacted.pdf, pp. 97-107.

<sup>533</sup> CPSD DR-72, STRACKE, EDWARD ALAN STRACKE 03-26-2012\_Redacted.pdf, pp. 97-107.

PG&E states that “there is no evidence in the record that ground movement poses a significant risk of failure to longitudinal seams on transmission pipe”.<sup>534</sup> If this were true, it might assuage PG&E’s error that called Segment 180 seamless.<sup>535</sup> However, the record shows that government is aware of this problem. In FEMA’s words “current design practice does not include a method for calculating the stress induced in a pipe due to longitudinal bending, nor does current practice address the potential fatigue of longitudinal and girth welds”.<sup>536</sup>

The record also shows that government considers all kinds of pipeline stresses related to ground movement. That same FEMA report also considers other types of pipeline failure such as bending, beam or local buckling, wrinkling, tearing and rupture, all of which have been observed in earthquake damaged pipelines. Beam or local buckling, and excessive bending of pipelines is cited by FEMA as a possible cause of pipeline failure resulting from fault movement (including creep), landslides and other large-scale ground movements. FEMA also point out that pipelines with bends, elbows, and local eccentricities would concentrate deformation at these features, especially if ground movements develop compressive strains.<sup>537</sup> The pups on Line 132 would be an example of one such ‘local eccentricity’.

**d) CPSD has provided extensive evidence of poor records management in PG&E Prior to the San Bruno pipeline rupture, all of which support of this violation**

PG&E claims that CPSD’s sole initial support for violation C.2 comprises of little more than block quotes from a FEMA Report on earthquake resistant pipeline

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<sup>534</sup> PG&E OB, p. 159, fn 962.

<sup>535</sup> Ex.CPSD-6, fn 1, Atch.1 (NTSB August 30, 2011 Accident Report, NTSB/PAR-11/01, p. 1).

<sup>536</sup> Ex. CPSD-6, p. 6-91, citing Yokel, F.Y. and Mathey, R.G. (1992) Earthquake Resistant Construction of Gas and Liquid Fuel Pipeline Systems Serving, or Regulated by, the Federal Government. Federal Emergency Management Agency, FEMA- 233, July 1992. p. 36.

<sup>537</sup> Ex. CPSD-6, p. 6-91, citing Yokel, F.Y. and Mathey, R.G. (1992) Earthquake Resistant Construction of Gas and Liquid Fuel Pipeline Systems Serving, or Regulated by, the Federal Government. Federal Emergency Management Agency, FEMA- 233, July 1992. p. 36.

construction methods is without merit.<sup>538</sup> This argument seems to ignore the actual substance of those quotes. In any case, the extensive testimony of PG&E's records management activities undertaken by both Dr Duller and Mrs. North underpins all of the records management violations in this case. The basis of PG&E's defense in this matter is devoid of merit and as such, is not discussed further.

**e) The 1992 FEMA Report Identified the Need for Earthquake Resistant Construction of Gas and Liquid Fuel Pipeline Systems, not PG&E's Recordkeeping Practices**

PG&E asserts that the 1992 FEMA report provides no evidence of PG&E's recordkeeping practices.<sup>539</sup> This statement is correct, but irrelevant to PG&E's defense of violation C.2.<sup>540</sup> The FEMA report simply "highlighted the issue of earthquake risk across the United States and its relationship to pipelines",<sup>541</sup> and established a direct link between the age of pipeline, construction, weld quality and earthquake risk, all of which have been discussed at length in the previous sections. PG&E's defense in this matter is devoid of merit and is not discussed further.

**f) PG&E Made Pipeline Related Decisions to Address Ground Movement Based upon an Incomplete Set of Records**

PG&E claims that CPSD did not address the sufficiency of PG&E's efforts to address risk from ground movement.<sup>542</sup> CPSD is fully aware of PG&E's extensive efforts to address risk from ground movement. However, CPSD points out several significant facts in the record that also suggest recordkeeping related failures due to lack of effort to address transmission pipeline risk from ground movement.

- **The San Bruno Geohazard Zone that was never fully investigated:** The evidence shows that in 1991, PG&E's Director of Geosciences prepared a

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<sup>538</sup> PG&E OB, pp. 157 through 158.

<sup>539</sup> PG&E OB, pp. 157 through 158.

<sup>540</sup> PG&E OB, p. 158.

<sup>541</sup> R.T. 687 (CPSD/Duller and North).

<sup>542</sup> PG&E OB, p. 158.

report that identified the 2010 San Bruno rupture site as a "moderate hazard"<sup>543</sup> given its close proximity to the San Andreas Fault, which passes right under Glenview Road, and recommended that PG&E undertake a detailed study of this geohazard area as differential settling in the deep fill surrounding the site could add stresses to the pipe.<sup>544</sup> Despite the recommendations of PG&E's Director of Geosciences, PG&E never completed a detailed site investigation of this area prior to the rupture.<sup>545</sup>

- **PG&E's plan to replace all of line 132 by 2010 in order to address seismic and other hazards was never completed:** According to PG&E's GIS, in 1995, PG&E replaced several sections of Line 132, including segments that ended about 565 feet to the south and about 610 feet to the north of Segment 180. These replacements were part of a multiyear replacement project on the peninsula lines to address seismic hazards. Some segments of Lines 109 and 132 crossed the San Andreas Fault and were therefore rerouted to reduce seismic risk.<sup>546</sup> According to a PG&E public information fact sheet, the purpose of the multiyear project, which began in 1985, was "to maintain safe and reliable gas service to our customers," and it would eventually "replace all aging natural gas pipelines in the system over a 25-year period." In addition to seismic hazard, other factors considered in setting replacement priorities for the project were age, construction factors, and condition of the pipe.<sup>547</sup> This work was never completed.
  
- **Despite seismic activity impacting PG&E's pipeline network, PG&E's own policy documents downplay the seismic threat:** In the 1989 Loma

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<sup>543</sup> CPSD DR 68, Q04, Atach02, p. 58-63.

<sup>544</sup> CPSD DR 68, Q04, Atach02, p. 58-63.

<sup>545</sup> CPSD DR 68, Q04, Atach02, p. 58-63.

<sup>546</sup> Ex.CPSD-6, fn 1, Atch.1 (NTSB August 30, 2011 Accident Report, NTSB/PAR-11/01, p. 29).

<sup>547</sup> Ex.CPSD-6, fn 1, Atch.1 (NTSB August 30, 2011 Accident Report, NTSB/PAR-11/01, p. 29).

Prieta Earthquake, PG&E had three failures of transmission lines, and extensive damage to the cast iron distribution system in the San Francisco Marina District that resulted in the extensive pipe cast iron pipe replacement program in San Francisco<sup>548</sup> that is still ongoing today. PG&E own records, however, have downplayed this incident and impact of gas fuelled fires in its aftermath. Despite the fact that “at least 1,200 structures were so severely damaged that gas service to them could not be restored”<sup>549</sup> PG&E’s revised 1990 policy document on the “Installation of Seismic Shutoff (Earthquake) Valves On Customers' Gas Piping” characterized the Loma Prieta earthquake to have “created very limited gas hazards” ... “localized within small areas in Santa Cruz, Watsonville, Hollister and in the Marina district of San Francisco”.<sup>550</sup> This document goes on to describe the major structure fire in San Francisco's Marina district as of “unknown origin, but occurred after large portions of the buildings had collapsed”.

- **Fire following an earthquake is significant risk to PG&E:** PG&E’s Principal Risk Manager has received warnings from PG&E’s Geoscience Department that fire following an earthquake is a significant risk.<sup>551</sup> As such, in 2009, PG&E geoscientists recommended resizing gas distribution emergency shutdown zones in areas of known geohazard (fault crossings, landslides, liquefaction areas)<sup>552</sup> such as the San Bruno site, described above.
  
- **PG&E has sought to downplay the seismic risk to Line 132 Segment 180:** In February 2011, consultants working for PG&E classified the San Bruno

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<sup>548</sup> Ex. PG&E -61 at 3-51, Footnote 47, citing: Ex 3-21 Donald Ballantyne, *The ShakeOut Scenario* (Supplemental Study prepared for the USGS and California Geological Survey, 2008).

<sup>549</sup> CPSD DR-44, Q1, Atch 407, p. 14.

<sup>550</sup> CPSD DR-44, Q1, Atch 407, p. 14.

<sup>551</sup> CPSD DR72, Salas, Ed, Exhibit 264, PGE064, IMAGES, 001, PG&E2396666.pdf, p. 3.

<sup>552</sup> CPSD DR72, Salas, Ed, Exhibit 264, PGE064, IMAGES, 001, PG&E2396666.pdf, p. 3.

rupture site (adjacent to the San Andreas Fault) as a low seismic risk using satellite imagery.<sup>553</sup>

### **g) Conclusion**

The evidence compiled by CPSD clearly demonstrates that PG&E's arguments are devoid of merit. Because PG&E disagrees with the evidence presented by CPSD on these matters, we request that the Commission weigh the evidence and provide findings that reflect its decision as the finder of fact.

## **Violation C.3: Leak Records**

### **a) Introduction**

CPSD Violation C.3 alleges that that "PG&E failed to maintain a definitive, complete and readily accessible database of all gas leaks for their pipeline system as it failed to migrate all historical leak information from system to system. The incompleteness of critical leak information has contributed to diminished PG&E pipeline safety."<sup>554</sup>

PG&E's brief refers to six defenses to Violation C.3. First, PG&E claims that prior to integrity management rules, operators generally did not have systematic programs in place to evaluate pipe repair data.<sup>555</sup> Second, PG&E claims that its Leak Database (IGIS) "contains approximately 15 years of leak data which in the past was generally adequate for the kinds of leak analysis that PG&E performed."<sup>556</sup> Third, PG&E states that "leak data does get transferred into GIS".<sup>557</sup> Fourth, PG&E claims that "to the extent engineers need to access data outside of IGIS, they can do so by request to the IT department (in the case of electronic data) or local field offices (in the case of

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<sup>553</sup> Ex.CPSD-6, fn 1, Atch.1 (NTSB August 30, 2011 Accident Report, NTSB/PAR-11/01, p. 29).

<sup>554</sup> Ex.CPSD-7, p. 5 of 5.

<sup>555</sup> PG&E OB, p. 160.

<sup>556</sup> PG&E OB, March 25, p. 161.

<sup>557</sup> PG&E OB, March 25, p. 161.

paper A-Forms)”.<sup>558</sup> Fifth, PG&E argues that “older data may not be relevant if it was collected many years earlier before the integrity management program was developed”.<sup>559</sup> Finally, PG&E claims that it has “. . .undertaken numerous efforts to improve the quality of its recordkeeping following the San Bruno incident, including gathering all the hardcopy leak records from the local offices and loading these documents into a centralized database that will be linked to pipeline components in the new GIS (Intrepid) system”.<sup>560</sup>

PG&E maintains that Violation C.3 overlaps with Felts Violations 21 and 22, and as such incorporates by reference the portion of its brief above that addresses Felts Violations 21-22.<sup>561</sup> CPSD’s also incorporates by reference the portions of the CPSD reply brief that addresses Violations 21 and 22. CPSD also explains why Violation C.3 is distinct from Felts Violations 21 and 22 at the end of this section.

There is more than ample evidence to support CPSD’s charges, as identified in CPSD’s opening brief.<sup>562</sup> The evidence compiled by CPSD clearly demonstrates that PG&E’s arguments are devoid of merit. CPSD will not repeat its opening brief discussion, or the discussion relating to Violations 21 and 22 in the previous sections. We will, however, point out a few evidence highlights.

**b) PG&E Already Had a Systematic Risk Management Program in Place to Evaluate Pipe Repair Data, Prior to the Introduction of Integrity Management Rules**

PG&E argues that, prior to integrity management rules, operators generally did not have systematic programs in place to evaluate pipe repair data.<sup>563</sup> To clarify, PG&E has had its own risk management programs dating back to the late 1990’s,<sup>564</sup> and had safety

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<sup>558</sup> PG&E OB, March 25, p. 161.

<sup>559</sup> PG&E OB, March 25, p. 161.

<sup>560</sup> PG&E OB, March 25, p. 161.

<sup>561</sup> PG&E OB, p. 161.

<sup>562</sup> CPSD OB, March 26, pp. 218 through 224.

<sup>563</sup> PG&E OB, p. 160.

<sup>564</sup> PG&E June 20, 2011 Response, p. 6C-1.

risk assessment practices of transmission pipelines as far bad as the 1950's and 1960's.<sup>565</sup> These all pre-date the integrity management rules in the Code of Federal Regulations and PG&E was required to follow its own risk management programs under 49 CFR 192.13(c). However, even if PG&E's suggestion is true, PG&E provides no evidence to suggest its engineers did not need complete, accurate and readily accessible pipeline history data to evaluate risk of each *individual* pipeline. Because PG&E had its own risk management programs in place prior to the integrity management rules, it should have had the complete and readily accessible leak records it lacked.

**c) PG&E's Leak Records Should Have Been Readily Accessible to PG&E for the Life of the Facility**

PG&E claims that its leak database, IGIS, contains approximately 15 years of leak data, which in the past was generally adequate for the kinds of leak analysis that PG&E performed.<sup>566</sup> This means that PG&E preferred this approach to referring to original source documentation or the entire leak history of the pipeline in question. This claim is harmonious with PG&E's attitude that even though Commission required records to be kept, it did not really require those same records to be retrievable.<sup>567</sup> However, the record shows that several different requirements, NTSB recommendations and even PG&E's own witnesses support the point that each PG&E leak record should have been readily accessible for the life of the facility.

Applicable laws and requirements are constructed in support of the view that each leak record of PG&E's complete set must be readily accessible for the life of the facility. Since 1955, ASME standard B31.8 has consistently stated that "Records should be made covering all leaks discovered and repairs made. All pipeline breaks should be reported in detail. These records, along with leakage survey records, line patrol records, and other records relating to routine or unusual inspections should be kept in the file of the operating company involved, as long as the section of the line involved remains in

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<sup>565</sup> PG&E June 20, 2011 Response, p. 6C-3.

<sup>566</sup> PG&E OB, p. 161.

<sup>567</sup> See Pacific Gas and Electric Company's Response, June 20, 2011, p. 1-29, Lines 12-17.



service”.<sup>568</sup> PG&E actually referenced the 1958 version of ASME standard B31.8, and replaced all of words that say “should” with “shall”.<sup>569</sup>

In order to address leak related issues identified by the NTSB<sup>570</sup> and comply with NTSB recommendation P-11-29,<sup>571</sup> PG&E finally had to recognize and follow the requirements that its leak records be readily accessible. Specifically, PG&E had to revise its risk model in 2012 to take account of **all defects and leak data for the life of each pipeline** including its construction and risk analysis for similar or related segments to ensure that all applicable threats are adequately addressed.<sup>572</sup> PG&E’s own integrity management witness acknowledged this, when she stated:

And PG&E created a response back dated on May 16, 2012, and it addressed some of the issues that the NTSB identified, which was a revised risk model to reflect that Pacific Gas and Electric Company's actual recent experience data on leaks, failures, and incidents. That was number one. Number two was consideration of all defects and leak data for the life of each pipeline including its construction and risk analysis for similar or related segments to ensure that all applicable threats are adequately addressed.<sup>573</sup>

Even PG&E’s own expert engineering witness rebutted PG&E’s assertion that 15 years of leak data was adequate. Instead, she testified that the **completeness of leak history data** was important to the engineering decision making process.<sup>574</sup>

I think as an engineer I like to have as complete a data set as possible in making any decisions that I would make, leak data being one of those. Not all leaks would be relevant necessarily, but having that complete data set allows me to make better decisions about

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<sup>568</sup> See for example, PG&E Ex. 47 §851.5; See also CPSD Ex. 6, p. 9-161 referencing ASME standards for leaks from 1955-2010.

<sup>569</sup> Pacific Gas and Electric Company’s Response, June 20, 2011 p. 1-27.

<sup>570</sup> Ex.CPSD-6, fn 1, Atch. 1 (NTSB August 30, 2011 Accident Report, NTSB/PAR-11/01, p 131).

<sup>571</sup> Ex.CPSD-6, fn 1, Atch. 1(NTSB August 30, 2011 Accident Report, NTSB/PAR-11/01, p 131).

<sup>572</sup> TR 1448: 22 to 1449: 6 (PG&E\Kris Keas).

<sup>573</sup> TR 1448: 22 to 1449: 6 (PG&E\Kris Keas).

<sup>574</sup> TR 1924: 22 to 1925: 2 (PG&E\Cowsert-Chapman).

what is relevant, what isn't relevant, and what impact that data might have on the decisions I make.<sup>575</sup>

PG&E's integrity management witness also provided testimony that suggests 15 years of leak records is not enough. She testified that PG&E has had to increase the completeness, coverage and availability of leak data by undertaking a large and comprehensive search for its historical leak records, which have then been consolidated into a centralized storage location, all for the purpose of improving PG&E's integrity management efforts.<sup>576</sup> In her words:

In addition to that is that we've done a very large and comprehensive scouring of old -- of information related to our leaks. And we've tried to centralize that into one location so that -- in the effort that Integrity Management makes the most -- makes their decisions based upon the most comprehensive and accurate data that **we can possibly get at** -- that's available, I should say<sup>577</sup>

Another PG&E integrity management engineering witness testified that information about a pinhole leak on Line 132 from 1988 (a leak record older than 15 years), was inaccessible to him in 2009, just prior to the San Bruno explosion. In his view, that information would have been important. <sup>578</sup>

“Q:...are you aware now of the 1988 leak that occurred in -- a pinhole leak in a longitudinal weld in Line 132?

A I got that information after the Long Term Integrity Management Plan was done. ....

Q And you never had that information at the time that you did this assessment in 2009; is that correct?

A That's correct.

Q Would that have been important information to you as an engineer or not?

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<sup>575</sup> TR 1924: 22 to 1925: 2 (PG&E\Cowsert-Chapman).

<sup>576</sup> TR 1203, Line 8-16 (PG&E/Kris Keas).

<sup>577</sup> TR 1203, Line 8-16 (PG&E/Kris Keas).

<sup>578</sup> TR 1893: 10 –23 (PG&E\Chih-Hung Lee)

A Yes”.<sup>579</sup>

**d) PG&E’s GIS Does Not Contain a Complete Set of Accurate, Readily Accessible, Quality Controlled Information, and Therefore Does Not Serve As a Valid Alternative to IGIS**

PG&E’s alleges that its leak data gets transferred into GIS,<sup>580</sup> suggesting it can serve as a valid alternative to PG&E’s IGIS leak database. However, the record shows that this alleged act does not make PG&E’s leak records, definitive, complete or readily accessible. While some leak data has been transferred to PG&E’s GIS system, the record shows that PG&E’s GIS leak data is not complete, consistent or of sufficient quality to be of use, and PG&E used seriously flawed leak information to populate its GIS. Moreover, PG&E cannot show that it checked the accuracy of the information transferred to GIS.

The record shows that PG&E’s GIS leak data is not complete, consistent or of sufficient quality to be of use. In 2012, PG&E’s mappers said that some gas jobs were not mapped in the prior eight years.<sup>581</sup> One of PG&E’s principal gas mappers highlighted that a “major problem” exists due to the fact that “tens of thousands if not a hundred thousand jobs or more were and/or remain unmapped”.<sup>582</sup> This mapper also noted a problem with “Unmapped facilities not indicated on the reduced gas plat maps given to Gas Leak Surveyor’s”.<sup>583</sup> PG&E has failed to perform timely leak surveys on a large percentage of its individual gas facilities, which has also had a direct impact on the timely collection of leak data.<sup>584</sup>

One of PG&E Principal Gas Mappers stated that “When discussing the issue of potential missing jobs with both Gas and Electric Mappers, most feel that the efforts to identify and map these jobs have been unorganized and hap-hazard at best. The

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<sup>579</sup> TR 1893: 10 –23 (PG&E\Chih-Hung Lee)

<sup>580</sup> PG&E Opening Brief at p. 161.

<sup>581</sup> PG&E Response to CPSD Data Request 25, Question 2(i) Supp 02Atch17, p. 2.

<sup>582</sup> PG&E Response to CPSD Data Request 25, Question 2(i) Supp 02Atch17.

<sup>583</sup> PG&E Response to CPSD Data Request 25, Question 2(i) Supp 02 Atch17, p. 2.

<sup>584</sup> PG&E Response to CPSD Data Request 25, Question 2(i) Supp 02Atch17.

unverified documents that have been used to map gas jobs are very questionable”<sup>585</sup>. PG&E’s GIS leak data is incomplete and of insufficient quality without proper mapping and leak information.

Also in illustration of incomplete GIS leak data, the record shows that PG&E’s integrity management team was aware that not all leak data was loaded into PG&E’s GIS system.<sup>586</sup>

“A. The A-forms are all can be loaded into GIS. And I'll also have a hard copy from the ECDA review. They have hard copy of all the A-forms they searched out in there also. Then I also check whether all the A-form information are consistent with the GIS. I found sometimes there are more information, and hard copy is not entered into GIS. I will request them to add in in the GIS.

Q You find that sometimes?

A Sometimes, yes.

Q All right.

Q So there's more

A They search in a different area to find out more A-forms that then they have entered into GIS. It happens.

Q Why does that happen?

A Because the data wasn't getting into GIS sometimes.”<sup>587</sup>

The record also shows that PG&E cannot demonstrate it checked the accuracy of leak information before transferring it to GIS.<sup>588</sup>

“Q: PG&E does not have any documentation of any quality assurance or quality control process for either the data transfer from

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<sup>585</sup> PG&E Response to CPSD Data Request 25, Question 2(i) Supp 02Atch17, p. 2.

<sup>586</sup> TR 1902: 3-26 (PG&E\Lee Page).

<sup>587</sup> TR 1902: 3-26 (PG&E\Lee Page).

<sup>588</sup> TR 1969: 19-27 (PG&E\Cowsert-Chapman).

hard copies to pipeline survey sheets, the first step we were talking about, and from the pipeline survey sheets to GIS?

A That's correct. We've not been able to locate any documentation of that process.<sup>589</sup>

Moreover, PG&E's own public presentations on this matter have shown that during the population of the GIS, individual field validation was not performed, inaccurate or inconsistent pipeline attribute values were being populated<sup>590</sup> and pipelines and facilities could be inadvertently deleted and/or not discovered until much later.<sup>591</sup>

**e) PG&E Cannot Readily Access Leak Data Outside of Its IGIS Database**

PG&E claims that to the extent engineers need to access data over 15 years old held outside of IGIS, they can do so by making requests to the IT department or local field offices.<sup>592</sup> Leak records are required by law to be kept for the operating life of pipeline assets.<sup>593</sup> In addition, the commission's GO 112-D section 101.4 required that such records shall be available for inspection at all times by the commission or commission staff.

To put PG&E's claim into proper context, PG&E's current leak database (IGIS) recorded details of 27,771 leak records at the time of the CPSD review in November 2011.<sup>594</sup> When IGIS was created in 1999, PG&E failed to transfer and deliberately omitted over a million leak related records dating from 1970-1999 from IGIS.<sup>595</sup> These absent leak records represent over 97%<sup>596</sup> of the total number of leak records recorded in

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<sup>589</sup> TR 1969: 19-27 (PG&E\Cowsert-Chapman).

<sup>590</sup> TR 1989: 25 to 1990: 20 (PG&E\Cowsert-Chapman) citing: Ex. TURN-14 and reference to paper presented by PG&E gas engineer (Mary Muse) at the 2004 convention in San Diego.

<sup>591</sup> TR 1993: 3-6 (PG&E\Cowsert-Chapman) citing: Ex. TURN-14 and reference to paper presented by PG&E gas engineer (Mary Muse) at the 2004 convention in San Diego.

<sup>592</sup> PG&E Opening Brief at p. 161.

<sup>593</sup> Ex. CPSD- 8, p. 25, Line 5-6, citing: CPSD DR 69, Q5.

<sup>594</sup> Ex. CPSD- 6, p. 6-88, Line 17-19.

<sup>595</sup> Ex. CPSD- 8, p. 25, Line 5-6, citing: CPSD DR 69, Q5.

PG&E's entire history - 36 times<sup>597</sup> more leak records than were held in the PG&E's live IGIS database at the time of the CPSD review in 2011.<sup>598</sup>

As part of this investigation, CPSD asked PG&E whether it could count the total number of leaks it has on each transmission line since its installation. Twelve days later, PG&E informed CPSD it could not, explaining as follows:

“PG&E believes that taken together its leak records and databases contain information about substantially all leaks on the gas transmission system. However, the records are not fully integrated, making it difficult to count the total number of leaks across the entire transmission system”.<sup>599</sup>

PG&E could not make use of its IT department and field offices to answer CPSD's simple and direct question about its leaks in a time-sensitive way. Undoubtedly, there are many more complex and safety-critical questions that PG&E will be unable to answer using these resources too. In light of this many records missing from IGIS, it is not realistic to suggest that PG&E's leak records are readily accessible.

**f) Leak History Data of Each Active Pipeline Is Necessary for PG&E to do Proper Integrity Management**

PG&E selectively quotes from ASME B31.8S that “older data may not be relevant if it was collected many years earlier before the integrity management program was developed”.<sup>600</sup> PG&E also repeats their expert witness statement that “Information about a corrosion leak in one place does not impart information about the threat of corrosion leak in another place”.<sup>601</sup> This statement undermines PG&E's risk-based approach to integrity management, as evidenced by PG&E's own expert witness statements. The

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<sup>596</sup> The % of total leak records in IGIS is calculated by dividing the 27,771 IGIS records by the combined total of 27,771 IGIS leak records and 1,000,000 mainframe records not transferred to IGIS (i.e. 27,771 divided by 1,027,771 = 0.027 (or 2.7%). The percentage of Leak records NOT in IGIS is therefore 100% subtracted from 2.7% or 97.3%.

<sup>597</sup> This multiple is calculated by dividing 1,000,000 by 27,771 = 36.008

<sup>598</sup> Ex. CPSD-6, p. 6-88, Line 17-19.

<sup>599</sup> PG&E Response to CPSD Data Request 40, Q2.

<sup>600</sup> PG&E OB, pp.160-161.

<sup>601</sup> Joint RT 733-34 (PG&E/Zurcher).

record shows that leak data and leak history are valuable inputs that help safety engineers assess the safety of pipelines.<sup>602</sup>

“Q And what's your opinion as to the usefulness for a safety engineer of number of leaks on a particular pipeline or segment?

A The usefulness of the information?

Q Yes.

A Number of leaks on a pipeline?

Q Yes.

A Depends on the nature of the leaks, the frequency, the location. There's a lot of variables in that, but it's a general indicator of a pipeline that may have more issues and need closer attention than another pipeline that didn't have leaks.”<sup>603</sup>

The record shows that older leak data and leak history are important for integrity management. For example, a CPSD/PHMSA Audit found PG&E to be in violation of 49 CFR section 192.917(b) for not considering leak data for both covered and similar non-covered segments for the entire pipeline.<sup>604</sup> As another example, PG&E’s integrity management witness testified that leak history could impact PG&E’s manufacturing threat identification, and that “construction evaluation code specifically references incident history as one of the data sets that we need to evaluate when identifying a manufacturing and construction threat.”<sup>605</sup>

**g) PG&E’s Future Efforts to Gather and Centralize Leak Records Should Be Given No Weight**

PG&E claims it has undertaken numerous efforts to improve the quality of its recordkeeping following the San Bruno incident, including various measures to gather

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<sup>602</sup> TR 1872: 26 to 1873: 10 (PG&E\Arnett).

<sup>603</sup> TR 1872: 26 to 1873: 10 (PG&E\Arnett).

<sup>604</sup> TR 2003:18 to 2004: 7 (PG&E\Cowsert-Chapman) re: Ex. CCSF-11 (CPSD/PHMSA Audit 2011).

<sup>605</sup> TR 1493:25 to 1494:11 (PG&E\Kris Keas).

and centralize leaks.<sup>606</sup> The fact that PG&E may have changed or improved its recordkeeping practices since the San Bruno explosion is welcome, but is not a valid affirmative defense. Indeed, rather than shield PG&E from liability, evidence of subsequent remedial measures can be used to show that a negligent condition previously existed, and to show the possibility or feasibility of eliminating the cause of the incident. *Love v. Wolf*, 249, Cal. App. 2d 822, 831 (1967).

#### **h) Violation C.3 Is Distinct from Felts Violations 21 and 22**

PG&E maintains that Violation C.3 overlaps with Felts Violations 21 and 22. However, Violation C.3 and Violations 21 and 22 are separate and distinct. This section and Section C3 in CPSD's opening brief have both shown lack of complete and readily accessible information at a systemic level. This is the personification of poor records management, which is why it is one of Dr. Duller's and Mrs. North's violations. In sharp contrast, Felts Violations 21 and 22 are based upon her engineering perspective. CPSD also notes that it conservatively asserted only three violations related to problematic leak records in this case rather than the thousands it could have asserted if it had chosen to assert one for each lead record that was either missing or not readily accessible. For PG&E to suggest that these violations should be consolidated further is not justified given the facts in the record.

#### **i) Conclusion**

Because PG&E disagrees with the evidence presented by CPSD on these matters, CPSD requests that the Commission weigh the evidence and provide findings that reflect its decision as the finder of fact.

### **VII. ALLEGATIONS RAISED BY CCSF TESTIMONY\***

### **VIII. ALLEGATIONS RAISED BY TURN TESTIMONY\***

### **IX. ALLEGATIONS RAISED BY CITY OF SAN BRUNO TESTIMONY\***

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<sup>606</sup> PG&E Opening Brief, p. 161.



## **X. CONCLUSION**

PG&E's recordkeeping has been so atrocious, that despite the fact that the Commission issued this OII in February, 2011, and PG&E has purportedly reviewed 3.7 million documents to date, PG&E still is "missing" numerous documents about certain transmission segments. Therefore, PG&E estimates the date it may be able to file a new application for MAOP Validation, which has Quality Assurance/Quality Control as part of the process, to be in late August or September, 2103. *See* RON, CPSD Ex. 2 (PG&E Power Point at the March 26, 2013 PSEP Workshop), pp. 4, 7-8.

PG&E maintains that it has not violated any statutory requirements, Commission orders, or Commission regulations, because PG&E was unaware that it had an obligation to protect the public from the dangers posed by its high pressure transmission lines even if PG&E could not verify their MAOP. It took the San Bruno tragedy to remind PG&E that it indeed has this obligation, and to remind this Commission that it has the Constitutional and statutory authority to enforce this obligation. The Commission, therefore, must enforce these safety requirements and let PG&E know that it does not accept PG&E's excuses. This is not only necessary in order to gain back the public's trust, but more importantly to protect the public in the future by setting an example of PG&E. If the Commission does not find PG&E has violated numerous laws and regulations in this case, which resulted in the worst disaster in the history of the Commission's regulation of natural gas or electric utilities and potentially endangered other communities, then when could the public ever expect the Commission to fulfill its Constitutional and statutory duty?

Respectfully submitted,

/s/ HARVEY Y. MORRIS

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