BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA

Order Instituting Investigation on the Commission's Own Motion into 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)

OPENING BRIEF
OF PACIFIC GAS AND ELECTRIC COMPANY
REVISED PER ALJ'S RULING

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I. INTRODUCTION AND SUMMARY[1]

PG&E deeply regrets the loss of life and injuries and the effect on the San Bruno community caused by the September 9, 2010 rupture and explosion on Line 132. PG&E is morally and legally responsible for this tragic accident and has acknowledged liability to those injured. As a result of the accident, PG&E – along with the industry as a whole – has learned many lessons, and the company has committed to making real and lasting changes to enhance the safety of its gas system. 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. PG&E has taken and continues to take significant steps to bring its gas operations up to the highest quality. For example, since the San Bruno tragedy, PG&E has retrieved, scanned and uploaded more than 3.5 million paper documents dating back more than 50 years and has started to implement a significant new asset management program to transition away from reliance on traditional paper records, increase data accuracy and integrate records into a single electronic database.

In the immediate aftermath of the accident, it became apparent that PG&E's Geographic Information System (GIS) contained erroneous information. GIS identified Segment 180, the segment of Line 132 that ruptured, as seamless pipe. That the pipe had a longitudinal seam and that seam had burst was visible at the scene of the accident. Shortly after, the National Transportation Safety Board (NTSB) discovered that the ruptured section also consisted of several short pieces of pipe known as pups. PG&E's records did not reflect the presence of the pups.

The initial GIS error and the unknown pups led to widespread questioning of the accuracy of PG&E's transmission pipeline records. PG&E acknowledged its records were not what they should have been, and began its own effort to verify its records and the maximum allowable operating pressure (MAOP) of the Peninsula transmission lines. The NTSB soon followed with its January 3, 2011 urgent Safety Recommendations to PG&E, the Commission, and the Pipeline and Hazardous Materials Safety Administration (PHMSA). The same day, the

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

Commission's Executive Director directed PG&E to carry out the NTSB's first two recommendations to collect and use its records to validate the MAOP of its transmission pipelines in high consequence areas, a directive the Commission confirmed on January 13, 2011 in Resolution L-410. On March 14, 2013, the NTSB declared its MAOP validation recommendation to PG&E "Closed – Acceptable Action."[2] The Commission has described the NTSB Safety Recommendations as "the principal basis for this Order Instituting Investigation."[3]

Following the issuance of the OII, the Commission's Legal Division, aided by outside consultants, and later the Commission's Consumer Protection and Safety Division (CPSD)[4] spent more than a year scrutinizing PG&E's recordkeeping practices. CPSD's records management consultants from England issued a scathing report on PG&E's recordkeeping, saying it was "in a mess."[5] As discussed below, this assessment reflects these consultants' records -centric view, application of modern standards and technologies to more than 80 years of historical practices and lack of experience in the U.S. utility industry. But, even assuming it were true, having records that are a "mess" is not a violation of law.

This is not a proceeding to determine if PG&E could have managed its gas transmission records better; PG&E can and will do better. It is not a proceeding to determine if PG&E's recordkeeping practices reflected an imprudent use of ratepayer funds, a concern expressed by some interveners.[6] It is instead an enforcement proceeding initiated by the Commission and prosecuted by its staff. The question here is whether the evidence has proven violations of law, regulation or Commission rule. Except in one instance, the evidence has not shown violations.[7] Over the past 50 years, CPSD (or its prede cessors) has regularly audited PG&E's gas facilities,

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

[3] *Order Instituting Investigation*, I.11-02-016 at 5, Cal. 2011 PUC LEXIS 69, at *8.

[4] CPSD is now known as the Safety and Enforcement Division. Because the prior pleadings, transcripts and documents all refer to CPSD, we continue to use that term in this brief.

[5] Ex. CPSD-6 at 1-10 (CPSD/Duller and North).

[6] Ex. TURN-16 at 2 (TURN/Long) (urging the Commission to make prudency determinations even in the absence of findings of violations) [redacted].

[7] PG&E acknowledges here and in the San Bruno OII, where CPSD makes the same allegation, that its September 9, 2010 clearance form for the electrical work at Milpitas Terminal did not conform to PG&E's internal procedure and thus violated 49 C.F.R. § 192.13(c). 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 testified, PG&E has not given up looking for these records and still hopes to find them. Joint R.T. 256 (PG&E/Harrison). 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.

including auditing the company's gas pipeline safety records. These audits did not turn up the violations that CPSD's current historical review – which it undertakes with the benefit of hindsight and modern standards and practices – now claims. Even with the benefit of hindsight, the evidence here did not show, as CPSD set out to do, that poor recordkeeping caused or contributed to the San Bruno accident. In fact, CPSD's engineering witness acknowledged – albeit reluctantly – that the cause of the accident was the 1956 installation of the defective pups, not records.[8]

With the benefit of hindsight, PG&E would have managed its gas records better. As it has previously acknowledged, PG&E's records practices have fallen short of expectations.[9] The Company needs to improve – and is improving – its asset knowledge and records management practices, including the quality of data in its GIS system.[10] As the testimony demonstrated, however, these and other records challenges are shared by the natural gas transmission industry as a whole,[11] and do not represent violations of law or regulations applicable at the time. Records management processes, as well as regulatory expectations about records, have evolved

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[8] CPSD's consultant, Margaret Felts, testified:

> Q: So doesn't that lead you, Ms. Felts, to the conclusion that the fundamental problem here is not records, but a failure to inspect that pipe in 1956 before it was installed?
>
> A: You could come to that conclusion, . . .
>
> She then added:
>
> but I think there is also a records issue in that if good records had been kept of sources of pipe and the uses; for instance, if that piece of pipe was salvaged from another piece of pipe and scrapped but then picked up from a storage area without inspecting it, it could have been prevented by maybe a better chain of custody as you mention.
>
> Q: Okay. So that's your speculation as to one possible scenario. Another possible scenario is that this pipe came new from a respected pipe vendor and reflected an error on the pipe vendor's part and the chain of custody documentation would be perfect; isn't that right?
>
> A: Right. And that is a good example of the problem of lack of documentation. We can't show that it was a new piece of pipe or a used piece of pipe.

R.T. 452-53 (CPSD/Felts). Thus, whether the pups were new or reconditioned, unless PG&E's records showed the installation of defective pipe – which no one claims they ever would – it was the failure to notice the defect in 1956 and prevent its installation that is the cause of the pipe rupture, not records. Joint R.T. 337-38 (PG&E/Harrison) ("If they knew those welds were missing, those [PG&E] engineers would be screaming, and they would be yanking that pipe out of the ground.").

[9] Ex. PG&E-61 at 1-1 (PG&E/Singh).

[10] Ex. PG&E-61 at 1-19 to 1-29 (PG&E/Singh).

[11] *See, e.g.*, Ex. PG&E-61 at 1-12 to 1-15 (PG&E/Howe); Ex. PG&E-63 (Tabs 1-26 to 1-31).

significantly in recent years, especially in response to the San Bruno accident. But changed regulatory expectations and hindsight judgments are not the stuff of enforcement proceedings, particularly not a proceeding of this scope.

Since this proceeding has d elved into records dating back to the 1930s, the Commission needs to have a historical perspective of records management going back as far in time as carbon paper and manual typewriters. To provide that perspective, PG&E turned to some of the leading experts in the gas industry. These witnesses confirmed that the Company's historic records practices were consistent with then-existing industry practices and regulatory standards:

- James Howe, a former gas utility executive at National Grid, testified about t he recordkeeping challenges the entire industry confronts, especially when trying to implement the NTSB's 2011 "traceable, verifiable, and complete" MAOP records requirement.[12] In his 35 years in the gas industry, Mr. Howe is not aware of any U.S. utility or regulator having used Generally Accepted Recordkeeping Principles (GARP) to guide or assess its records management program. [13] Yet CPSD's records consultants now judge PG&E's past records practices against these newly released principles.
- Cesar De Leon , a former head of the Federal Office of Pipeline Safety (now PHMSA), testified regarding federal regulatory policies relating to gas records. He explained how federal pipeline safety regulations and guidance have historically recognized and accommodated records gaps among natural gas pipeline operators throughout the United States. [14] Federal regulators previously rejected invitations to provide the industry with more specific records standards. [15] Mr. De Leon spoke about the hazards of trying to punish a g as transmission operator under vaguely defined legal standards or records principles (GARP) that the Commission, PHMSA and others in the industry have never before used.[16]

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[12] Ex. PG&E-61 at 1 -10 to 1 -15 (PG&E/Howe); R.T. 1252 (PG&E/Howe); R.T. 1265 (PG&E/Howe); R.T. 1268 (PG&E/Howe).

[13] Ex. PG&E- 61 at 1-9 to 1-10 (PG&E/Howe); R.T. 1261-63 (PG&E/Howe).

[14] Ex. PG&E-61 at 1 -4 to 1 -8 (PG&E/De Leon). *See also* Joint R.T. 824-27 (PG&E/Zurcher); R.T. 1303-04 (PG&E/Howe); R.T. 1337-40 (PG&E/Howe); Ex. CPSD-46 (discussing how the Grandfather Clause applied "without retroactively applying recordkeeping requirements or requiring pressure tests"); R.T. 1349 (PG&E/Howe).

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

[16] R.T. 795 (PG&E/De Leon).

- John Zurcher has worked for several gas pipeline operators, consulted for many others, served on the ASME B31.8 Committee for more than 30 years, and played a leading role in drafting ASME B31.8S Integrity Management rules. [17] He testified that many of the records categories CPSD's consultants call missing or incomplete were not required to be maintained and have little or no value to a modern -day pipeline engineer. [18] Like Mr. Howe, Mr. Zurcher testified about historic industry challenges in maintaining pipeline records, particularly older records, including the prevalence of assumed and err oneous data in GIS systems. [19] He reviewed PG&E's integrity management program, including its data gathering efforts, and concluded they were consistent with industry practice and standards.[20] Actions or omissions that seemed to CPSD's consultants to have b een irregular, Mr. Zurcher testified from experience, were not irregular in the context of the historical standards and practices.[21]
- David Bull, with nearly 40 years' experience in the industry, has conducted risk assessments and compliance reviews for 75 gas utilities. [22] Mr. Bull testified that PG&E's emergency response plans met industry standards and existing regulatory requirements.[23]

In contrast to the more than 100 years combined experience of PG&E's witnesses, CPSD's engineering consultant is not a g as pipeline industry expert. She has never worked as a pipeline engineer, [24] and she largely formed opinions without reference to objective pipeline

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[17] Ex. PG&E-61 at 3 -3 to 3 -5 (PG&E/Zurcher); Joint R.T. 679 (PG&E/Zurcher); Joint R.T. 832-38 (PG&E/Zurcher).

[18] Ex. PG&E -61 at 3 -11 to 3 -12 (PG&E/Zurcher); R.T. 1826-29 (PG&E/Zurcher); Joint R.T. 672-73 (PG&E/Zurcher); Joint R.T. 779-80 (PG&E/Zurcher); Joint R.T. 799 (PG&E/Zurcher); Joint R.T. 870-72 (PG&E/Zurcher).

[19] Joint R.T. 661-63 (PG&E/Zurcher). *See also* Joint R.T. 706-11 (PG&E/Zurcher) (citing numerous examples where records have been lost or destroyed); Joint R.T. 827-28 (PG&E/Zurcher) ("And I will tell you in the last five years since 2008, there's been a couple of thousand miles of pipe built in the U.S., and every on e of them has a record problem").

[20] Joint R.T. 675-76 (PG&E/Zurcher); Joint R.T. 797-805 (PG&E/Zurcher) ("I have looked at 50 -60 different companies' integrity management programs. I know what they are saying. PG&E's lines up with all of these programs"); Joint R.T. 819 (PG&E/Zurcher); Joint R.T. 829-31 (PG&E/Zurcher).

[21] Ex. PG&E-61 at 3-11 to 3-13 (PG&E/Zurcher); Joint R.T. 783-88 (PG&E/Zurcher).

[22] Ex. PG&E-61 at 4-39 (PG&E/Bull).

[23] Ex. PG&E-61 at 4-55 to 4-56 (PG&E/Bull).

[24] R.T. 173 (CPSD/Felts).

industry rules, standards or practices. She was instead guided only by her own view of "good engineering judgment."[25] Unconstrained by rules, standards or practices, CPSD's engineering consultant made statements such as that PG&E's integrity management program was "an exercise in futility" without having had any previous experience reviewing any operator's integrity management program.[26] She held PG&E to a standard of retaining various categories of records for 80 or more years without knowing if any other operator in the gas pipeline industry would have done the same.[27] Where facts did not exist to support her claims, she repeatedly assumed violations absent proof by PG&E to the contrary.

CPSD also relied on the testimony of records management consultants from England.[28] The consultants evaluated PG&E's historic records management practices using GARP methods first published in 2009 and the "traceable, verifiable, and complete" requirement first articulated by the NTSB in early 2011. But they are not engineers, and they did not look at PG&E's records with an eye on how engineers would use them.[29] Instead, they undertook a records-centric evaluation of PG&E's past practices. That led them to criticize such things as decentralized recordkeeping, non-sequential job file numbering, multiple and duplicate files and the absence of definitive leak data bases and master job file indices.[30] PG&E used and organized job files and other gas records in process-centric ways that made sense at the time to the engineers who did the gas pipeline work.[31] Recent technology and records management improvements will allow PG&E to eliminate many of the practices with which CPSD's records consultants find fault. But it is impermissible hindsight to use 21st century records management methods and technology to find fault with 80 years of past records practices.

The ALJ heard testimony from only one records management expert who has significant and present-day experience evaluating the records practices of a gas utility with a profile and footprint similar to PG&E's.[32] Maura Dunn, a U.S.-based records management consultant,

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[25] R.T. 357-58 (CPSD/Felts).

[26] Ex. CPSD-2 at 49 (CPSD/Felts); Ex. PG&E-61 at 0-2, n.1 (PG&E/Singh); *see also* Ex. PG&E-63 (Tab Intro-1) (CPSD Response to PG&E Data Request No. 4, Question 29).

[27] R.T. 342-43 (CPSD/Felts).

[28] Ex. CPSD-6 at 8-151 to 8-152 (CPSD/Duller and North).

[29] Ex. CPSD-6 at 8-151, 8-152 (CPSD/Duller and North); R.T. 651-53 (CPSD/Duller and North).

[30] Ex. PG&E-62 at MD-16 to MD-20 (PG&E/Dunn).

[31] Ex. PG&E-62 at MD-16 (PG&E/Dunn); *see also* Ex. PG&E-61 at 3-36 to 3-39 (PG&E/Harrison).

[32] *Compare* Ex. PG&E-62 at MD-2 to MD-3, App. A (PG&E/Dunn), *with* Ex. CPSD-6 at 8-151 to 8-152 (CPSD/Duller and North).

testified that PG&E organized its records in the past in ways that reflected then existing technological limitations and PG&E's geographically -distributed operations.[33] She explained further it makes no sense to apply GARP and the associated Information Governance Maturity Model first developed in 2009, and the "traceable, verifiable, and complete" MAOP records verification standard that emerged out of the NTSB's recommendations in early 2011 to make hindsight judgments about t he adequacy of decades -old records practices.[34] In the context of a historical records investigation, these new guidelines lead to subjective, hindsight judgments.

Lacking from CPSD's reports was information about what actual records management practices existed in the U.S. gas pipeline industry during the time in question, and how changes in regulatory expectations and information management technology influenced those practices over time.[35] Ms. Dunn and other PG&E witnesses provided that missing informa tion.[36] Ms. Dunn reviewed industry benchmarking on records management practices and concluded that PG&E's records management practices have been consistent with those of other U.S. utilities.[37] She also explained how technological limitations that existed in earlier eras would have made it impractical (if not impossible) to fulfill GARP and "traceable, verifiable, and complete" records expectations until comparatively recently.[38]

The qualitative difference in expertise between CPSD's witnesses and PG&E's wit nesses accounts for a good number of mistaken conclusions reached by CPSD, particularly its engineering consultant's assertion that records mistakes caused the San Bruno accident. For example, CPSD's engineering consultant initially concluded that PG&E la cked records showing the installation of significant quantities of salvaged pipe in Segment 180.[39] She retreated from this view on cross -examination, acknowledging that the records she referred to showed new pipe,[40] and what survived of her theory about sal vaged pipe was undercut by the testimony of

[33] Ex. PG&E-62 at MD-22 (PG&E/Dunn).

[34] Ex. PG&E-62 at MD-5 to MD-6, MD-26 to MD-27 (PG&E/Dunn).

[35] Ex. PG&E-62 at MD-24 to MD-41 (PG&E/Dunn); Ex. PG&E-75 (PG&E Response to TURN Data Request No. 2, Question 10).

[36] Joint R.T. 826-27 (PG&E/Zurcher).

[37] Ex. PG&E-62 at MD-24 to MD-38 (PG&E/Dunn)

[38] Ex. PG&E-62 at MD-20 to MD-24 (PG&E/Dunn).

[39] Ex. CPSD-2 at 2 (CPSD/Felts).

[40] R.T. 464-73 (CPSD/Felts).

PG&E pipeline engineer David Harrison.[41] She contended that PG&E lacked pressure test records for the Segment 180 installation. It turns out she mistook evidence of a soap test for a pressure test.[42] She asserted that PG&E lost records establishing that the MAOP on Line 132 was 390 psig, not 400 psig, as PG&E maintained. The testimony from PG&E pipeline engineer Steve Phillips, the individual who established the 400 MAOP for Line 132 in the early 1970s, disproved that assertion. Pressure logs showing a pressure of 400 MAOP at Milpitas Terminal in 1968 corroborated his testimony. CPSD's engineering consultant asserted that PG&E failed to maintain girth weld x-rays beyond five years.[43] Mr. Zurcher explained that no operator would have done so, and no regulator would have insisted upon it.[44]

Lack of engineering expertise explains mistaken conclusions reached by CPSD's records consultants. Where they attempted to use decades-old PG&E corporate retention guidelines and schedules to draw inferences about how PG&E retained gas records in the past, Steve Phillips testified with first-hand knowledge about the PG&E Gas Standards he and other PG&E pipeline engineers used to make records retention decisions.[45] Ms. Dunn's review of PG&E's historic gas standard documents supports Mr. Phillips' testimony with specific references to the standard practices.[46] A job file organizational system CPSD's records consultants characterized as insufficient when judged against 21st century GARP standards, Mr. Harrison explained was useful and uniformly applied across the many PG&E field offices he visited over the course of his engineering career.[47] CPSD asserted that PG&E failed to retain certain maintenance and operation records for the life of the facility. Mr. De Leon pointed out that the retention requirement CPSD relies on had been eliminated from the federal code years ago because it was unnecessary.[48] Despite lacking engineering expertise, CPSD's records consultants offered opinions that strayed into areas of pipeline engineering. For example, they opined about the importance in their view of maintaining reconditioned pipe records to evaluate earthquake risks

[41] Ex. PG&E-61 at 3-28 to 3-34 (PG&E/Harrison).

[42] R.T. 283-84, 518-20, 590-92 (CPSD/Felts).

[43] Ex. CPSD-2 at 34 (CPSD/Felts).

[44] Ex. PG&E-61 at 3-12 (PG&E/Zurcher); Ex. Joint PG&E-37 at 2-3 (1983 Part 195 Final Rule Re: Radiography); Joint R.T. 856-61 (PG&E/Zurcher) ("I know of no one that keeps those kinds of records. It is not required in the regulations, in my opinion, nor in their opinion").

[45] R.T. 1114 (PG&E/Phillips).

[46] Ex. PG&E-62 at MD-41 to MD-55, App. D (PG&E/Dunn).

[47] Joint R.T. 281-84 (PG&E/Harrison).

[48] Ex. PG&E-61 at 1-7 (PG&E/De Leon).

associated with older girth welds.[49] CPSD's records consultants' testimony on this point turned out to be refuted by CPSD's engineering consultant. CPSD's engineering consultant acknowledged that the existing girth welds in used pipe are generally cut out and replaced when the pipe is reconditioned, and thus the age of a girth w eld on reconditioned pipe installed on a project is typically the same as for new pipe.[50]

Despite the lack of relevant first -hand experience or expertise of its consultants, CPSD relies on their testimony to allege 36 separate violations. All but three of them are based on Public Utilities Code Section 451 and, for those that pre-date 1951, its predecessor, Section 13(b) of Article II of the 1911 Public Utilities Act.[51] CPSD claims all but three of them are "continuing" violations spanning as many as eight decades. CPSD's alleged violations and the time periods CPSD claims they span are as follows:

Violation Number	Summary Description of Alleged Violation	Alleged Time Span
Felts 1	No records for salvaged pipe installed into Segment 180	1951-?[52]
Felts 2	Failure to create/retain construction records for 1956 project GM 136471	1956-?
Felts 3	Failure to retain pressure test records for L-132, Segment 180	1955-?
Felts 4	Lost underlying records to support MAOP of 390 on Segment 180	1977-?
Felts 5	Failure to follow procedures to create clearance record	2010
Felts 6	Out-of-date operations and maintenance instructions at Milpitas Terminal	1991-?
Felts 7	Out-of-date drawing and diagrams of the Milpitas Terminal	2008-?
Felts 8	No back-up software at the Milpitas Terminal	1991-?
Felts 9	Unsafe design of Supervisory Control and Data Acquisition System	2008-?
Felts 10	Emergency response plans too difficult to use	4/2010-9/2010
Felts 11	Operated L-132 in excess of 390 MAOP (1 day each year)	2003, 2008, 2010
Felts 12	Failure to attempt to preserve video recordings that PG&E believed was on Brentwood Camera 6[53]	2010-2012

[49] Ex. CPSD-6 at 6-91 to 6-92 (CPSD/Duller and North); *see also* Ex. CPSD-8 at 22 (CPSD/Duller and North); R.T. 685-90 (CPSD/Duller and North).

[50] R.T. 405-06 (CPSD/Felts).

[51] One third of those cite no other support; the balance cite secondary support, such as internal PG&E policies, SME provisions and versions of GO 112. In each case, however, CPSD states that its alleged violation is based primarily on section 451. R.T. 595, 650 (CPSD/Felts).

[52] Ms. Felts' revised table of violations included a 2010 end date for all her alleged "continuing" violations of 2010. When it turned out on cross -examination that the end date was filled in by CPSD's lawyers, and not Ms. Felts, the ALJ struck t he end date. R.T. 277 (ALJ Yip -Kikugawa). For this first violation, Ms. Felts states that there is "potentially" a pre -1951 violation, and that would be based on Pub. Util. Act art. II, § 13(b). Ex. CPSD -15 (Violation 1) (CPSD/Felts).

Violation Number	Summary Description of Alleged Violation	Alleged Time Span
Felts 13	PG&E's contradictory data responses regarding recorded Brentwood Camera 6 video[54]	2011 and 2012
Felts 14	PG&E's data responses did not identify all of the people in Milpitas handling the pressure problem on September 9, 2010[55]	10/10/2011 and 12/17/2011
Felts 15	***Withdrawn***	
Felts 16	Job files missing and disorganized	1987-?
Felts 17	Pipeline history records missing	1987-?
Felts 18	Design and pressure test records missing	1930-?
Felts 19	Weld maps and weld inspection records missing or incomplete	1930-?
Felts 20	Operating pressure records missing, incomplete or inaccessible	1930-?
Felts 21	Pre-1970 leak records missing, incomplete and inaccessible	1930-?
Felts 22	Post-1970 leak records incomplete and inaccessible	1970-?
Felts 23	Records to track salvaged and reused pipe missing	1954-?
Felts 24	Bad data in pipeline survey sheets and the Geographic Information System	1974-?
Felts 25	Use of an integrity management risk model that uses inaccurate data	2004-?
Felts 26	1988 weld failure – no failure report	1988-?
Felts 27	1963 weld failure – no failure report	1963-?
Duller/North A.1	PG&E's Gas Transmission Division lacked the necessary accurate and locatable records essential for safe pipeline operation, due to sub-standard records management practices…	1955-2010
Duller/North B.1	PG&E's minimal compliance with some of its own retention policies regarding leak survey maps violates other requirements	4/2010-9/2010
Duller/North B.2	PG&E's minimal compliance with some of its own line patrol retention policies violates other requirements	9/1964-9/2010
Duller/North B.3	PG&E's minimal compliance with some of its own line inspection report retention requirements violates other requirements	1994-9/2010
Duller/North B.4	PG&E's minimal compliance with some of its gas high pressure test record retention policies violates other requirements	1994-4/2010
Duller/North B.5	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	9/1964-4/2010
Duller/North B.6	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	1955-9/2010

[53] Ms. Felts bases this alleged violation on an Executive Director Preservation Directive and Commission Resolution L-403. Ex. CPSD-15 (Violation 12) (CPSD/Felts).

[54] Ms. Felts bases this alleged violation on Rule 1.1 of the Commission's Rules of Practice and Procedure. Ex . CPSD-15 (Violation 13) (CPSD/Felts).

[55] Ms. Felts bases this alleged violation on Rule 1.1 of the Commission's Rules of Practice and Procedure. Ex. CPSD-15 (Violation 14) (CPSD/Felts).

Violation Number	Summary Description of Alleged Violation	Alleged Time Span
	implement their practices fully	
Duller/North C.1	In 2007, PG&E was informed that in 1995 it selected the wrong year as the upper limit for its GPRP (1947 rather than 1948) and for assessing the excavation threat to PG&E's gas transmission pipelines…	1995-9/2010
Duller/North C.2	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	1992-9/2010
Duller/North C.3	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…	1955-9/2010

Thus, CPSD relies on Public Utilities Code Section 451 to assert PG&E's recordkeeping was "unsafe" i n various ways. CPSD's attempt to use Public Utilities Code Section 451 as a free-floating safety law runs afoul of the due process clause of the California Constitution. Cal. Const. art. I, § 7(a). As discussed in Section III.B below, Section 451 is a rate – not a safety – provision. Even if it were a safety provision, it is too vague to provide a lawful foundation for civil penalties. Section 451 does not provide the utility fair notice of the conduct that CPSD now claims violates the law. Rather, C PSD's Section 451 allegations are the product of hindsight, changed expectations following the accident and two -plus years of unsurpassed scrutiny into PG&E's operations over the past eight decades. CPSD uses Section 451 rather than any specific regulation to claim that the recordkeeping practice constitutes a safety violation punishable with fines, penalties and prescriptive remedial action. The Constitution does not allow such a results -oriented prosecution.

Nor does the law permit CPSD to assert "conti nuing" violations going back decades. As discussed in Section III.C, Public Utilities Code Section 2108, upon which CPSD relies for its alleged "continuing" violations, does not sanction treating every day that a document is "missing" as a separate violat ion. The Commission may not find a "continuing" violation in the absence of proof that the utility could have cured the alleged violation, and failed to do so. Similarly, the equitable doctrine of laches precludes CPSD from raising claims of violations going so far back in time that PG&E cannot reasonably be expected to have the evidence to meet the charges.

To accept CPSD's broad theories of violations, the Commission has to indulge assumed facts, rely on self -referential and inexpert opinions and embrace previously unused records

principles as though the Commission had enforced them for decades. CPSD regularly inspected and audited PG&E's gas facilities over a long period of time, with particular emphasis on auditing gas pipeline safety records. It defies belief that for decades CPSD failed to identify any of the 80 years of "continuing" records management problems CPSD now claims pervaded PG&E's gas organization. The records CPSD evaluated for all of these years did not change. What changed were regulatory, industry and public expectations concerning them. In fact, in the case of CPSD's "best engineering practices" standard, CPSD literally "moved the line" the night before the hearings started. [56] The conclusion that the Commission should reach on the evidentiary record is that facts that have come to light since the San Bruno accident have brought into focus the need for PG&E in particular, and California gas utilities more generally, to improve their knowledge of transmission pipe in the ground, especially knowledge of the characteristics of transmission pipe installed in the era before state and federal gas pipeline safety regulations took effect.

PG&E accepts responsibility for the Line 132 rupture and is a better company now and forever on account of the lessons learned from this accident. PG&E has embraced the Commission's actions in R.11-02-019 to raise the bar on pipeline safety and recordkeeping in California and to eliminate the grandfathering of older pipelines without records of pressure testing.[57] PG&E cannot agree, however, that records management practices that pre-dated modern technology and were consistent with industry norms and the regulations of the time can legitimately be punished by applying standards never before used in the pipeline industry and based on changed expectations, post-accident information, hindsight judgments or shifting of the burden of proof to PG&E.

II. BACKGROUND (PROCEDURE/FACTS)

A. Procedural Background

Unlike most Commission enforcement proceedings, this one began without a staff report. It was not until early March 2012 – more than a year after the Commission started the OII – that CPSD submitted its consultants' initial written reports and testimony. These reports did not

[56] Ex. CPSD-1 at 2 (CPSD/Halligan); Ex. PG&E-2 at 2 (PG&E Redline of Revised Halligan Testimony); R.T. at 72-73 (CPSD/Halligan).

[57] *See Order Instituting Rulemaking*, D.11-06-017, 2011 Cal. PUC LEXIS 324.

charge any violations. A few weeks later, at a prehearing conference on March 20, 2012, CPSD indicated it would assert violations.[58] Its witnesses listed the violations in tables included as part of supplemental testimony provided on March 30, 2012.[59]

In its June 26, 2012 responsive testimony, PG&E provided a table that identified where in its prepared testimony PG&E responded to each of CPSD's alleged violations. Since that time CPSD revised its t ables of violations.[60] Appendix C to this brief contains a table summarizing where in the responsive testimony PG&E addressed each of CPSD's violations, bearing in mind that PG&E did not have the revised tables of violations when it submitted that testimon y.

Other procedural aspects of the case are summarized below.

1. The Basis And Scope Of The OII

This proceeding began on the Commission's own initiative on February 24, 2011, when it opened its investigation into PG&E's "gas safety recordkeeping." The basis for the OII was information provided by the NTSB in its recommendations and comments regarding PG&E's gas transmission records generally, and its records specific to Segment 180 of Line 132.[61] No staff report had been issued, nor was CPSD made a party to the OII. The Commission relied primarily on Public Utilities Code Section 451 in framing its inquiry, and defined "gas safety recordkeeping" with reference to that provision:

> The Commission's focus will be to ascertain by evidence at hearings whether PG&E's gas safety recordkeeping has been conducted in a manner that violates the general provisions of Section 451 or of any other applicable law. We define "gas safety recordkeeping" in this context to mean P G&E's acquisition, maintenance, organization, safekeeping, and efficient retrieval of data that the Commission finds is necessary and appropriate under the circumstances for PG&E to make good and safe gas engineering decisions, and thus to promote safety a s required by Section 451 of the Public Utilities Code.[62]

[58] March 20, 2012 PHC R.T. 198 ("The list of violations – connection of the facts with alleged violations is, we think, a necessary and helpful thing for this proceeding . . .").

[59] Ex. CPSD-3 (CPSD/Felts); Ex. CPSD-7 (CPSD/Duller and North).

[60] Ex. CPSD-15 (CPSD/Felts); Ex. CPSD-16 (CPSD/Duller and North).

[61] I.11-02-016 at 8.

[62] I.11-02-016 at 11.

On the same day the Commission initiated this proceeding, it opened a state -wide rulemaking proceeding, R.11-02-009, to address future recordkeeping and other safety rules.

2. PG&E's Initial Production Of Information And Materials In Response To The OII

The OII required PG&E to respond to eight directives addressing the NTSB's preliminary reports, PG&E's gas transmission system generally and Line 132 specifically, and its recordkeeping practices dating back to 1955. The directives were:

1. List each factual contention stated, and conclusion reached, by the NTSB reports that PG&E contends is incorrect, and provide support for PG&E's position.

2. Provide PG&E's explanation as to its recordkeeping policies and practices since 1955 through August 2010, for its gas transmission design, construction, maintenance, operations, and risk assessment records, describing how each policy or practice changed over the past 55 years.

3. Provide a summary of and describe actions PG&E took between 1955 and September 8, 2010 to promote safety with respect to its natural gas transmission pipelines in general and San Bruno's Line 132 in particular. (In addition, the Commission directed PG&E to provide all written safety risk assessments dating back to 1955 on Line 132 as well as its entire gas transmission system.)

4. Between 1990 and 2010, in conducting safety risk assessments on its transmission lines, list and identify, and describe, the types of historical documents and other information that PG&E used to make its assessments.

5. Does PG&E contend that the September 9, 2010 San Bruno pipeline rupture was unpreventable by the ex ercise of prudent utility safety care? If the answer is anything other than an unqualified "no", provide support for PG&E's contention.

6. Identify the documents or data that PG&E provided to the NTSB to identify the pipe at San Bruno as "seamless", expla ining why, when, and how the data was incorrect.

7. After 1955 and before September 2010, did PG&E keep and maintain records of gas pipe weld failures or defects found before or after use? If yes, identify the date and circumstances of the failures or def ects, and provide all documents and data that pertain to such failures or defects.

8. Provide the names of all witnesses to the responses and information in the report.[63]

PG&E responded to these directives on April 18 and June 20, 2011, by producing and filing over 16,000 documents. PG&E included a regulatory history of recordkeeping requirements applicable to California gas utilities dating back to 1955.[64] It also provided a comprehensive history of the development of its natural gas transmission system, e xplaining that roughly two-thirds of its existing transmission pipe was installed before 1970, when the federal pipeline safety regulations went into effect.[65] PG&E supplemented its response with additional responsive documents and information on July 12, 2011; September 13, 2011; September 30, 2011, January 13, 2012; March 19, 2012 and January 10, 2013.

After the June 20, 2011, production of documents, the Commission's Legal Division conducted discovery and site visits throughout the summer and fall of 201 1, with the intent of filing a report at the end of the year. The ALJ held seven prehearing conferences over the course of this proceeding.[66] The Assigned Commissioner issued a Scoping Memo on November 21, 2011. The Scoping Memo established a schedule fo r the submission of the Commission staff report as well as intervenor testimony. Like the OII itself, it contemplated a second penalty phase if the Commission determined that PG&E had committed any violations. On September 25, 2012, the Commission ordered coordinated hearings and briefing on fines and remedies in all three pending OIIs (I.12-01-007, I.11-11-009 and I.11-02-016), thereby eliminating the need for a second phase in this proceeding.

3. The Parties To The Proceeding

Initially the Commission's Legal Division led the investigation, aided by outside consultants.[67] The City and County of San Francisco (CCSF), the City of San Bruno, Californians for Renewable Energy (CARE), the Division of Ratepayer Adv ocates (DRA) and The Utility Reform Network (TURN) intervened and became parties to the proceeding. On January 13, 2012 CPSD became a party and took over the prosecution from the Legal Division.

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[63] I.11-02-016 at 17-19.

[64] PG&E's Initial Response, April 18, 2011, Appendix A, Chapter 1.

[65] PG&E's June 20, 2011 Response, Ch. 1A; *see also* Ex. PG&E-61 at 3-14 to 3-27 (PG&E/Phillips).

[66] March 17, 2011, May 9, 2011, June 6, 2011, September 6, 2011, November 1, 2011, January 17, 2012 and March 20, 2012.

[67] March 20, 2012 PHC R.T. 183; R.T. 30 (CPSD/Halligan).

4. The Written Reports, Testimony And Exhibits

a. CPSD Reports And Testimony

CPSD submitted its initial reports on March 12, 2012, consisting of an engineering report by Margaret Felts, and a records management report by its two records management consultants from England, Dr. Duller and Mrs. North. CPSD submitted a Revised Report of Margaret Felts on March 16, 2012. It submitted its first Supplemental Testimony on March 30, 2012, providing listings of violations and references to its reports for support. CPSD served rebuttal testimony on August 20, 2012 which included the Rebuttal Testimony of Julie Halligan, the Acting Director of CPSD.[68] The night before the hearings began, CPSD submitted Ms. Halligan's revi sed testimony.[69] The revised testimony changed the initial rebuttal testimony in several material respects, as discussed further in Section III.B below. [70] During the course of the hearings, CPSD revised its consultants' Tables of Violations, which became E xhibits CPSD -15 (Felts) and CPSD-16 (Duller and North).

b. Intervenors' Testimony

CCSF, TURN and the City of San Bruno each served testimony on April 30, 2012.

c. PG&E's Responsive Testimony

PG&E served its responsive testimony on June 26, 2012. The responsive testimony included the testimony of industry experts: James Howe, a consultant and former executive at National Grid, regarding gas industry recordkeeping challenge s; Cesar De Leon, former federal regulator, regarding historic regulatory policies relating to gas records; John Zurcher, a consultant and co-drafter of the gas transmission Integrity Management Program rules, regarding the relevance of historic records to gas engineering and integrity management decisions; David Bull, industry consultant and leader of PHMSA pipeline safety courses, regarding the sufficiency of PG&E's emergency response plans; and Maura Dunn, a records management consultant at Duff & Phelps , regarding the sufficiency of PG&E's past and present -day records management practices.

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[68] Ex. PG&E-1 (CPSD/Halligan) (Halligan Rebuttal Testimony).

[69] Ex. CPSD-1 (CPSD/Halligan).

[70] Ex. PG&E-2 (CPSD/Halligan) (PG&E Redline of Revised Halligan Testimony).

PG&E also provided testimony from several Company witnesses who addressed the Company's historic records retention policies and records used to establish the MAOP on L ine 132, records specific to Line 132 and Segment 180, the quality of PG&E's gas transmission Geographic Information System (GIS) and leak data, records as they relate to earthquake risks and the Gas Pipeline Replacement Program (GPRP), records used in PG& E's integrity management program, Supervisory Control and Data Acquisition (SCADA) data, PG&E's emergency response to the San Bruno accident and the sufficiency of PG&E's responses to certain CPSD data requests.

d. The Hearing

Evidentiary hearings began on September 5, 2012 before ALJ Yip -Kikugawa. Those hearings were initially scheduled to conclude on September 19, 2012, but the cross -examination of several of PG&E's witnesses was carried over into the San Bruno OII (I.12 -01-007) hearing dates. Given the substantial overlap among issues and certain witnesses with those in the San Bruno OII, the two assigned ALJs held joint hearings. When the Commission suspended evidentiary hearings on October 11 th, supplemental cross -examination of two Company witnesses (Kris Keas and Christine Cowsert -Chapman) and further cross -examination of one of its outside experts (John Zurcher) remained to be concluded. On November 19, 2012, the Assigned Commissioners in this proceeding and the San Br uno OII proceeding issued a *Ruling Granting, In Part, and Denying, In Part, Motion for Extension of Time in Proceedings in Order to Facilitate Negotiations Toward a Stipulated Outcome* . That ruling provided for the resumption of joint hearings on January 7 , 2013 to be concluded by January 18, 2013. Hearings concluded on January 18, 2013 and final exhibits were admitted into the record during a status conference held on January 22, 2013.

B. Regulatory Background

At the ALJ's request, PG&E's April 18, 2011 submission included an extended discussion of the relevant regulatory background, particularly as it relates to recordkeeping requirements that historically have been imposed by federal and state pipeline safety rules and regulations.[71] In subsequent testimony, Cesar De Leon, James Howe and John Zurcher each

[71] PG&E's Initial Response, April 18, 2011, Appendix A, Chapter 1 at 1-1 to 1-56.

provided additional information that bears on that regulatory history. [72] PG&E refers the Commission to those materials for detailed information.

To summarize, the Commission first adopted gas pipeline safety rules in December 1960, when it issued General Order ("GO") 112, effective July 1961. [73] GO 112 adopted, with modifications, what was then a voluntary industry standard (ASA B31.8 – 1958), and mandated that California gas utilities adhere to it. [74] The Commission modified GO 112 in 1963 and again in 1967, primarily to keep pace with changes to the ASME (formerly ASA) B31.8 industry standards.[75]

Until GO 112-E came into effect, GO 112 included two categories of record keeping requirements. First, there were those that were incorporated into the General Order through the Commission's adoption of the ASA B31.8 standard.[76] They included provisions addressed to the retention of pressure test records (ASA B31.8, § 841.417), operating and maintenance records (ASA B31.8, § 850.3), welding qualification records (ASA B31.8, § 824.25), corrosion records (ASA B31.8, § 851.4) and pipeline leak records (ASA B31.8, § 851.5). [77] Like other provisions of ASA B31.8, these records provisi ons were incorporated into GO 112 through Section 107 of the General Order.[78] All CPSD's allegations regarding violations of GO 112, 112-A and 112-B refer to Section 107, implying that CPSD seeks to apply the provisions of the ASA B31.8 Code as adopted by the Commission.[79] Second, the original and successive iterations of GO 112 (through GO 112-D) included recordkeeping provisions unique to California. These appeared in Sections 301, 302 and 303 of the original GO 112. [80] Though intervenor TURN cross-examined PG&E witnesses extensively about these unique records provisions, they do not form the basis for any of CPSD's alleged violations. [81] In 1995, the Commission adopted GO 112-E, which

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[72] Ex. PG&E-61 at 1-4 to 1-8 (PG&E/De Leon); PG&E-61 at 1-9 to 1-17 (PG&E/Howe); PG&E-61 at 3-3 to 3-13 (PG&E/Zurcher).

[73] Ex. PG&E-4 at 13 (Decision 61269, with GO 112 attached).

[74] Ex. PG&E-4, App. A at 2-6 (Decision 61269, with GO 112 attached).

[75] PG&E's Initial Response, April 18, 2011, Appendix A at 1-6 n.3.

[76] Ex. PG&E-4, App. A at 2 (Decision 61269, with GO 112 attached).

[77] Ex. PG&E-4, App. A at 2 (Decision 61269, with GO 112 attached).

[78] PG&E-4, App. A at 2 (Decision 61269, with GO 112 attached).

[79] Ex. CPSD-15 (CPSD/Felts); Ex. CPSD-16 (CPSD/Duller and North).

[80] Ex. PG&E-4, App. A at 7 (Decision 61269, with GO 112 attached). The unique records provisions were later moved to Sections 121-123 in GO 112-C and to 121-124 in GO 112-D.

[81] *See, e.g.*, R.T. 1743-48 (TURN/Long); *see also* Ex. CPSD-15 (CPSD/Felts); Ex. CPSD-16 (CPSD/Duller and North).

automatically incorporated all revisions to the federal regulations by r eference.[82] GO 112 -E remains the primary General Order governing gas transmission pipeline safety in California. It contains a records provision that in general terms requires gas utilities to maintain those records necessary to ensure compliance with Gen eral Order 112 -E and the Part 192 requirements. [83] It eliminates, however, prior records provisions that had been unique to California such that today GO 112-E has no unique recordkeeping provisions apart from those contained in Part 192 of the federal regulations.[84]

The Commission has also addressed utility recordkeeping outside of GO 112. Since the 1950s the Commission has periodically issued resolutions making the Federal Power Commission's (later FERC's) Part 125 and 225 recordkeeping provisions applic able to California utilities.[85] By the 1970s, the Commission had begun to identify conflicts between the FERC recordkeeping provisions it had periodically been incorporating by resolution and the recordkeeping provisions that appeared in its General Orders , including then -existing General Order 112 -C.[86] By resolution issued in 1976 (Resolution FA -570), the Commission resolved those conflicts.

At the federal level, the Natural Gas Pipeline Safety Act (NGPSA), enacted in August 1968, was the first comprehens ive federal pipeline safety law. [87] In November 1968, the Secretary of Transportation adopted existing state regulations, including the Commission's, as interim standards.[88] In August 1970, the Office of Pipeline Safety (OPS) promulgated final rules at 49 C .F.R. Parts 191 and 192 establishing minimum federal safety standards, including reporting requirements (Part 191) and design, construction, operation and maintenance requirements for natural gas pipeline facilities (Part 192). [89] Part 192 exempted existing facilities from "those provisions applicable to design, initial construction, initial inspection, and initial

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[82] Ex. PG&E-7, App. A at 2 (Decision No. 95-08-053, with GO 112-E attached).

[83] Ex. PG&E-7, App. A at 1 (Decision No. 95-08-053, with GO 112-E attached).

[84] Ex. PG&E-7 (Decision No. 95 -08-053, with GO 112 -E attached); Ex. Joint PG&E -36 (Compendium of State Pipeline Safety Requirements); *see also* Joint R.T. 850-56 (PG&E/Zurcher).

[85] Ex. PG&E-61 at 2-7 to 2-8 (PG&E/Phillips).

[86] Ex. PG&E-61 at 2-8 to 2-11 (PG&E/Phillips).

[87] Pub. L. No. 90-481, 82 Stat. 720 (1968).

[88] 33 Fed. Reg. 16,500, 16,500 (Nov. 13, 1968); *see also* Ex. PG&E-65 (Tab 3-14).

[89] 35 Fed. Reg. 13,247, 13,247-76 (Aug. 19, 1970).

testing of new pipelines." [90] 49 C.F.R. § 192.619(c) "grandfathered" existing pipelines such as Line 132, Segment 180 based on prior operating pressure history, and did not require that existing pipelines be pressure tested to establish the appropriate MAOP. [91] Part 192 also contained gas safety record requirements relating to pressure test records (49 C.F.R. § 192.517), MAOP records (49 C.F.R. § 192.619), operating and maintenance records (49 C.F.R. § 192.605), maintenance and repair records (49 C.F.R. § 192.709), steel pipe conversion records (49 C.F.R. § 192.14), welding qualification records (49 C.F.R. § 192.225), corrosion control records (49 C.F.R. § 192.491) and operating qualification and fitness records (49 C.F.R. § 192.807). Federal pipeline regulators have in the past declined to adopt general standards regarding the sufficiency of recordkeeping procedures.[92]

In response to the Bellevue, Washington and Carlsbad, New Mexico pipeline accidents, in 2002, Congress enacted the Pipeline Safety Improvement Act. That act established integrity management requirements for gas transmission pipelines in high consequence areas. [93] Congress also created the Pipeline and Hazardous Materials Safety Administration (PHMSA) over OPS to focus on safety as its highest priority. [94] Effective February 14, 2004, PHMSA promulgated the first integrity management regulations at 49 C.F.R. Part 192, Subpart O. [95] The Subpart O regulations added, among other things, provisions requiring operators to retain records demonstrating compliance with Subpart O (49 C.F.R. § 192.947).

C. Factual Background

PG&E addresses the relevant facts as they arise in the context of the arguments presented below.

III. LEGAL ISSUES OF GENERAL APPLICABILITY

This is no ordinary enforcement proceeding. The Commission has indicated its willingness to impose "significant" fines. CPSD has alleged broad violations dating back to 1930 and has taken the position that PG&E is subject to daily fines for that 80-year period.

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[90] 35 Fed. Reg. 13,250.

[91] 35 Fed. Reg. 13,273.

[92] Ex. PG&E-61 at 1-8 (PG&E/De Leon); Ex. PG&E-63 (Tab l-21).

[93] Pub. L. No. 107-355, 116 Stat. 2985 (2002).

[94] Pub. L. No. 108-426, 118 Stat. 2423 (2004).

[95] 68 Fed. Reg. 69,778, 69,778-69,837 (Dec. 15, 2003).

This extraordinary proceeding raises several important legal issues. First, due to the unusually high stakes, CPSD should be required to prove its allegations by the heightened clear and convincing evidence standard. Second, CPSD's interpretation of Public Utilities Code Section 451 should be rejected. CPSD conceives of Section 451 as a free-floating safety law that makes utilities liable for any practice CPSD believes, based on hindsight, to have been "unsafe." That view of Section 451 is inconsistent with the statutory scheme and contrary to basic due process notice requirements. *See* Cal. Cons t. art. I, § 7(a). Third, CPSD's theory of what constitutes a "continuing violation" is foreclosed by statute, Commission precedent and the California Constitution. Fourth, laches bars many of CPSD's alleged records violations. CPSD's unreasonable delay in asserting these violations – some of which are alleged to have arisen more than 80 years ago – has prejudiced PG&E's ability to defend itself.

A. The Commission Should Apply A "Clear And Convincing" Evidentiary Standard

In certain civil cases of exceptional importance, "clear and convincing" evidence is constitutionally required.[96] These high-stakes cases require more than the usual preponderance standard because of society's demand for a greater "degree of confidence . . . in the correctness of [the adjudicator's] factual conclusions."[97] Many of these cases involve the threatened deprivation of a liberty interest, such as civil commitment, but others do not. California courts have held, for example, that the "clear and convincing" standard applies to professional license suspension or revocation proceedings, even where the threatened sanction is only a modest fine. *See, e.g.*, *Hughes v. Bd. of Architectural Exam'rs*, 17 Cal. 4th 763, 789 n.9 (1998) ("[P]rocedural due process of law requires a regulatory board or agency to prove the allegations of an accusation filed against a licensee by clear and convincing evidence rather than merely by a preponderance of the evidence."); *Grubb Co., Inc. v. Dep't of Real Estate*, 194 Cal. App. 4th 1494, 1502 (Ct. App. 2011) ("[U]nder the California Constitution, the suspension or revocation of a professional license must be based on misconduct proven by clear and convincing evidence.").

This proceeding, as all parties recognize, is exceptionally important to PG&E and the public generally. The stakes are greater than those in the usual Commission enforcement

[96] *See, e.g.*, *In re Angelia P.*, 28 Cal. 3d 908, 919 (1981).

[97] *In re Angelia P.*, 28 Cal. 3d at 919.

proceeding. The Commission made this clear at the outset when it stated its readiness to impose "daily fines for a significant period of time."[98] On numerous occasions, moreover, the ALJ made evidentiary rulings adverse to PG&E, the justification for which rested on the unprecedented importance of this proceeding. [99] Given the importance of this proceeding, CPSD should be required to prove each of its asserted violations by clear and convincing evidence.

In fact, this OII presents a far more compelling case for requiring clear and convincing evidence than *Grubb*. There, respondents were accused of making a reckless misrepresentation regarding a real estate transaction. [100] The Real Estate Commissioner ordered a 30-day suspension of their licenses or a $3,000 fine in lieu of suspension. [101] The court directed the Commissioner to set aside his order because the alleged misconduct was not established by clear and convincing evidence. [102] Here, PG&E faces potential penalties far more severe than the threatened deprivation in *Grubb* – a 30-day license suspension or $3,000 fine. The Commission has signaled its willingness to impose "daily fines for a significant period of time." [103] Indeed, CPSD has alleged sweeping continuing violations spanning as many as 80 years. Should the Commission find even one such violation, PG&E will be subject to a minimum penalty of about $15 million; the maximum would be roughly $170 million. [104] If clear and convincing evidence was necessary to justify the deprivation in *Grubb*, it is all the more necessary here.

This case parallels the license suspension cases in another respect. It is not just about penalties or fines. The Commission has signaled that it may impose other "appropriate relief under the law." [105] It has indicated, for instance, that it may make rate adjustments based on

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[98] I.11-02-016 at 12.

[99] *See, e.g.*, R.T. 180 (ALJ Yip-Kikugawa) ("In light of the significant public utility – public safety implications, it is incumbent upon the Commission to hear the testimony of these witnesses"); Joint R.T. 890-91 (ALJ Yip-Kikugawa) ("And I think all of you know in most proceedings, such a request would likely be denied. But I don't think this is a typical proceeding and I think all of you know that it is important to have a full and complete record.").

[100] *Grubb*, 194 Cal. App. 4th at 1500.

[101] *Grubb*, 194 Cal. App. 4th at 1501; *see also* PG&E's Request for Official Notice, Ex. 9 (*Grubb Co., Inc. v. Dep't of Real Estate*, No. RG08 364823, slip op. at 4 (Cal. Super. Ct. May 29, 2009)).

[102] *Grubb*, 194 Cal. App. 4th at 1506.

[103] I.11-02-016 at 12.

[104] Pub. Util. Code § 2107. The applicable fine range is determined by the statutory fines available at the time of the violation. *See Marin Telemanagement Corp. v. Pac. Bell*, D.95-01-044, 1995 Cal. PUC LEXIS 43, at *33-34, n.34. From 1930 through 1993, the authorized fine range under Section 2107 was $500-$2000 per violation per day. From 1994 through 2010, the minimum fine remained $500 and the maximum fine increased to $20,000. *See id.*

[105] I.11-02-016 at 11.

findings of past records deficiencies.[106] And the Commission could conceivably go *further* and dictate specific actions PG&E must take to bring its future behavior in line with the Commission's expectations. The prospect of other unspecified sanctions takes this case out of the category of a pure monetary penalty case and into a category of cases, like the professional licensing cases, that involve potentially more significant non-monetary sanctions.

Although the Commission has previously rejected the argument that clear and convincing evidence is required in every enforcement proceeding involving potentially substantial penalties, the decision in which it did so supports application of that heightened standard in this case.[107] In *Qwest*, the Commission rejected an analogy between the statutory penalties authorized by Section 2107 and punitive damages, which by statute require "clear and convincing evidence of oppression, fraud, or malice."[108] The Commission concluded that the higher evidentiary standard for punitive damages was unwarranted for Section 2107 penalties because their amount was "determined by the Legislature (within a range, and capped), whereas the amount of punitive damages is determined by a fact finder (judge or jury)."[109] The Commission emphasized that the magnitude of the total fine in *Qwest*, $20.34 million, was driven by the large number of individual violations (3,581 individual slamming violations and 4,871 cramming violations) each arising from specific instances of customer complaints.[110] Thus, in a real sense the Legislature, and not the Commission, had set the minimum and maximum fine per violation for *each* of the offenses.

Unlike in *Qwest*, CPSD has not asserted thousands of discrete violations, each subject to a legislative cap. It has asserted three dozen or so "continuing violations," most of which span decades, for which each continuing day of violation is a separate violation.[111] Take for example just one of CPSD's violations: Felts Violation 20 (Operating Pressure Records Missing or Inaccessible). That alleged violation runs continuously from 1930 through 2010. If the Commission, in its discretion, decided to impose the maximum fine for each day of continuing

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[106] *See* I.11-02-016 at 15; *see also Order Instituting Rulemaking* , D.12-12-030, 2012 Cal. PUC LEXIS 600, at *29 ("[F]urther ratemaking adjustments may be adopted in [this and related] investigations.").

[107] *See Investigation of Qwest Commc'ns Corp.*, D.03-01-087, 2003 Cal. PUC LEXIS 67, at *13-14 ("*Qwest*").

[108] *Qwest*, 2003 Cal. PUC LEXIS 67, at *13.

[109] *Qwest*, 2003 Cal. PUC LEXIS 67, at *13.

[110] *See Qwest*, 2003 Cal. PUC LEXIS 67, at *14 -15 ("The main reason the fine is so large is because the number of violations established is large.").

[111] *See* Pub. Util. Code § 2108.

violation alleged in Felts Violation 20 it would have the statutory discretion to fine PG&E over $150 million. That figure is more than 75,000 times the statutory cap of $2,000 (1930 to 1994) and more than 7,500 times the statutory cap of $20,000 (1994 through 2010). [112] As a result, and if the Commission adopts CPSD's expansive view of what constitutes a continuing violation, this is not a case where Section 2107's penalty cap meaningfully constrai ns the Commission's discretion or defines the penalty range. The extraordinary time span of CPSD's alleged violations, and its aggressive use of Section 2108, mean statutory discretion has effectively been delegated to the Commission to impose a fine for a single violation that is almost without limit. As a practical matter, this discretion is as great as the discretion any jury may have to return a large punitive damages award.

For all of these reasons, the Commission should hold CPSD to prove its alleged violations by clear and convincing evidence. To meet that burden, CPSD must establish each asserted violation by evidence "'so clear as to leave no substantial doubt'; [and] 's ufficiently strong to command the unhesitating assent of every reasonable mind.'"[113]

B. Public Utilities Code Section 451 Is Not, And Cannot Constitutionally Be, A Safety Regulation

1. Section 451 Is Not A Source Of Pipeline Safety Requirements

CPSD relies on Public Utilities Code Section 451 for most of its alleged safety violations: Twenty-three of Ms. Felts' twenty -six revised violations and all ten of the Duller/North revised violations rest on Section 451.[114] But Section 451 is a ratemaking provision. It cannot serve as a free-floating source of pipeline safety requirements.

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[112] *See supra* note 104.

[113] *In re Angelia P.* , 28 Cal. 3d at 919 (quoting *Sheehan v. Sullivan* , 126 Cal. 189, 193 (1899)). Even if the Commission decides not to apply the clear and convincing standard, CPSD is required to prove each of its allegations by a preponderance of the evidence. *See, e.g., Qwest*, 2003 Cal. PUC LEXIS 67, at *12-13 n.5; *see also Investigation of the Conlin -Strawberry Water Co., Inc.* , D.05 -07-010, 2005 Cal. PUC LEXIS 294, at *22 (concluding that it would "violate[] California constitutional law" to place the burden of proof on respondents in an enforcement proceeding "where substantial property rights are at iss ue"). The Commission's findings must be "supported by *substantial* evidence" to survive judicial review. Pub. Util. Code § 1757(a)(4) (emphasis added). This standard of review is more rigorous than the " *any* evidence" standard that applied before 1998. *Application of Pac. Gas & Elec. Co.*, D.01-10-031, 2001 Cal. PUC LEXIS 917, at *4; *see also* 1998 Cal. Stat., ch. 886 (S.B. 779), § 12 (imposing the "substantial evidence" standard). And CPSD bears not only the burden of persuasion, but also the burden of pr oduction. *See* Evid. Code § 550; *see also Union Pac. R.R. Co* , D.93105, 1981 Cal. PUC LEXIS 1290, at *10.

[114] Ex. CPSD-15 (Violations 1 -26) (CPSD/Felts); Ex. CPSD-16 (Violations A.1, B.1 -6, C.1-3) (CPSD/Duller and North).

A code section "must be construed 'in the context of the statute as a whole and the overall statutory scheme, and [courts] give "significance to every word, phrase, sentence, and part of an act in pursuance of the legislative purpose ."'"[115] "[I]t is well established that 'chapter and section headings [of an act] may properly be considered in determining legislative intent . . . and are entitled to considerable weight.'"[116] Section 451 appears in Chapter 3, Article 1 of the Public Utilities Act, under the heading "RATES." All the substantive provisions of that article address ratemaking.[117] Chapter 4 of the Act, entitled "REGULATION OF PUBLIC UTILITIES," contains the statutory provisions that confer authority on the Commission to promulgate and enforce safety standards.[118] The statutory structure, reflected in its headings, weighs "considerabl[y]" against interpreting Section 451 as a free-floating safety standard.[119]

The text of Section 451 confirms that it does not impose a general safety obligation on public utilities. Its only reference to "safety" appears in one dependent clause within a multi-paragraph provision. As codified in Article 1 ("RATES") of Chapter 3 of the Public Utilities Act, Section 451 reads:

> § 451. **Just and reasonable charges, service, and rules**
>
> All charges demanded or received by any public utility, or by any two or more public utilities, for any product or commodity furnished or to be furnished or any service rendered or to be rendered shall be just, and reasonable. Every unjust or unreasonable charge demanded or received for such product or commodity or service is unlawful.
>
> Every public utility shall furnish and maintain such adequate, efficient, just and reasonable service, instrumentalities, equipment,

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[115] *Smith v. Superior Court*, 39 Cal. 4th 77, 83 (2006) (quoting *People v. Canty*, 32 Cal. 4th 1266, 1276 (2004)).

[116] *People v. Hull*, 1 Cal. 4th 266, 272 (1991) (quoting *Am. Fed'n of Teachers v. Bd. of Educ.*, 107 Cal. App. 3d 829, 836 (Ct. App. 1980)).

[117] *See generally* Pub. Util. Code §§ 451-467.

[118] *See* Pub. Util. Act, art. 3 ("Equipment, Practices, and Facilities") and Pub. Util. Code §§ 761, 768.

[119] *Hull*, 1 Cal. 4th at 272. When cross-examining PG&E's records retention witness, Steve Phillips, on a different subject, Mr. Morris stated:

> MR. MORRIS: At line 16 to 22, Ms. Felts refers to a review of 18 CFR Part 225 2012 reveals that is a subchapter – it is in a subchapter F, accounts, Natural Gas Act, and is immediately after Part 201 uniform system of accounts. Therefore, although it discusses the preservation of records of natural gas companies, it is only concerned with retention policies for ratemaking documents. Do you agree with that statement?

R.T. 1086 (CPSD/Morris). As stated in his question, Mr. Morris' logic is that a record retention provision that appears in a regulatory subchapter addressed to "accounts" must therefore reference only "ratemaking documents." His reasoning applies with special force in explaining why Section 451 (which appears in an article of the Public Utilities Code addressed to "Rates") should not be used as an independent source of pipeline safety law.

> and facilities, i ncluding telephone facilities, as defined in Section 54.1 of the Civil Code, as are necessary to promote the safety, health, comfort, and convenience of its patrons, employees, and the public.
>
> All rules made by a public utility affecting or pertaining to i ts charges or service to the public shall be just and reasonable.

The first paragraph of Section 451 mandates that a utility charge just and reasonable rates. The second paragraph specifies what level of service a utility must furnish in exchange for rece iving just and reasonable rates: it must furnish adequate, efficient, just and reasonable service, necessary to promote certain objectives, of which "safety" is one. The last paragraph specifies that a utility's rules affecting charges or services must similarly be just and reasonable.

It has long been settled that Section 451, by its terms, requires a balancing of several considerations. Most basically, Section 451 requires a balancing of rates against the proper level of service. *See Pac. Tel. & Tel. Co. v. Pub. Utils. Comm'n*, 34 Cal. 2d 822, 826 (1950) (defining the Commission's primary purpose as "insur[ing] the public adequate service at reasonable rates without discrimination"); *see also Application of Pac. Gas & Elec. Co.* , D.00-02-046, 2000 Cal. PUC LEXIS 239 ("Our charge is to ensure that PG&E provides adequate service at just and reasonable rates"). As the Commission has long maintained, in determining the proper level of service, it must evaluate and balance what is adequate, efficient, just and reasonable. *See Corona City Council v. S. Cal. Gas Co.* , D.92 -08-038, 1992 Cal. PUC LEXIS 563, at *28 ("SoCalGas argues that PU Code § 451 requires a balancing of the four factors: adequate, just, reasonable and efficient. We agree with SoCalGas that to determine the proper level of utility service we must carefully balance all four factors."). In achieving this balance, the safety of the public is one important consideration – as are the health, comfort and convenience of the public and others. In sett ing just and reasonable rates, the Commission has broad latitude to adopt the safety standards that are consistent with the rates. To construe Section 451 to create stand -alone, free-floating safety rules, however, requires the Commission to extract one c onsideration (safety) from all those Section 451 requires to be evaluated and balanced in setting just and reasonable rates. That construction fails to read Section 451 as a whole or in context.

Even assuming *arguendo* that Section 451 creates an enforceab le safety standard, CPSD did not undertake the balancing that Section 451 requires. CPSD did not produce any evidence about whether PG&E furnished a level of service commensurate with the rates it received during

the time period under investigation. Mart in Homec of CARE called out this deficiency in CPSD's case during his brief cross -examination of Dr. Duller and Mrs. North. [120] To foreclose Mr. Homec's line of questioning, CPSD conceded that Dr. Duller and Mrs. North's reports did not consider the rates PG &E had historically received in concluding that PG&E had violated Section 451.[121] Moreover, CPSD urges the Commission to read into Section 451 a requirement that utilities use "best engineering practices available," but it did not offer any testimony that PG&E's past rates reflected the Commission's adoption of that standard. In fact, had PG&E requested the rates needed to implement the "best engineering practices available," the Commission might have appropriately rejected the request as "gold -plating." *See, e.g., Application of Pac. Gas & Elec. Co.* , 2000 Cal. PUC LEXIS 239 (explaining in a rate case that "[w]e do not intend to set revenues at a level to provide funding for what some parties have called 'gold-plated' service"). Tellingly, Ms. Halligan could not commit that CPSD would in the future advocate for rate recovery to implement "the best engineering practices available" standard that CPSD now reads into Section 451. [122] In sum, CPSD did not undertake the kind of balancing Section 451, by its terms, requires.

To accept CPSD's contention that Section 451 mandates (and has always mandated) a "best engineering practices" standard would impermissibly render superfluous entire provisions of the Code and every Commission regulation that requires any safety measure of any kind. *See Klein v. United States* , 50 Cal. 4th 68, 80 (2010) (describing the rule of statutory construction that "courts must strive to give meaning to every word in a statute and to avoid constructions that render words, phrases, or clauses superfluous"). Section 768, for instance, authorizes the Commission to prescribe that utilities implement specified safety measures:

> The commission may, after a hearing, require every public utility to construct, maintain, and operate its line, plant, sy stem, equipment, apparatus, tracks, and premises in a manner so as to promote and safeguard the health and safety of its employees, passengers, customers, and the public. The commission may prescribe, among other things, the installation, use, maintenance ,

[120] R.T. 623-24 (CARE/Homec) ("It just appeared to me that if the[y're] citing violations of [Section 451] which considers costs, then how can they state th at it's a violation if they didn't consider what I – I consider to be an important aspect of it[?]").

[121] R.T. 624 (CPSD/Gruen) ("The areas where Section 451 is identified is the supplemental testimony of Dr. Duller and Mrs. North, but it doesn't specificall y articulate costs associated with Public Utilities Code Section 451 in that section. So it's not addressed.").

[122] R.T. 74-75 (CPSD/Halligan).

> and operation of appropriate safety or other devices or appliances, including interlocking and other protective devices at grade crossings or junctions and block or other systems of signaling. The commission may establish uniform or other standards of construction and equipment, and require the performance of any other act which the health or safety of its employees, passengers, customers, or the public may demand.[123]

When adopting GO 112 in December 1960, the Commission relied on its authority under Section 768; it did not mention Section 451.[124] Pursuant to Section 768, the Commission adopted, as a Commission rule, a modified version of the existing ASA B31.8 voluntary industry standards.[125] Yet CPSD maintains that, even before the Commission adopted th is standard, Section 451 already obligated California utilities to adhere to the ASA voluntary standards because they reflected the best engineering practices available.[126] If, as CPSD contends, the ASA B31.8 standard already applied to California utilities through Section 451, then the Commission's adoption of GO 112 in 1960 amounted to a redundant rulemaking exercise.[127]

The Legislature would have spoken with a great deal more clarity had it intended to impose its own "best engineering practice available" st andard on every public utility in the state, distinct from the Commission's explicit safety rulemaking authority and the rules promulgated thereunder. As the U.S. Supreme Court explained in an analogous context, "Congress, we have held, does not alter the fundamental details of a regulatory scheme in vague terms or ancillary provisions – it does not, one might say, hide elephants in mouseholes."[128]

CPSD's application of "best engineering practices available" is essentially a free -floating strict liability standard to be applied after the fact. If a pipeline accident occurs, by definition the pipeline was not safe and CPSD can assert that the utility failed in its Section 451 duty to promote safety. The specific safety hazard may have been unforeseeable, b ut in CPSD's mind

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[123] Pub. Util. Code § 768.

[124] Ex. PG&E-4 at 3 (Decision No. 61269, with GO 112 attached).

[125] R.T. 146 (CPSD/Halligan) (where Ms. Halligan explains that GO 112 modified the ASA B31.8 standard to change the word "should" to "shall." "It makes the provisions mandatory."); R.T. 161 (CPSD/Halligan).

[126] GO 112 adopted the ASA Code but it also included unique provisions. CPSD d oes not rely on those unique provisions. The GO 112 violations it asserts as secondary bases for liability each rely on Section 107, the provision of GO 112 that incorporated the ASA Code.

[127] Other parts of the Public Utilities Code would be similarly impa cted. California Public Utilities Code, Section 2794(a), for example, requires a gas or electric system acceptable for transfer to meet "the commission's general orders" regarding safety and reliability. The Legislature did not specify that the system mu st also meet an open-ended "best engineering practices" standard CPSD has grafted onto Section 451.

[128] *Whitman v. Am. Trucking Ass'n, Inc.*, 531 U.S. 457, 468 (2001).

that is all the more reason to apply Section 451: "[R]egulators cannot articulate every possible requirement to prevent an operator's unforeseeable, but unsafe conduct." [129] For CPSD, Section 451 provides a guarantee that any action it deems unsafe after the fact can be cause for an enforcement action. [redacted] CPSD has relied on this broad theory of liability, even at times to the exclusion of specific regulatory provisions that address the precise subject matter of their violation.[131] Had it wanted to, the Legislature could have imposed strict liability on utilities for every accident, no matter what the cause. But it would be extraordinary to conclude that the Legislature prescribed such strong medicine by making a passing reference to safety in a ratemaking provision.

The California Legislature's enactment of the "Natural Gas Pipeline Safety Act of 2011" confirms the Legislature knows how to adopt a "best practices" standard when it so intends. That recent legislation added provisions that tie the development and implementation of utility pipeline safety plans to "best practices in the gas industry" as well as federal pipeline safety law.[132] The Legislature adopted this standard as part of a comprehensive legislative scheme that includes Commission review and approval of the gas utility's pipeline safety plan. It would have been unnecessary for the Legislature to incorporate a "best practices in the gas industry" standard if, as CPSD contends, Section 451 already imposed one.[133]

Ms. Halligan's revised rebuttal testimony cites *Carey v. Pac. Gas & Elec. Co.*, D.99-04-029, 1999 Cal. PUC LEXIS 215, to support CPSD's attempt to use Section 451 as an open-ended source of pipeline safety obligations and try to establish that PG&E had notice that the

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[129] Ex. CPSD-1 at 5 (CPSD/Halligan).

[redacted]

[131] For example, Felts Violation 18 ("Design and Pressure Test Records Missing") relies primarily on Section 451, and secondarily on ASME, GO 112, 112-A, 112-B and internal policies. CPSD did not reference directly or indirectly 49 C.F.R. § 192.517 (specifically addressing pressure test records).

[132] Pub. Util. Code § 961(c).

[133] Section 961(f) in the legislation does not alter this conclusion. That subsection provides: "Nothing in this section limits the obligation of a gas corporation to provide adequate service and facilities for the convenience of the public and its employees pursuant to Section 451 or the authority of the commission to enforce that obligation under state law." Pub. Util. Code § 961(f). Section 961(f) does not impose new obligations or recast Section 451 as a free-floating safety obligation. To the contrary, it does not mention "safety," but "adequate service and facilities for the convenience of the public." As such, Section 961(f) is a savings provision, confirming the Commission's existing authority to enforce the "adequate service" obligation through the ratemaking process. If Section 961(f) were interpreted as a statement endorsing a broad reading of Section 451, it comes after the San Bruno accident and cannot create a prior standard. *See FCC v. Fox Television Stations, Inc.*, 132 S. Ct. 2307, 2317 (2012) (due process requires fair notice of conduct that is forbidden or required).

Commission would enforce a best engineering practices standard under Section 451. [134] But far from supporting CPSD, *Carey* casts doubt on CPSD's "best engineering practices" standard. *Carey* arose out of an explosion at a multi-unit apartment building. The Commission found PG&E had violated Section 451 by following an internal company policy authorizing fumigation contractors to terminate natural gas service as part of fumigation projects. Under the facts of the case, the Commission determined that PG&E's policy and practices did not constitute "reasonable service" as required by Section 451. The Commission rejected PG&E's void for vagueness due process challenge to Section 451, concluding that the terms "reasonable service, instrumentalities, equipment and facilities" were not without definition. The Commission concluded that PG&E had fair notice of what was "reasonable" because reasonableness could be determined with reference to "a definition, standard or common understanding among utilities."

Carey is unique in that it is one of only two adjudicated enforcement cases that relied on Section 451 to support a fine or penalty over the due process objections of the utility.[135] Nevertheless, *Carey* hurts rather than helps the CPSD. What was important to the Commission in *Carey* was that any reasonable service obligation imposed by Section 451 was objectively ascertainable by reference to an existing definition, standard, or common industry understanding. *Id.* (citing *Chodur v. Edmonds*, 174 Cal. App. 3d 565 (Ct. App. 1985) (the term "dishonest dealing" was not unconstitutionally vague because it could be determined with reference to a common understanding)). In *Carey*, the utility had delegated to third party fumigators the utility's job of safely turning off gas service before a home was tented and fumigated. Without reference to an ascertainable definition, standard or understanding a general obligation to do such things as to "promote safety" or "keep the system safe" would be too vague to enforce. Federal decisions in the OSHA employee safety context agree. If they are to be enforced at all, vague and open-ended safety regulations must be enforced with reference to objective and shared industry understandings. *See F.A. Gray, Inc. v. Occupational Safety & Health Review Comm'n,* 785 F.2d 23, 24-25 (1st Cir. 1986) (Breyer, J.) (open-ended requirement requiring "appropriate personal protective equipment in all operations where there is an exposure to hazardous conditions" can be applied only to conduct "unacceptable in light of the common understanding

[134] Ex. CPSD-1 at 5 (CPSD/Halligan); *see also* R.T. 82-83 (CPSD/Halligan); Ex. PG&E-6.

[135] The other is *Investigation of Pac. Bell Wireless, LLC (Cingular),* D.04-09-062, 2004 Cal. PUC LEXIS 453, which involved the just and reasonable service mandate in Section 451. That decision was appealed, and we address the court of appeal decision below.

and experience of those working in the industry"); *see also S & H Riggers & Erectors, Inc. v. Occupational Safety & He alth Review Comm'n* , 659 F.2d 1273, 1285 (5th Cir. 1981) ("The generality of [the regulation], however, mandates that it be applied only in such a manner that an employer may readily determine its requirements by some objective external referent.").

Here, CPSD reads Section 451 differently than did the Commission in *Carey*. CPSD has not addressed the "reasonable service, instrumentalities, equipment, and facilities" clause in Section 451 upon which *Carey* relied.[136] And more importantly, CPSD has ignored *Carey*'s requirement that Section 451 be applied with reference to an existing "definition, standard or common understanding among utilities." CPSD instead reads *Carey* to confirm a more general requirement in Section 451 to "make utilities keep their systems sa fe."[137] Ms. Halligan, for instance, did not define her "best engineering practices" standard with reference to any actual industry practices. She repeatedly deferred those questions to Ms. Felts. [138] Ms. Felts was no help because she judged PG&E's practices according to whether in her own good judgment they were unsafe.[139] Ms. Felts was unaware of the practices of other operators both now and in the past.[140] Dr. Duller and Mrs. North did not judge PG&E's engineering practices, and did not judge its records prac tices according to CPSD's newly articulated standards. [141] In fact, when PG&E submitted uncontroverted evidence establishing objective industry understandings, including understandings about recordkeeping practices and experience, [142] CPSD dismissed

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[136] Ex. CPSD-1 at 5 (CPSD/Halligan). Similarly, CCSF witness Gawronski does not place emphasis on Section 451's reasonable service clause. He instead emphasizes the clause that follows it. Ex. CCSF-4 at 3 (CCSF/Gawronski) (referring to Section 451 as PG&E's obligation "to furnish such service 'necessary to promote the safety, health, comfort, and convenience of its patrons, employees and the public'"); San Bruno R.T. 46 (Opening Statem ent of CCSF) (referring to Section 451 as empowering the Commission "to ensure PG&E's operations, quote, promote the safety, health, comfort and convenience of its patrons, employees and the public, closed quote").

[137] Ex. CPSD-1 at 5 (CPSD/Halligan).

[138] R.T. 86, 96-97, 104, 105, 129, 136 (CPSD/Halligan).

[139] R.T. 357-58 (CPSD/Felts).

[140] Ex. PG&E-61 at 0-2 n.1 (PG&E/Singh); Ex. PG&E -63 (Tab Intro -1) (CPSD Response to PG&E Data Request No. 4, Question 29); R.T. 343, 355, 399-400, 402, 408, 517, 526, 592 (CPSD/Felts).

[141] R.T. 637, 651-53 (CPSD/Duller and North).

[142] Ex. PG&E-61 at 1-4 to 1-8 (PG&E/De Leon); Ex. PG&E-61 at 1-9 to 1-17 (PG&E/Howe); Ex. PG&E-61 at 3-3 to 3-13 (PG&E/Zurcher); Ex. PG&E-62 at App. F (PG&E/Dunn); Ex. PG&E-21 at 4 (Verification of Records Jul y 12, 2012 PHMSA Presentation); Ex. PG&E-63 (Tab 1 -15) at GTR0001810 (AGA White Paper on MAOP Verification); Ex. PG&E -63 (Tab 1 -33) (AGA Industry Guidance on Records Review for Re -affirming Transmission Pipeline MAOPs); Joint R.T. 679-84 (PG&E/Zurcher) (wh ere Mr. Zurcher explains how industry practices can be established through expert experience, benchmarking, industry training and secondary industry materials); Joint R.T. 750-51 (PG&E/Zurcher).

PG&E's reference to industry practices as irrelevant. [143] That is a strange position for CPSD to have taken given its use of a "best engineering *practices*" standard. CPSD, to be sure, made one reference to an industry standard in alleging Section 451 violations. CPSD contends that Section 451 incorporated the ASA B31.8 voluntary industry standard prior to the Commission adopting that standard as a binding rule in 1961, [144] a claim addressed in Section III.B.3 below. But after 1961, however, CPSD has not tied its alleged Section 451 violations to any industry standard or practice. In the presentation of its case, CPSD has not attempted to bring itself within the reasoning of the Commission's decision in *Carey*.

A court of appeal decision, *Pac. Bell Wireless, LLC (Cingular) v. Pub. Utils. Comm'n* , 140 Cal. App. 4th 718 (Ct. App. 2006), also sustained the Commission's reliance on Section 451 over due process objections that Section 451 was vague and did not provide adequate notice of what conduct the Commission proscribed. B ut *Cingular* does not support CPSD's position either. *Cingular* involved a fine imposed by the Commission against a wireless telephone service provider for unjust and unreasonable practices relating to an early termination fee and the failure to disclose ne twork problems that misled consumers about the available coverage and service.[145] In rejecting a due process challenge to Section 451's application, the court pointed to three considerations. [146] First, "Cingular could reasonably discern from the Commission's interpretations of section 451 that its conduct in this instance would also violate the statute." [147] Second, information Cingular was receiving from its customers informed Cingular that "the totality of its acts and omissions was not just and reasonable." [148] Third, the court saw no appreciable difference between the specificity of Section 451 and civil fraud statutes. [149] *Cingular* distinguishes itself. The prior Commission decisions that imparted notice in *Cingular* did so in ways that specifically alerted Cing ular that its conduct "in this instance" was unlawful.

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[143] Ex. CPSD-1 at 2 (CPSD/Halligan) ("Second, stating examples of others in the industry practice is irrelevant to whether PG&E's recordkeeping practices have violated the law."); *see also* R.T. 132 (CPSD/Halligan) ("[I]f PG&E was required to keep pipe specifications for purposes of operating and maintaining its system s safely then PG&E violated 451 regardless of whether other operators may have also had unknown pipe specifications"); *see also* R.T. 131 (CPSD/Halligan); R.T. 606 (CPSD/Felts).

[144] Ex. CPSD-1 at 6 (CPSD/Halligan) (arguing that PG&E should have complied with ASA B31.8 until it was mandated by GO 112).

[145] *Cingular*, 140 Cal. App. 4th at 723.

[146] *Cingular*, 140 Cal. App. 4th at 740-43.

[147] *Cingular*, 140 Cal. App. 4th at 741.

[148] *Cingular*, 140 Cal. App. 4th at 742.

[149] *Cingular*, 140 Cal. App. 4th at 742-43.

PG&E had no such notice. The Commission has never applied Section 451 to punish a utility for what CPSD claims to have been generally shoddy gas recordkeeping practices.[150] The marketplace (Cingular's customers) also alerted Cingular that its practices were unreasonable.

Here, in contrast, CPSD has over the course of decades audited PG&E's facilities and records without previously raising the generalized recordkeeping violations now asserted in this enforcement action.[151] In fact, PG&E understood that in the past CPSD approved of many aspects of PG&E's data management program associated with risk management and integrity management.[152] Finally, in the circumstances of this case, there is an appreciable di fference between the specificity of Section 451 and the specificity of California's civil fraud statutes. The civil fraud statutes are at least static; their requirements do not change week -to-week. In contrast, CPSD stated one set of expectations about what Section 451 required in mid -August 2012, and "moved the line" to state a revised and different set of expectations of what Section 451 required the night before the hearings started.[153]

In sum, CPSD misreads Section 451. The provision addresses safety only as one element among several considerations that must be balanced as part of a Section 451 inquiry. That inquiry is aimed at determining just and reasonable rates, and commensurate levels of service. CPSD never addressed balancing considerations, as Section 451 requires. To now read Section 451 as incorporating an independent source for enforcing every conceivable "best engineering practice" available would defeat the objectives of the broader statutory scheme of the Public Utilities Code. That scheme promotes a process where the Commission evaluates existing safety practices and rules and adopts new ones as required to ensure adequate safety.

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[150] Several Commission decisions have approved settlements in safety enforcement proceedings, citing Section 451 as a supporting or independent ground for the decision. *See, e.g., Investigation of PG&E Mission Substation Fire & Elec. Outage*, D.06-02-003, 2006 Cal. PUC LEXIS 68. Under Rule 12.5 of the Commission's Rules of Practice and Procedure, settlements have no precedential value. To our knowledge, moreover, none of these cases addressed gas safety recordkeeping. Mr. Zurcher similarly testified that he is not aware of any operator in the United States that has been sanctioned for missing records. Joint R.T. 828 (PG&E/Zurcher).

[151] Ex. PG&E-8 at 11-15 (CPSD USRB Electric, Natural Gas & Propane Safety Report 2009); *see also* R.T. 151-53 (CPSD/Halligan) (where Ms. Halligan attempts to explain why CPSD did not identify recordkeeping problems in past audits); Ex. Joint PG&E-50 at 9 (Cover Letter to May 2010 CPUC USRB Integrity Management Program Audit of PG&E).

[152] Ex. PG&E-50 (offered not for the truth of the matter but for its effect on the hearer).

[153] R.T. 72-73 (CPSD/Halligan).

2. Any Attempt To Use Section 451 As A Free -Floating Pipeline Safety Law Violates Due Process/Fair Notice Principles

CPSD's policy testimony demonstrates why S ection 451 cannot fairly be used as a free -standing source of pipeline safety rules. In its initial rebuttal testimony submitted in August 2012, CPSD formulated the standard under which it sought to judge PG&E's past gas safety records practices. "PG&E c an only [ensure safety] by exercising good engineering practices in compliance with Section 451 of the Public Utilities Code." [154] The night before the hearing started, CPSD revised its position to state that "PG&E can only [ensure safety] by exercising the best engineering practices in compliance with Section 451 of the Public Utilities Code." [155] Its position now is that Section 451 incorporated the expectation that PG&E will use "the best engineering practices" throughout the entire time span of the alleged violations (apparently as far back as 1930). It maintains this position despite the fact that it could not (or would not) identify any instance when the Commission had ever put utilities on notice of such a requirement. [156] It maintains the position despite the fact CPSD only articulated its preferred standard for decision in this enforcement proceeding the night before the hearing started.[157]

The Due Process Clause of the California Constitution precludes the Commission from adopting CPSD's position. Cal. Const. art. I, § 7(a). Analogous cases construing the Federal Due Process Clause have held that due process is implicated where, as here, a party first receives actual notice of a proscribed activity through a citation initiating the enforcement action. *See Martin v. Occupational Safety & Health Review Comm'n* , 499 U.S. 144, 158 (1991) (noting that "the decision to use a citation as the initial means for announcing a particular interpretation may bear on the adequacy of notice to regulated parties"). This is because due process requires that laws that regulate persons or entities must give fair notice of conduct that is forbidden or required.[158]

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[154] Ex. PG&E-2 at 2 (PG&E Redline of Revised Halligan Testimony) (emphasis added).

[155] Ex. PG&E-2 at 2 (PG&E Redline of Revised Halligan Testimony) (emphasis added); *see also* R.T. 72-74 (CPSD/Halligan).

[156] Ex. PG&E-6 (CPSD's Response to PG&E's Data Request No. 12) (CPSD only identified *Carey v. Pac. Gas & Elec. Co.* in response to a data request asking it to identify prior orders, resolutions, regulations, correspondence or communications in which CPSD or the Commission communicated a "best engineering practices" standard. It claimed it would be too burdensome to identify additional rules or regulations.); R.T. 85 (CPSD/Halligan) (where Ms. Halligan indicated she could not identify a prior in stance where the Commission or CPSD communicated an expectation that a utility will use "best industry practices").

[157] R.T. 76, 78-79, 85 (CPSD/Halligan).

[158] *FCC v. Fox Television Stations, Inc.*, 132 S. Ct. 2307, 2317 (2012).

What the U.S. Supreme Court said last year in *FCC v. Fox Television Stations* when it struck down an FCC indecency finding and penalty on due process grounds is equally applicable to CPSD's attempt to punish PG&E for alleged Section 451 violations:

> A fundamental principle in our legal system is that laws which regulate persons or entities must give fair notice of con duct that is forbidden or required. This requirement of clarity in regulation is essential to the protections provided by the Due Process Clause of the Fifth Amendment. It requires the invalidation of laws that are impermissibly vague. A conviction or p unishment fails to comply with due process if the statute or regulation under which it is obtained "fails to provide a person of ordinary intelligence fair notice of what is prohibited, or is so standardless that it authorizes or encourages seriously discr iminatory enforcement." As this Court has explained, a regulation is not vague because it may at times be difficult to prove an incriminating fact but rather because it is unclear as to what fact must be proved.
>
> … [T]he void for vagueness doctrine address es at least two connected but discrete due process concerns: first, that regulated parties should know what is required of them so they may act accordingly; second, precision and guidance are necessary so that those enforcing the law do not act in an arbit rary or discriminatory way.[159]

CPSD's efforts to define Section 451's meaning violate the principles set out in *Fox Television Stations*. CPSD's current "best engineering practices" standard is different from the "good engineering practices" standard CPSD pr eviously articulated.[160] The difference between "best" and "good," in Ms. Halligan's opinion, is the difference between giving a utility the option to choose between good options, and requiring the utility to choose the best one available.[161] During cross -examination, Ms. Halligan conceded that her revised testimony submitted the night before the hearings started "raised the bar" by changing "good" to "best."[162] Neither the good or best engineering practices standard was articulated prior to the initiation of

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[159] *Fox Television Stations*, 132 S. Ct. at 2317 (citations omitted).

[160] R.T. 72-73, 80-81 (CPSD/Halligan).

[161] R.T. 80-81 (CPSD/Halligan) ("The distinction that I was making in attempting to clarify my testimony was that when a utility has a choice of a couple of different options to take th at I would expect them to use the best one available to protect the safety and integrity of their system even if there are other good options available").

[162] R.T. 72-73 (CPSD/Halligan) ("Q: So between the time of your initial testimony and the time of your revised testimony CPSD has raised the bar, so to speak. Don't you agree? A. Yes.").

the OII.[163] Even after articulating its proposed Section 451 standard, CPSD has not done so consistently. CPSD substituted the word "best" for "good" because CPSD wanted to "clarify" and be more "specific."[164] Despite this, CPSD continued to assert a "good engineering practice" standard in the same testimony in which it purported to have shifted to the "best engineering practice" standard.[165]

In attempting to anticipate criticisms that CPSD has simply made up the "best engineering practices" standard it finds in Section 451, CPSD points to the Commission's 1960 decision adopting GO 112. It points specifically to a passage of the decision reciting that GO 112 does not "remove or minimize the primary obligation and responsibility" of the utilities to provide safe service and facilities.[166] While the quoted statement is unexceptional, as broad statements of regulatory policy often are, it is too vague and isolated to provide adequate notice of what conduct was prescribed or required. The Supreme Court in *Fox Television Stations* made this point in response to an argument similar to the one CPSD makes:

> The Government argues instead that ABC had notice that the scene in NYPD Blue would be considered indecent in light of a 1960 decision where the Commission declared that the "televising of nudes might well raise a serious question of programming contrary to 18 U.S.C. § 1464." [citation omitted]. This argument does not prevail. An isolated and ambiguous statement from a 1960 Commission decision does not suffice for the fair notice required when the Government intends to impose over a $1 million fine for allegedly impermissible speech.[167]

Cesar De Leon, a former high-level official in the federal Office of Pipeline Safety (now PHMSA), testified similarly. He observed that the language CPSD points to in the Commission's 1960 decision was too broad to create an enforceable standard:

> A: This whole statement sounds like a very broad, a very broad statement that tries to say – that tries to say that anything that an operator does, he's going to be guilty of not – of not assuring the safety of the pipeline. It sounds like – I'm looking at the three sentences. It sounds like it's a very, very broad statement that sort of goes against what I've always said is that you should have

[163] R.T. 78-79, 85 (CPSD/Halligan).

[164] R.T. 72, 80, 86 (CPSD/Halligan).

[165] Ex. PG&E-2 at 2-3 (PG&E Redline of Halligan Revised Testimony); *see also* R.T. 76-78 (CPSD/Halligan).

[166] R.T. 147-48 (CPSD/Halligan).

[167] *Fox Television Stations*, 132 S. Ct. at 2319.

> regulations for those areas of a pipeline that might result in a failure. And to just broadly tell someone, well, you got to do it right, and if it fails, you didn't do it right, is that what this is saying?
>
> Q: Well, I'll leave that to you.
>
> A: I think this is a very broad statement that I find troubling to agree with.[168]

Section 451 does not by its terms give notice of any safety standard. CPSD has not identified any specific or enforceable pipeline safety standard, rule or practice submerged within Section 451, and certainly not one articulated by the Commission or staff prior to these proceedings. If CPSD's contradictory statements in this and the parallel San Bruno OII proceeding are any guide, any attempt by CPSD to impose safety obligations through Section 451 would deprive PG&E of fair notice.[169] Fair notice concerns are especially weighty given the Commission's indication that it may impose significant penalties and other remedial relief.

3. Section 451 Did Not Incorporate The ASA B31.8 Standard Prior To 1961

CPSD initially took the position that prior to 1961 ASA B31.8 carried the independent weight of law.[170] It revised its testimony the night before the hearing to state that prior to 1961 ASA B31.8 represented the "best" accepted industry standards available at that time.[171] Starting

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[168] R.T. 795 (PG&E/De Leon).

[169] *Compare* Ex. PG&E-2 at 2 (a redline version of Ms. Halligan's rebuttal testimony in which CPSD revised its position the night before the hearing from asserting that Section 451 required PG&E to use "good engineering practices" to one in which it claimed that Section 451 required "best engineering practices"), *with* [redacted]

[170] *Compare* Ex. PG&E-1 at 5-6 (Halligan Rebuttal Testimony) (in which Ms. Halligan initially testified that ASA B31.8 carried the independent weight of law) *with* Ex. CPSD-1 at 7 (CPSD/Halligan) ("Consequently, since the ASME Standard B31.8 represented the best accepted industry practices at that time, for violations prior to 1961, the Commission should find that PG&E violated section 451 of the Public Utilities Code").

[171] Ex. CPSD-1 at 7 (CPSD/Halligan). The premise that ASA B.31.8 reflected "best" practices was itself faulty, as CPSD conceded during cross-examination. R.T. 54 (CPSD/Halligan) ("Maybe best practices is an exaggeration"). The ASA B31.8 Code was never meant to set forth best industry practices. R.T. 48-54 (CPSD/Halligan). *See also* Ex. PG&E-3 at Section 2.2 (quoting an article in which one of the architects of the ASA B31.8 standard stated its provisions were meant to be adequate for safety under normal operating conditions).

from this revised premise, CPSD reasoned that Section 451 incorporated ASA B31.8 prior to 1961.[172]

The Commission that adopted GO 112 w ould not have understood CPSD's logic. In the decision adopting GO 112 in 1960, the Commission twice referred to the utilities as having "voluntarily" followed the existing ASA B31.8 standard – a statement that makes no sense if CPSD is right in claiming that Section 451 already mandated adherence to it.[173] What the Commission understood it was doing when it issued GO 112 was adopting gas pipeline safety regulations for the first time in California. It did so over the gas utilities' arguments that their general adherence to the voluntary ASA B31.8 industry standard should forestall the need for regulation.[174] Thus, when the Commission adopted the ASA B31.8 -1958 standard, it modified it to make certain its provisions were "mandatory rather than left optional ."[175] It would have been unnecessary for the Commission to make any provision of ASA B31.8 "mandatory rather than left optional," if in fact compliance with ASA B31.8 was already mandated by Section 451.[176] To accept CPSD's revised explanation that Section 4 51 mandated adherence to ASA B31.8 prior to 1961 is to conclude that the 1960 Commission that adopted GO 112 engaged in a needless exercise in Section 768 rulemaking.

In its opening brief in the San Bruno OII (I.12 -01-007), TURN argues that D.12 -12-30 "compels" the conclusion that noncompliance with ASA B31.8 prior to 1961 constituted a violation of Section 451.[177] TURN is incorrect. The passage from D.12 -12-30 on which TURN

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[172] Ex. CPSD-1 at 7 (CPSD/Halligan) ("Consequently, since the ASME Standard B31.8 represented the best accepted industry practices at that time, for violations prior to 1961, the Commission should find that PG&E violated section 451 of the Public Utilities Code").

[173] Ex. PG&E-4 at 4, 6 (Decision No. 61269, with GO 112 attached). CPSD has not always been consistent. In the course of Mr. Harrison's cross -examination in the joint proceeding, Mr. Foss indicated that he understood that the pre-1961 ASA B31.8 was not mandatory. Joint R.T. 412 (CPSD/Foss). Ms. Halligan seemed to convey the same understanding. *See* R.T. 146 (CPSD/Halligan) (where Ms. Halligan testified that GO 112 made provisions of ASA B31.8 mandatory).

[174] Ex. PG&E-4 at 6 (Decision No. 61269, with GO 112 attached).

[175] Ex. PG&E-4 at 11 (Decision No. 61269, with GO 112 attached).

[176] CPSD also maintains that PG&E was mandated to follow ASA B31.8 because in the proceedings leading to the adoption of GO 112 PG&E and the other major gas utilities represented to the Commission that they generally followed it. Ex. CPSD-1 at 6 (CPSD/Halligan). That contention suffers from the same logical fallacy. The Commission that adopted GO 112 understood that the gas utilities had represented that t hey generally followed the ASA B31.8 standard. Ex. PG&E-4 at 4, 6 (Decision No. 61269, with GO 112 attached) . The Commission conveyed that understanding in the context of explaining in its GO 112 decision why those assurances were not sufficient justification for delaying the imposition of a General Order. *Id.* at 6. In other words, the Commission did not rely on those assurances; it adopted GO 112 notwithstanding the assurances.

[177] I.12-01-007, Opening Brief of The Utility Reform Network, at 13-14.

relies merely explains that PG&E's ratepayers will not bear the cost PG&E incurs in retesting pipeline it had installed between 1956 and 1961 due to the absence of pressure test records.[178] In disallowing these potential re-testing costs, the Commission reasoned that ratepayers already "paid for such testing once," since PG&E's practice w as generally to comply with the ASA B31.8 voluntary standards.[179] Contrary to TURN's contention, D.12 -12-30 did not even purport to state a legal requirement. Rather, the Commission was careful to stress that it was "express[ing] *no opinion* on whether PG&E's natural gas system records violated federal or state law or regulations because *those questions are pending* in I.11-02 -016."[180] It was "[b]ased on that understanding" that PG&E withheld comment on that portion of the proposed decision (and did not seek rehearing).[redacted]

Between 1956 and 1961, PG&E generally adhered to the ASA B31.8 voluntary industry standards, as did other California utilities. But no one at the time, including the Commission, understood that any California utility adhered to those standards in every instance or that they were required to do so by law.[182] The adoption of GO 112 marked a significant change in the legal requirements governing California utilities. It was not a meaningless development, as it necessarily would be under CPSD's and TURN's theory that Section 451 incorporated the ASA B31.8 voluntary industry standard prior to GO 112's adoption.

C. CPSD Does Not Allege Proper "Continuing" Offenses

CPSD maintains th at each of its alleged violations is a "continuing" offense under Public Utilities Code Section 2108. CPSD's view seems to be that an offense arises on the day it assumes a record goes missing and then continues for as long as the record remains missing. Ms. Felts, to whom CPSD deferred such questions,[183] attempted to define the concept of a continuing offense, but her definition was so broad as to have no limiting principle: "My understanding of a

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[178] *Order Instituting Rulemaking*, 2012 Cal. PUC LEXIS 600, at *112-13.

[179] *Order Instituting Rulemaking*, 2012 Cal. PUC LEXIS 600, at *112-13.

[180] *Order Instituting Rulemaking*, 2012 Cal. PUC LEXIS 600, at *69-70 (emphasis added).

[redacted]

[182] Ex. PG&E-4, at 6 (Decision 61269, with GO 112 attached) (rec ognizing that "gas utilities in this State *generally* have voluntarily followed recognized national standards" (emphasis added)).

[183] R.T. 161-62. (CPSD/Halligan).

continuing violation is that once it occurs it's a violation and it continues into the future."[184] Pressed to define what makes an offense continue for decades, she repeatedly referred to the continued absence of a record.[185]

The plain text of Section 2108 forecloses this boundless theory. It speaks in terms of a "continuing violation." Pub. Util. Code § 2108 ("[I]n case of a *continuing violation* each day's *continuance thereof* shall be a separate and distinct offense" (emphases added)). As its language makes clear, Section 2108 applies only to violative conduct that continues over time, not to specific instances of violations. *Accord Qwest*, 2003 Cal. PUC LEXIS 67, at *20-21 ("The Commission has calculated fines on the basis of Section 2108 in cases where the evidence established that . . . practices that violated statutory or decisional standards had occurred over a period of time, rather than specific instances of violations."). It is not enough to contend, as CPSD apparently does, that the continued absence of a record makes a violation continuing. That approach conflates the specific act that constitutes the violation (*e.g.*, the failure to preserve the record) with a consequence that flows from that act (the record remains unavailable indefinitely into the future). Under Section 2108, it is the violation that must be ongoing, not its natural consequences.

Even if the statute could bear CPSD's theory that consequences cause a violation to continue indefinitely, that theory would transgress the narrow construction rule that the California Supreme Court applies to statutes that permit the aggregation of daily penalties. *See Hale v. Morgan*, 22 Cal. 3d 388, 401 (1978) ("Uniformly, we have looked with disfavor on ever-mounting penalties and have narrowly construed the statutes which either require or permit them.").[186] For example, in *People ex rel. Younger v. Superior Court*, 16 Cal. 3d 30 (1976), the Court narrowly construed Water Code Section 13350(a), which at the time imposed a penalty of $6,000 "for each day in which [an unlawful oil] deposit occurs." The Court found this language to be ambiguous between the two competing interpretations urged by the parties: (1) each day that the oil remains on the water; or (2) each day that the process of deposit lasts.[187] The Court

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[184] R.T. 252 (CPSD/Felts).

[185] R.T. 277 (CPSD/Felts) (opining that what makes a record violation continuing is the absence of a record); R.T. 283 (CPSD/Felts) (violation continues because records have yet to be found); R.T. 286 (CPSD/Felts) ("The records were missing.").

[186] These statutes are anomalies. Civil penalty provisions are generally "limited either to a fixed multiple of actual damages, to a specified total amount per 'violation' or to a fixed duration." *Hale*, 22 Cal. 3d at 401.

[187] *Younger*, 16 Cal. 3d at 43.

adopted the latter, narrower construction because the alternative – each day the oil remains on the water – was unduly harsh and made little sense. *Younger*, 16 Cal. 3d at 43-44 (explaining that under the broader construction "liability is measured by a critical factor normally beyond the control of the violator, namely the time in which the oil spill is or reasonably can be cleaned up"); *see also Hale*, 22 Cal. 3d at 401 (citing *Younger* as an application of the narrow construction rule for civil penalty provisions). Unlike the statute in *Younger*, Section 2108 is not ambiguous. But even if it were, the narrow construction rule precludes CPSD's expansive theory of what makes a "continuing violation."

Accepting CPSD's theory would also produce absurd results, in violation of a basic rule of statutory construction. "'[I]t is fundamental that a statute should not be interpreted in a manner that would lead to absurd results.'" [188] Once a record goes missing, it rarely, if ever, can be recreated.[189] Yet, according to CPSD, a utility may be subject to daily penalties for as long as a record remains missing, even though the utility is incapable of locating the record or correcting the problem. Perhaps in light of the absurdity of this scenario, the Commission has interpreted Section 2108 as applying only to violations that are curable. *See Strawberry Prop. Owners Ass'n v. Conlin-Strawberry Water Co., Inc.*, D.97-10-032, 1997 Cal. PUC LEXIS 954, at *9 (explaining that under Section 2108 "each day any violation *remains uncured* constitutes a separate and distinct offense" (emphasis added)). Curability is also central to the Commission's enforcement policy. The Commission considers notice and an opportunity to cure a violation as prerequisites to imposing fines: "[W]e believe the proper enforcement policy is to impose fines in situations where (a) there is a violation of a GO of which the utility either knows or should have known; and (b) after acquiring either actual or constructive knowledge of the violation, the utility fails to cure it within a reasonable period." *Investigation of S. Cal. Edison Co.*, D.04-04-065, 2004 Cal. PUC LEXIS 207, at *23; *see also* Pub. Util. Code § 2104.5 (requiring penalty determinations to take into account, among other factors, the "good faith of the person charged in attempting to achieve compliance, after notification of a violation"). In short, curability is an essential element of a "continuing violation." Because CPSD's alleged records violations were not curable, they cannot establish continuing violations under Section 2108.

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[188] *Cent. Pathology Serv. Med. Clinic, Inc. v. Superior Court*, 3 Cal. 4th 181, 191 (1992) (quoting *People v. Morris*, 46 Cal. 3d 1, 15 (1988)).

[189] Joint R.T. 799 (PG&E/Zurcher) ("I don't know how you recreate a record.").

In the absence of notice and a meaningful opportunity to cure, the relationship between the gravity of the violation and the corresponding penalty quickly becomes grossly disproportionate. To illustrate, assume it had been shown that PG&E created a leak repair record for gas transmission pipe in 1930 and immediately and irretrievably lost it. Under CPSD's reasoning, the loss of this single record on a single day in 1930 would constitute a " continuing violation" that runs from 1930 through at least September 2010 (80 years), regardless of whether the leak repair record then or now had any engineering value in ensuring a safe pipeline system.[190] It would constitute a continuing violation notwit hstanding the fact that CPSD did not provide notice to PG&E of the missing record until after September 2010, and notwithstanding that the violation was never curable both because PG&E did not know of the violation and because even if it had known it could not recreate a leak record for a repair that occurred 80 years ago. In this scenario, and under the CPSD's reasoning, PG&E would be subject to a fine under Sections 2107 and 2108 of "not less than $500" for each day the record remains absent. The total *minimum* penalty for this single lost and immaterial leak record: $14.6 million (80 years x 365 days x $500). The maximum authorized penalty would exceed $150 million.[191]

Any penalty within the range of $14.6 to $150 million would violate California's Excessive Fines Clause. *See* Cal. Const. art. I, § 17. It would be an understatement to describe such a penalty as "grossly disproportional to the gravity of [the] offense." *People v. Urbano* , 128 Cal. App. 4th 396, 406 (Ct. App. 2005) (quoting *United States v. Bajakajian*, 524 U.S. 321, 334 (1998)); *see also People ex rel. Lockyer v. R.J. Reynolds Tobacco Co.* , 37 Cal. 4th 707, 728 (2005) (explaining that the "touchstone of the constitutional inquiry under the Excessive Fines Clause is the principle of proportion ality" (internal quotation marks omitted)). Any such penalty would also violate due process. *See* Cal. Const. art. I, § 7(a); *Hale*, 22 Cal. 3d at 399 (explaining that "'oppressive' or 'unreasonable' statutory penalties may be invalidated as violative of d ue process" and invalidating a $17,300 fine imposed under a statute that provided for a penalty of $100 for each day a landlord willfully deprived a tenant of utilities for the purpose of evicting the tenant). Such a penalty would also violate due process because PG&E did not have notice of

[190] Ex. CPSD-15 (Violation 21) (CPSD/Felts).

[191] *See supra* note 104, explaining "[t]he applicable fine range is determined by the statutory fines available at the time of the violation."

CPSD's extraordinary view of what qualifies as a continuing violation under Section 2108 prior to this investigation.[192]

CPSD contends that the alleged loss of records 80 years ago subjects PG&E to daily penalties, tota ling tens or hundreds of millions of dollars, for each day the records remained missing, despite the fact that PG&E is powerless to resurrect or recreate the missing records. Section 2108, Commission precedent and the California Constitution bar this theory.

D. CPSD's Delay In Raising 80 Years Of Alleged Continuing Violations Constitutes Laches

CPSD has existed in one form or another since the 1950s.[193] It has been reviewing filings for new pipeline construction projects and auditing and examining PG&E's gas records for years.[194] Yet in 2012, for the first time, it alleged that pervasive and continuing deficiencies have existed in all manner of PG&E's ga s recordkeeping practices since long before World War II. Laches bars all of CPSD's general records violations alleged to have arisen prior to September 9, 2010.[195]

Administrative laches has two elements: (1) unreasonable delay; and (2) prejudice.[196] If these elements are met, an administrative agency is barred from bringing its claims.[197] Laches may be established in either of two ways. The party asserting laches may prove its elements "by the evidence in the case."[198] Alternatively, laches may be established by means of an evidentiary presumption. Where an agency's delay would violate an analogous statute of limitations, laches is presumed and "the burden of proof shifts to the administrative agency" to "(1) show that the delay . . . was excusable, and (2) rebut the presumption that such delay resulted in prejudice to the opposing party."[199] In such cases, courts "borrow" the analogous statute of limitations "as a

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[192] *See, e.g.*, *Fox Television Stations*, 132 S. Ct. at 2317-18.

[193] PG&E's Initial Response, April 18, 2011, Appendix A, Chapter 1 at 5.

[194] Ex. PG&E -8 at 11 -15 (CPSD USRB Electric, Natural gas & Propane Safety Report 2009); Ex. PG&E-10 to Ex. PG&E-17 (CPSD USRB Electric, Natural Gas & Propane Safety Reports for 1997 -2008); Ex. PG&E-61 at 3-30 to 3-31 (PG&E/Harrison); Ex. PG&E-65 (Tab 3-6 to 3-10); *see also* R.T. 92-94 (CPSD/Halligan).

[195] *See* Ex. CPSD -15 (Violations 16 -27) (CPSD/Felts); Ex -CPSD-16 (Violations A.1, B.1 -B.6, C.1 -C.3) (CPSD/Duller and North).

[196] *Robert F. Kennedy Med. Ctr. v. Belshe*, 13 Cal. 4th 748, 760 n.9 (1996).

[197] *Robert F. Kennedy Med. Ctr.*, 13 Cal. 4th at 760 n.9.

[198] *Fountain Valley Reg'l Hosp. & Med. Ctr. v. Bonta*, 75 Cal. App. 4th 316, 323-24 (Ct. App. 1999).

[199] *Fountain Valley Reg'l Hosp.*, 75 Cal. App. 4th at 324.

measure of the outer limit of reasonable delay." [200] Doing so makes sense because laches and statutes of limitations serve the same policy objectives: "to promote justice by preventing surprises through the revival of claims that have been allowed to slumber until evidence has been lost, memories have faded, and witnesses have disappeared." [201] The policy of borrowing limitations statutes is especially strong in a penalty action. *See Gabelli v. SEC*, No. 11-1274, slip op. at 9 (U.S. Sup. Ct. Feb. 27, 2013) ("Chief Justice Marshall used particularly forceful language in emphasizing the importance of time limits on penalty actions, stating that it 'would be utterly repugnant to the genius of our laws' if actions for penalties could 'be brought at any distance of time'" (quoting *Adams v. Woods*, 6 U.S. 336, 342 (1805))).

In this case, the result is the same under either method of proof: laches bars CPSD's general (non San Bruno-related) records violations. PG&E can affirmatively demonstrate laches as explained below, but it is not required to do so. The delay in bringing these general records violations far exceeds even the most generous statutes of limitation. CPSD therefore bears the burden of proof as to each element of laches.

The most closely analogous statute of limitations is the one-year period for commencing "[a]n action upon a statute for a forfeiture or penalty to the people of this state." [202] CPSD relies on two penalty statutes, Sections 2107 and 2108, and any penalties assessed thereunder are paid to the state's general fund. [203] Applying Section 340(b)'s one-year period "as a measure of the outer limit of reasonable delay," [204] all claimed violations arising before February 24, 2010 – one year before the Commission initiated this investigation – are barred unless CPSD can overcome the presumption of laches. Even if it were determined that Section 340(b)'s one-year statute of limitations is not analogous, CPSD had at most three or perhaps four years in which to proceed before it must overcome the presumption of laches. *See* Civ. Proc. Code § 338(a) (providing a three-year limitation period for "[a]n action upon a liability created by statute, other than a

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[200] *Brown v. State Pers. Bd.*, 166 Cal. App. 3d 1151, 1160 (Ct. App. 1985). Analogous statutes of limitations must be "borrowed" because they do not apply directly in administrative proceedings. *See Fountain Valley Reg'l Hosp.*, 75 Cal. App. 4th at 325.

[201] *Brown*, 166 Cal. App. 3d at 1161 (internal quotation marks omitted).

[202] Civ. Proc. Code § 340(b). PG&E recognizes this statute does not apply directly to the Commission's enforcement proceedings. *See Carey*, 1999 Cal. PUC LEXIS 215 (citing *Little Co. of Md. Hosp. v. Belshe*, 53 Cal. App. 4th 325, 329 (Ct. App. 1997)). Since it is a statute of limitations applicable to court proceedings for a civil penalty, however, it is analogous to the civil penalties that will be sought here by CPSD.

[203] *See, e.g., In re Cal.-Am. Water Co.*, D.07-08-030, 2007 Cal. PUC LEXIS 444, at *88.

[204] *Brown*, 166 Cal. App. 3d at 1160.

penalty or forfeiture"); Civ. Proc. Code § 343 (providing a four-year limitations period where no other limitations period applies); *Geneva Towers Ltd. P'ship v. City & Cnty. of S.F.*, 29 Cal. 4th 769, 773 (2003) (explaining that Section 343 "is a catchall provision that provides a statute of limitations in situations where no specific limitations period applies").

CPSD cannot carry its burden of demonstrating that its pre-September 9, 2010 delay in raising general records violations it claims arose as many as 80 years earlier was excusable. To the contrary, PG&E can affirmatively demonstrate that the delay was unreasonable – even though it is not its burden to do so. CPSD maintains that at all relevant times in the past Section 451 obligated PG&E to "promote … safety" and to use "best engineering practices."[205] It also claims that Section 451 incorporated the ASA B31.8 voluntary industry standard. Yet year after year CPSD has reported that it conducted "GO 112" audits of PG&E's records and facilities without once reporting that it audited to ensure compliance with Section 451 or ASA B31.8 or otherwise cited an operator for violating these provisions.[206] CPSD's annual safety reports do not disclose any instance where it previously audited or examined for compliance with Section 451 or ASA B31.8. There is no evidence in the record of it having done so. If Section 451 or ASA B31.8 imposed free-floating safety obligations, then it was incumbent on CPSD to have audited and inspected to ensure compliance with them,[207] and CPSD delayed unreasonably in not doing so before now.

Nor was it reasonable for CPSD to wait more than half a century to allege violations of GO 112 (and its successor rules) or Part 192 of the Code of Federal Regulations.[208] CPSD, or a predecessor organization within the Commission, has existed since 1953.[209] In the time between 1953 and 2010, CPSD did not assert the records violations it now claims have been pervasive at PG&E since the 1930s – despite regularly auditing and inspecting PG&E's gas facilities and

[205] R.T. 76, 78 (CPSD/Halligan).

[206] Ex. PG&E-8 (CPSD USRB Electric, Natural Gas & Propane Safety Report 2009), Ex. PG&E-10 to Ex. PG&E-17 (CPSD USRB Electric, Natural Gas & Propane Safety Reports for 1997-2008).

[207] Ex. PG&E-8 (CPSD USRB Electric, Natural Gas & Propane Safety Report 2009) ("The CPUC is responsible for enforcing state safety regulations, inspecting all work affected by state statutes, and making regulatory changes necessary to secure the safety of utility workers and the general public"); *see also* R.T. 92, 94 (CPSD/Halligan); Pub. Util. Code § 2101; *People v. W. Air Lines*, 42 Cal. 2d 621, 639 (1954) ("Section 2101 commands the commission to see that the provisions of the [statutes] affecting public utilities and violations thereof are *promptly* prosecuted." (emphasis added)). By any definition, CPSD's prosecution of its alleged violations has not been "prompt."

[208] CPSD also alleges decades-old violations of ASME (as incorporated through Section 107 of GO 112), GO 112-A and GO 112-B.

[209] PG&E's Initial Response, April 18, 2011, Appendix A, Chapter 1 at 5.

records. CPSD's descriptions of a typical GO 112 audit indicate that for decades it has regularly reviewed gas records of the kind it now finds so deficient:

> [Every two or three years] USRB engineers review records and pertinent documents and conduct field audits to determine if gas facilities are being properly maintained and operated. As part of the document review, USRB inspectors determine if the utility possesses a complete and ac curate map of the gas or propane system, an adequate Operation and Maintenance (O&M) Plan, an Emergency Plan, and an Operator Qualification Program (with documentation that the plans and programs are being followed). The engineers review the utility's records to verify that both proper maintenance and appropriate surveys such as cathodic protection, leak detection, and odorant checks are performed in accordance with state and federal regulations. While auditing the written records in the office, USRB engi neers select utility facilities to inspect in the field.
>
> The field inspection focuses on verifying the utility's records and maps, physically operating valves, checking regulator set points, testing cathodic protection areas, and verifying that unsafe conditions noted by USRB in past inspections were corrected. . . . USRB engineers also audit records pertaining to the anti -drug and alcohol programs performed by the utilities.[210]

Similar descriptions of GO 112 inspections appear in each of USRB's preceding reports dating back to 1997.[211] PG&E recognizes that a CPSD audit cannot identify every deficiency in an operator's records.[212] But to overcome administrative laches here, CPSD would have to show that it was reasonable to wait up to 80 years to allege pervas ive and general records violations – violations that touch the very areas CPSD states it regularly audits – despite regularly auditing PG&E's records and never expressing such concerns. It has not done so.

Assuming for the sake of argument CPSD could demo nstrate that its delay was reasonable, it would still have to rebut the presumption that the delay was prejudicial to PG&E. It cannot carry this burden either. Rather, the evidence affirmatively demonstrates PG&E suffered prejudice as a result of the del ay. Prejudice exists "'where the difficulty of doing entire justice arises through the death of the principal participants in the transactions complained of, or of the witness or witnesses, or by reason of the original transactions having become so obscur ed

[210] Ex. PG&E-8 at 3 (CPSD USRB Electric, Natural Gas & Propane Safety Report 2009).

[211] Ex. PG&E-10 to Ex. PG&E-17 (CPSD USRB Electric, Natural Gas & Propane Safety Reports for 1997-2008).

[212] R.T. 92-94 (CPSD/Halligan).

by time as to render the ascertainment of the exact facts impossible.'" *Getty v. Getty*, 187 Cal. App. 3d 1159, 1170 (Ct. App. 1986) (quoting *Garrity v. Miller*, 204 Cal. 454, 458 (1928)); *see also Danjaq LLC v. Sony Corp.*, 263 F.3d 942, 955 (9th Cir. 20 01) (explaining that prejudice is established where there is "lost, stale, or degraded evidence, or witnesses whose memories have faded or who have died"). Here, CPSD alleges many violations it claims began generations ago. The broad time frame and scope of the allegations leaves PG&E trying to defend itself by reading old records. Percipient witnesses have died, separated from the Company or no longer can recall relevant events. Potentially exculpatory documents that may have better explained the Company's past practices are no longer available.

The prejudice here is far more severe than in *Gates v. DMV*, 94 Cal. App. 3d 921, 924 (Ct. App. 1979), where the court found the agency's 15 -month pre -accusation delay to be prejudicial. In that case, an automob ile dismantler claimed that the DMV's delay between its investigation and initiation of license revocation proceedings had caused him and his wife, the bookkeeper for the business, to forget "the circumstances surrounding the dismantling of the particular vehicles involved."[213] The delay also resulted in the DMV's witnesses having "no recollection of many of the events they testified to and . . . simply reading their records."[214] Because the licensee could not put on his own witnesses or effectively cross -examine the agency's witnesses, the appellate court affirmed the trial court's ruling that the agency's delay was unreasonable and had prejudiced the licensee.[215] The showing of prejudice in *Gates*, based on a fifteen-month delay, pales by comparison to this case.

The prejudice here is especially great because CPSD's theory of the case has been that it can establish a violation based on PG&E's inability to produce information about events that occurred decades ago. As CPSD stated when arguing for the bulk admis sion of data responses: "[A] lot of the testimony and the evidence in this proceeding really goes towards a negative, which is there is no information that was supplied by PG&E about a particular point . . ."[216] CPSD's witnesses consistently assumed, based on the absence of documents or information, that their alleged violations occurred at the earliest possible date – *e.g.*, that a decades-old record was

[213] *Gates*, 94 Cal. App. 3d at 924.
[214] *Gates*, 94 Cal. App. 3d at 924.
[215] *Gates*, 94 Cal. App. 3d at 924.
[216] R.T. 1573 (CPSD/Cagen).

lost immediately upon its creation.[217] It is unrealistic, and prejudicial, to expect PG&E to defend against charges premised on the lack of evidence when the evidence necessary to PG&E's defense has had decades to deteriorate or disappear and witnesses who could have provided contextual information are no longer available.

Prejudice inheres in this novel prosecutorial theory. *See Getty*, 187 Cal. App. 3d at 1170 (Ct. App. 1986) (prejudice is established where "the original transactions hav[e] become so obscured by time as to render the ascertainment of the exact facts impossible" (internal quotation marks omitted)). One example from Ms. Felts' testimony highlights the problem. Ms. Felts opined that PG&E failed to inspect reconditioned pipe in the 1940s and 1950s. She reached this conclusion by assuming that if evidence existed that PG&E had inspected pipe, PG&E would have produced it by now.[218] PG&E produced a memorandum from 1988 collecting the recollections of employees and confirming that PG&E had in fact inspected reconditioned pipe during the relevant time periods.[219] Ms. Felts dismissed this evidence as merely "recreated from people's memory."[220] Had CPSD promptly raised its concern in the 1950s, there would have been ample evidence from which PG&E could have demonstrated its practice of inspecting the pipe. But 60 years later, it is hardly surprising that the best available evidence is a written record of people's memories, a written record that itself is now more than two decades old. *See Danjaq*, 263 F.3d 942 at 955 (prejudice exists where there is "lost, stale, or degraded evidence, or witnesses whose memories have faded or who have died").

Except for those allegations that arose on or after September 9, 2010, all of CPSD's general records violations are barred by administrative laches.

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[217] *See infra* Section IV.A.

[218] R.T. 461-62 (CPSD/Felts).

[219] Ex. PG&E-48.

[220] R.T. 460 (CPSD/Felts). Mr. Harrison explained on cross-examination in the joint hearing that information in job files, including the job file for Segment 180, clearly show that in that era PG&E followed procedures like those set forth in the 1988 memo. Joint R.T. 250 (PG&E/Harrison). Ms. Felts apparently did not take this evidence into account.

IV. OTHER ISSUES OF GENERAL APPLICABILITY

A. CPSD's Case Assumes Facts Rather Than Attempting To Carry Its Burden To Prove Violations

CPSD's position – stated by both its lawyers and its witnesses – is that the Commission may broadly infer facts in the absence of proof by PG&E to the contrary. CPSD's attorney articulated this view when arguing for the bulk admission of PG&E's data responses 1-86: "[A] lot of the testimony and the evidence in this proceeding really goes towards a negative, which is there is no information that was supplied by PG&E about a particular point . . ."[221] CPSD's witnesses followed suit. Ms. Felts could not substantiate when her alleged continuing violations ended. As Ms. Felts testified, she sometimes was able to supply the start date for a violation, but the CPSD lawyers always supplied the end date.[222] Dr. Duller and Mrs. North took the approach that the end date for continuing violations was September 2010 for no better reason than the Scoping Memo used that date to define the scope of the investigation.[223] Thus, any of the so-called "continuing violations" may have run two days or 50 years based on considerations outside the evidence. CPSD's lawyers did not testify and explain how they selected the end dates or how they differentiated when a violation should run one day versus when it should run 50 years. Confronted with revised tables of violations for which there was no testimony to support the end dates, ALJ Yip-Kikugawa correctly struck the end dates in Ms. Felts' "Revised Table of Violations" from the record.[224]

The start dates for violations were not proven either. Ms. Felts' practice was to assume the earliest conceivable start date, unless PG&E could demonstrate that it retained the record past its creation date. For example, in the case of Violation 2 (failure to create/retain construction records for 1956 project GM 136471), Ms. Felts identified the start date for the continuing violation as 1956.[225] Yet when asked when after 1956 the construction records went missing, she could not do so.[226] Instead, she assumed the earliest date (1956) absent evidence that the

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[221] R.T. 1573 (CPSD/Cagen).

[222] R.T. 270 (CPSD/Felts).

[223] R.T. 640 (CPSD/Duller and North).

[224] R.T. 276-77 (ALJ Yip-Kikugawa).

[225] Ex. CPSD-15 (Violation 2) (CPSD/Felts).

[226] R.T. 282-83 (CPSD/Felts); *see also* R.T. 283 (CPSD/Felts) (where Ms. Felts testified that as to Violation No. 3 she could not ascertain when after 1956 the pressure test records went missing); R.T. 286 (CPSD/Felts) (same as to Violation No. 4).

records went missing after that date. [227] In the case of Violation 21, Ms. Felts opined that the violation began in 1930 because "I believe that either 1929 or 1930 is the oldest piece of pipe that you still have in the system." [228] In the case of Violation 23, Ms. Felts admitted that she had "arbitrarily" fixed the start date. [229] In the case of Violations 26 and 27, Ms. Felts presumed that the violation started (the record went missing) on the date that the record -generating event occurred.[230] Asked in another instance to specify when the record went missing, Ms. Felts indicated she had no basis for doing so. [231] Dr. Duller and Mrs. North also adopted the approach of sometimes assuming the earliest conceivable start date.[232]

Closely related to the problem of assumed start and end dates is the problem that Ms. Felts assumed violations when she could not find document(s) to disprove her assumption. [233] The merits of that approach are doubtful, and made especially so when Ms. Felts' search for records proved less than fulsome. Ms. Felts acknowledged that she could not state with certainty that records were in fact missing because she had not reviewed 100% of the files. [234] She acknowledged that in some instances she reached conclusions based on her review of Enterprise Compliance Tracking System (ECTS) at a time when documents were constantly bei ng added to ECTS:

> Q: And do you understand that ECTS today has over 3 million records in it; is that right?
>
> A: Yes. It started out less than that last year, and I understand that you're continuing to add records.
>
> Q: Right. And literally almost every day, additional records get added to ECTS; correct?

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[227] R.T. 282-83 (CPSD/Felts).

[228] R.T. 345-46 (CPSD/Felts); *see also* R.T. 324-25 (CPSD/Felts) (where Ms. Felts indicates she picked the 1930 start date for Violation 18 (design and test pressure records missing) ba sed on when the major pipeline system was installed).

[229] R.T. 350 (CPSD/Felts).

[230] R.T. 356-57 (CPSD/Felts).

[231] R.T. 356-57 (CPSD/Felts).

[232] *See, e.g.*, Ex. PG&E-57 (Dr. Duller's Notes); R.T. 638 (CPSD/Duller and North) ("Okay. While we identified evidence of missing records . . . we can't identify the missing records themselves, evidence of missing records over many decades."); R.T. 657 -58 (CPSD/Duller and North); R.T. 686 -88 (CPSD/Duller and North) (where CPSD selected the start date for Violation C.2 based o n the publication date of a FEMA report highlighting earthquake risk).

[233] R.T. 346 (CPSD/Felts).

[234] R.T. 349 (CPSD/Felts).

A: Yes, they do.

Q: And that's one of the reasons why, as you mentioned yesterday, it's hard for you to tell whether something that you couldn't find five months ago when you were looking may in fact be there today?

A: That's true.[235]

Ms. Felts disregarded facts that did not support her version of events. Lacking affirmative evidence that PG&E reconditioned pipe in the 1950s without inspecting it, yet confronted with a 1988 memorandum corroborating that PG&E ha d in fact inspected reconditioned pipe in this era, Ms. Felts clung to the opinion that PG&E had not inspected the pipe because PG&E produced no contemporaneous record proving it to her satisfaction.[236]

When assumptions did not suffice, Ms. Felts inverted the burden of proof. In attempting to explain her conclusion that only the original 1991 version of a maintenance manual was available at Milpitas Terminal on September 9, 2010, despite the manual having been updated five times between 1991 and 2009,[237] she admitted:

Q: And you're a lawyer, and what you're telling me is PG&E failed to carry a burden of proof to you of exactly what was in Milpitas on September 9th, 2010; isn't that right?

A: Yes.[238]

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 record that a regulation required PG&E to maintain, *e.g.*, an operating pressure record it believed a specific regulation required be retained, and then shown that PG&E lacked the particular record. But CPSD did not identify any specific missing or incomplete record, preferring instead to allege violations i n terms of sweeping generalities, *e.g.*, "Operating Pressure Records Missing, Incomplete or Inaccessible," 1930 -2010.[239] As a consequence it never discharged the burden to prove specific violations. As discussed further below in Sections

[235] R.T. 372 (CPSD/Felts).

[236] R.T. 460-62 (CPSD/Felts).

[237] R.T. 292-95, 298-99 (CPSD/Felts); Ex. PG&E -31 (showing five revisions to OM&I Ma nual between 1991 and 2009).

[238] R.T. 300 (CPSD/Felts).

[239] Ex. CPSD-15 (Violation 20) (CPSD/Felts).

IV.B and IV.C, the problems of proof in CPSD's case run through many of its asserted violations.

B. Dr. Duller And Mrs. North Used Improper Assessment Methods

Dr. Duller and Mrs. North's revised table[240] alleges 10 violations, each citing Section 451 as the primary source of law. By CPSD's account, Section 451 sets an expectation that gas utilities will use "best engineering practices" to ensure the safety of their gas systems.[241] Dr. Duller and Mrs. North are not engineers; they are records management experts. They did not evaluate PG&E's records management practices to determine if they comported with best engineering or best records practices."[242] In fact, they do not know what "best engineering practices" means.[243] Even assuming that Section 451 has the meaning CPSD claims, as a matter of law, the Commission should conclude Dr. Duller and Mrs. North's testimony does not establish any violation because they do not link any perceived records deficiency to CPSD's articulated standard for finding a Section 451 violation. Ms. Felts, CPSD's designated engineering expert, cannot fill the gap because she did not meaningfully review Dr. Duller and Mrs. North's testimony.[244]

Neither Dr. Duller nor Mrs. North had ever provided expert testimony before.[245] It showed in three ways. First, they purposefully destroyed notes taken in the course of their engagement as expert witnesses.[246] Mrs. North characterized it as a "normal practice," but in the case of testifying experts it is anything but.[247] *See, e.g.*, *Semtech Corp. v. Royal Ins. Co. of Am.*, No. 03-cv-2460, 2007 U.S. Dist. LEXIS 97651 (C.D. Cal. Oct 24, 2007) (destruction of expert draft report was improper and required the exclusion of the expert's testimony). The destruction of notes potentially prejudiced PG&E. Dr. Duller and Mrs. North had extensive access to

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[240] Ex. CPSD-16 (Violations A.1, B.1-6, C.1-3) (CPSD/Duller and North).

[241] Ex. CPSD-1 at 3 (CPSD/Halligan) ("PG&E is a large and established public utility and is responsible for ensuring the safety of its customers, employees, and the public. PG&E can only do so by exercising the best engineering practices in compliance with Section 451 of the Public Utilities Code.").

[242] R.T. 652 (CPSD/Duller and North).

[243] R.T. 651-52 (CPSD/North) (Mrs. North: "again, I don't really know what you refer to as best engineering practices because we are doing records management here, not engineering").

[244] R.T. 363-65 (CPSD/Felts).

[245] R.T. 644 (CPSD/Duller and North).

[246] R.T. 641-43 (CPSD/Duller and North).

[247] R.T. 641 (CSPD/Duller and North).

PG&E's employees and facilities. Their notes would likely have revealed contemporaneous and first-hand observations. Dr. Duller and Mrs. North also coll aborated on their testimony. The preservation of their notes may have afforded PG&E insight into areas in which their observations or opinions (at least preliminarily) may have diverged. They may also have disclosed instances where Dr. Duller or Mrs. Nor th formed a favorable impression of some aspect of PG&E's records management practices, impressions that did not make their way into their final reports and testimony.

Second, Dr. Duller and Mrs. North judged PG&E's historic recordkeeping practices using an assessment methodology (GARP and ARMA's Information Governance Maturity Model) that was not published until 2009. [248] "On the basis of the GARP criteria [they found] that records management within PG&E's Gas Transmission Division prior to the San Bruno pip eline rupture and fire were 'Sub -Standard' (Average Maturity Score = 1.2)." [249] In turn, the "sub -standard" determination formed the basis for Dr. Duller and Mrs. North's Violation A.1. [250] GARP and the Information Governance Maturity Model literally supplied the standard for Violation A.1. Using GARP to define the standard for determining liability in a proceeding involving the threat of significant fines and penalties raises fair notice problems. At the time of the events that give rise to Violation A.1 (th e period from 1955 -2010) PG&E had no notice that the 2009 GARP and ARMA principles would define the standards for judging decades of past recordkeeping practices.

In their written rebuttal report and testimony, Dr. Duller and Mrs. North downplay their prior assertions that they used GARP principles to judge PG&E's past recordkeeping practices. They instead refer to GARP as a "framework and reporting tool" for presenting and illustrating a number of their findings.[251] The statement contradicts their initial statement that GARP provided the basis for the assessment. Their initial report and testimony stated: "This review has used the 'Generally Accepted Record-keeping Principles®' (GARP) and the Information Maturity Model [sic] defined by ARMA International as *the basis* of an assessment and evaluation of PG&E's

[248] Ex. PG&E-62 at MD-5 (PG&E/Dunn).

[249] Ex. CPSD-6 at 1-8 (CPSD/Duller and North).

[250] Ex. CPSD-16 (Violation A.1, n.1) (CPSD/Duller and North) (In which Dr. Duller & Ms. North explain that the sub-standard determination was arrived at using GARP and the Information Governance Maturity Model as the basis for their evaluation).

[251] Ex. CPSD-8 at 29 (CPSD/Duller and North).

records management activities."[252] Regardless of what Dr. Duller and Mrs. North say, there is no mistaking the fact that Violation A.1 rests on a determination that PG&E's records were "Sub-Standard" according to GARP, and thus PG&E deviated from what CPSD treats as the de facto standard of liability incorporated into Section 451.[253]

Dr. Duller and Mrs. North ultimately defend their decision to judge PG&E according to GARP principles and the Information Go vernance Maturity Model on the grounds the principles are "firmly rooted" in accepted records management practices.[254] Even if true, the assertion misses the point. PG&E was given no prior notice that it would be held to a standard defined by the GARP principles and the Information Governance Maturity Model.[255] GARP principles may have been rooted within the minds of records professionals, but they were not rooted in California as a regulatory standard. Applying the principles here as a basis for finding vi olations runs afoul of the California Constitution's due process guarantee.[256]

Third, Dr. Duller and Mrs. North opined that the "scientific principle of parsimony (or Occam's Razor)" allowed them to presume, absent evidence to the contrary, that the GARP -based deficiencies they alleged extended long into the past.[257] They misuse the Occam's Razor principle. Occam's Razor cannot stand as a substitute for proof in a legal proceeding. As used by Dr. Duller and Mrs. North, the principle leads to both a failure of proof and an impermissible attempt to shift the burden of proof to PG&E to rebut the presumption. *See Griffith v. L.A. Cnty.*, 267 Cal. App. 2d 837, 847 (Ct. App. 1968) ("[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 proved* . . . it cannot rise to the dignity of substantial evidence." (emphasis added) (internal quotation marks omitted)).

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[252] Ex. CPSD-6 at 1 -8 (CPSD/Duller and North); *see also* Ex. CPSD-16 (V iolation A.1, n.1) (CPSD/Duller and North) (emphasis added).

[253] Violation A.1 states in part that "PG&E lacked the necessary accurate and locatable records essential for safe pipeline operation, due to sub -standard records management practices." Ex. CPSD-16 (Violation A.1) (CPSD/Duller and North). A footnote immediately follows this sentence: "As defined using Generally Accepted Record-keeping Principles (GARP) and the Information Maturity Model defined by ARMA International, and used in our report (citatio n 2 above) as the basis of an assessment and evaluation of PG&E's records management activities." *Id.*

[254] Ex. CPSD-8 at 29-30 (CPSD/Duller and North).

[255] Ex. PG&E-62 at MD-8 (PG&E/Dunn).

[256] *FCC v .Fox* Television Stations, 132 S. Ct. at 2317.

[257] Ex. CPSD-6 at 2-13 (CPSD/Duller and North) ("The scientific principle of parsimony (or Occam's Razor) was followed ….").

C. Margaret Felts Did Not Ground Her Opinions I n Relevant Expertise Or Objective Criteria

Ms. Felts' testimony suffers from two over-arching defects. First, and like Dr. Duller and Mrs. North, sh e never linked her testimony to CPSD's standard for determining a Section 451 violation. Second, she is not an expert in any field relevant to her testimony. Instead, she grounded her opinions in personal judgments that cannot be validated with reference to an objective and ascertainable standard, practice or other known criteria.

As to the first point, Ms. Felts did not claim violations of Section 451 based on whether PG&E used best or good engineering practices or based on any known engineering standard . She instead identified what she considered a violation according to whether she believed that an unsafe condition existed based on her own personal judgment:

> Q: And when you felt that PG&E had violated good engineering standards you characterized that a s a Section 451 violation; is that right?
>
> A: Where there was an unsafe condition, I used 451.
>
> Q: Unsafe in your judgment?
>
> A: Yes.
>
> Q: And in making that judgment, were you applying any sort of industry standards?
>
> A: Just good engineering judgment.
>
> Q: As you see it?
>
> A: Yes.[258]

Thus, even if the Commission concluded that Section 451 incorporates a "best engineering practices standard," a conclusion PG&E disputes, Ms. Felts did not reach her conclusions by applying that standard.[259]

Ms. Felts' testimony purports to have investigated recordkeeping issues as they relate to engineering.[260] She purports to reach two "basic" conclusions.[261] First, that the pipeline

[258] R.T. 357-58 (CPSD/Felts).

[259] Ms. Felts' written reports and testimony did not apply the "best engineering practices" standard, undoubtedly because CPSD had not come up with the standard at the time Ms. Felts submitted her testimony. In fact, in only one instance does Ms. Felts make reference to the "engineering practices" standard that CPSD discarded. Ex. CPSD-2 at 26 (CPSD/Felts).

explosion may have been prevented had PG&E managed its records properly over the years.[262] Second, she concludes that PG&E's Integrity Management program was "an exercise in futility."[263] Under Evidence Code Section 720, a person is qualified to testify as an expert only if he or she has sufficient knowledge, skill, experience, training, or edu cation to qualify as an expert on the subject matter of his or her testimony. The witness' "special" knowledge, skill, etc., may be shown by any otherwise admissible evidence, including the witness' own testimony.[264] The determinative issue is whether the witness has sufficient knowledge, skill, or experience in the field so that his or her testimony would be likely to assist the trier of fact in its search for the truth.[265] In considering whether a person qualifies as an expert, the field of the witness' expertise must be "carefully distinguished and limited."[266]

Ms. Felts does not have the expertise to support either of her two main conclusions or the many other conclusions subsumed within them. She is not, and has never worked as a pipeline engineer.[267] Despite professing to offer expert opinions on the sufficiency of PG&E records as they relate to pipeline engineering, she was not familiar enough with any other pipeline operator to comment on the extent to which different kinds of records problems were com mon to the pipeline industry.[268] She never heard of Pipeline Open Data Standard (PODS), a significant industry development in creating open data storage and interchange standards for pipeline operators.[269] Despite characterizing PG&E's Integrity Management P rogram as an "exercise in

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[260] Ex. CPSD-2 at 49 (CPSD/Felts).

[261] Ex. CPSD-2 at 49 (CPSD/Felts).

[262] Ex. CPSD-2 at 49 (CPSD/Felts).

[263] Ex. CPSD-2 at 49 (CPSD/Felts).

[264] Evid. Code § 720(b).

[265] *Mann v. Cracchiolo*, 38 Cal. 3d 18, 37-38 (1985).

[266] *See People v. Williams*, 48 Cal. 3d 1112, 1136 (1989) (internal quotation marks omitted).

[267] When asked about this on cross-examination, Ms. Felts first equivocated and then agreed:

> Q: Have you ever worked as a pipeline engineer?
> A: Not specifically as a pipeline engineer.
> Q: Not generally as a pipeline engineer, correct?
> A: Not generally.

R.T. 173 (CPSD/Felts).

[268] R.T. 526 (CPSD/Felts).

[269] R.T. 386-87 (CPSD/Felts); *see also* R.T. 937 (PG&E/Singh) (explaining PODS); Joint R.T. 868 (PG&E/Zurcher) (explaining the genesis and significance of PODS); Ex. PG&E-36.

futility," she has never previously evaluated any operator's Integrity Management Program. [270] Responding to a request for information about her experience in the discipline of integrity management, Ms. Felts acknowledged that she h ad not produced "any reports, assessments or other written products about integrity management." [271] Ms. Halligan acknowledged during her examination that it could be relevant to look to historic industry practices when assessing whether violations occurred. [272] Yet Ms. Felts had no knowledge of any actual industry recordkeeping or integrity management practices in the natural gas pipeline transmission industry.[273]

Even if the Commission wished to credit Ms. Felts' "expert" testimony, it would need some objective basis on which to evaluate it. *See, e.g.*, *Carey*, 1999 Cal. PUC LEXIS 215; *S & H Riggers & Erectors*, 659 F.2d at 1283, 1285 (holding that due process requires that a "general and broadly worded" safety regulation "be read to incorporate an objective indus try practice standard"); *see also Griffith*, 267 Cal. App. 2d at 847 (Ct. App. 1968) ("[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 pr oved . . . it cannot rise to the dignity of substantial evidence." (internal quotation marks omitted)). Unfortunately, Ms. Felts rendered testimony impervious to any meaningful objective assessment. She relied on what she termed her own "good engineering judgment" without regard to industry standards or practices. [274] She claimed to rely on "[a]ll of the documents and materials produced by PG&E in response to staff data

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[270] R.T. 606 (CPSD/Felts); Ex. PG&E -63 (Tab Intro -1) (CPSD Response to PG&E Data Request No. 4, Question 29).

[271] Ex. PG&E-63 (Tab Intro-1) (CPSD Response to PG&E Data Request No. 4, Question 29).

[272] R.T. 100-101 (CPSD/Halligan).

[273] R.T. 353-54 (CPSD/Felts) (no k nowledge of how long natural gas pipeline operators historically maintained pressure records); R.T. 347 (CPSD/Felts) (no basis for comparing how, prior to 1970, PG&E's recording of leak data compared with others in the industry); R.T. 354 (CPSD/Felts) (nev er evaluated an integrity management risk model; in fact she did not previously know such a thing existed); R.T. 355 (CPSD/Felts) (where she testifies that the extent of her knowledge consists of an assumption that other operators comply with the regulatio ns"); R.T. 400 (CPSD/Felts) (no knowledge of industry practices in the 1950s for preparing weld inspection reports); R.T. 402 (CPSD/Felts) (no knowledge when the industry practice emerged to first do girth weld inspections); R.T. 408 (CPSD/Felts) (no knowledge of the industry standard for accepting or rejecting girth welds as of a particular time); R.T. 416 (CPSD/Felts) (where she incorrectly defines a slag inclusion as a "junk piece of welding material"); R.T. 517 (CPSD/Felts) (where she acknowledges that she has no knowledge of industry practices from the 1930s for creating records for welding and testing); R.T. 592 (CPSD/Felts) (where Ms. Felts indicates she does not know whether in 1956 the natural gas pipeline industry would have considered a soap test to be a pressure test).

[274] R.T. 357-58 (CPSD/Felts).

requests in the Commission proceedings related to the San Bruno pipeline failure." [275] Asked to identify documents she relied upon that were not specifically identified in her testimony Ms. Felts referred generally to ECTS, a database containing over 3,000,000 documents. [276] During cross-examination, she acknowledged that she did not keep any rec ord of documents that she viewed in ECTS but did not find useful to her testimony. [277] In drafting her rebuttal report and testimony, she called upon "[a]ll documents and materials that have been part of Ms. Felts' education and work experience."[278] Asked to eliminate at least one category of past experience – works of fiction Ms. Felts read in college – Ms. Felts would not rule them out.[279]

The Commission should not credit Ms. Felts' testimony.

D. The NTSB's "Traceable, Verifiable, And Complete" MAOP Records Verification Requirement Creates New Expectations

In January 2011, the NTSB issued urgent safety recommendations to PG&E, the Commission and PHMSA. The recommendations requested that aggressive efforts be undertaken to locate records to support MAOPs for Class 3 and 4 lines and Class 1 and 2 HCAs (NTSB Recommendation P-10-2 and P-10-1).[280] The NTSB recommended that the records us ed to validate MAOP be "traceable, verifiable and complete."[281]

Dr. Duller and Mrs. North embraced the "traceable, verifiable, and complete" requirement in their initial written report and testimony, not just as a measure for judging the quality of PG&E's MA OP records, but as a measure for judging the quality of all PG&E gas records. In fact, they linked the traceable, verifiable and complete requirement to the GARP principles they used to judge PG&E's historic records management practices. [282] And they explicitly premised their omnibus records violation (Violation A.1 in the Revised Table of

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[275] Ex. PG&E-24 (Documents and Materials Underlying Ms. Felts' Rebuttal Testimony).

[276] Ex. PG&E-24 (Documents and Materials Underlying Ms. Felts' Rebuttal Testimony).

[277] R.T. 381-82 (CPSD/Felts).

[278] Ex. PG&E-24 (Documents and Materials Underlying Ms. Felts' Rebuttal Testimony); Ex. PG&E-22 (MCFELTS.com Consulting Services).

[279] R.T. 219-21 (CPSD/Felts).

[280] PG&E's Request for Official Notice, Ex. 10 (NTSB January 3, 2011 Safety Recommendations, *available at* http://www.ntsb.gov/doclib/recletters/2010/P-10-001.pdf and http://www.ntsb.gov/doclib/recletters/2010/P -10-002-004.pdf).

[281] PG&E's Request for Official Notice, Ex. 10 (NTSB January 3, 2011 Safety Recommendations, *available at* http://www.ntsb.gov/doclib/recletters/2010/P-10-001.pdf and http://www.ntsb.gov/doclib/recletters/2010/P -10-002-004.pdf).

[282] Ex. CPSD-6 at 3-14, 3-16, 3-17 (CPSD/Duller and North).

Violations) on PG&E's alleged failure across many decades to have "processes in place to ensure that *traceable, verifiable, complete* and accurate gas transmission pipeline records and related information was available in a timely manner."[283]

When asked in a data request whether they maintained that the "traceable, verifiable, and complete" requirement pre-dated the NTSB's January 3, 2011 recommendations, Dr. Duller and Mrs. North initially responded that these "fundamental quality values and measures (principles)" [had] been applied to most types of engineering and engineering records in order to counter bad workmanship and/or improve safety over the last 60 years or more." [284] They explained that the terms were "implicit" in the prior works of quality management experts and "implicit" throughout the "various ASME standards that require retention of various types of records dating as far back as 1955."[285]

Dr. Duller and Mrs. North were wrong when they attempted to trace the provenance of the "traceable, verifiable and complete" requirement back 60 years or more. By the account of every key gas transmission industry stakeholder, the "traceable, verifiable, and complete" requirement was first formulated for the natural gas pipeline industry by the NTSB in its January 3, 2011 safety recommendations. As James Howe and others explained, the pipeline industry views the requirement (or at least the expectations behind its terms) as new t o the industry. [286] Public filings and statements by the utility industry confirm a common industry understanding that the "traceable, verifiable, and complete" requirement is a new and potentially costly regulatory obligation. [287] Industry efforts to understa nd and apply the requirement, and in particular the definition of some of its terms, continue. [288] The gas industry as a whole has struggled to implement the requirement, precisely because gas transmission records, especially for older pipe, are not very good.[289]

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[283] Ex. CPSD-16 (Violation A.1) (CPSD/Duller and North).

[284] Ex. PG&E-73 (CPSD Response to PG&E's Data Request No. 6, Question 4).

[285] Ex. PG&E-73 (CPSD Response to PG&E's Data Request No. 6, Question 4).

[286] Ex. PG&E-61 at 1-10 to 1-12 (PG&E/Howe); R.T. 1247-53 (PG&E/Howe); R.T. 1268-72 (PG&E/Howe).

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

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

[289] Ex. PG&E-61 at 1-9 to 1-15 (PG&E/Howe); *see also* Ex. PG&E-21 at 4 (Verification of Records July 12, 20 12 PHMSA Presentation); *see also* Ex. PG&E-63, (Tab 1-25) at 10 ("A traceable, verifiable and complete compliance threshold is technically and legal[ly] unattainable for the pipeline infrastructure").

Both state and federal regulators share the same basic understanding as the industry. In the course of hearings, Ms. Halligan acknowledged she had never seen the terms "traceable, verifiable and complete" used prior to the NTSB's recommendations. [290] When not litigating the issue, CPSD has acknowledged that the "traceable, verifiable and complete" standard traces to the NTSB's recommendations and the Commission's subsequent orders. [291] And while PHMSA contends the standard preceded the NTSB's recommendatio ns, it acknowledges that the terms "traceable, verifiable, and complete" "were initially used by the NTSB." [292] As PHMSA's Deputy Director explained when characterizing the effect of PHMSA's May 2012 Advisory Bulletin defining "traceable, verifiable, and complete":

> MS. DAUGHERTY: It is guidance as far as intent. It is not enforceable unless we were to incorporate it into our regulations. The terms were initially used by NTSB. They said that the records must meet these criteria. And we realized real quick ly we had to tell people what we believe that criterion is.[293]

PHMSA first attempted to define the terms "traceable, verifiable, and complete" in May 2012. [294] After the San Bruno accident, the California Legislature passed legislation that requires California gas pipeline operators to have "traceable, verifiable, and complete" records at the conclusion of their implementation plans for the pressure testing or replacement of all intrastate pipelines without pressure test records. [295] CPSD offers no regulatory or gas industry expert testimony supporting any contrary view.

Dr. Duller and Mrs. North's own efforts to substantiate their position demonstrate the fallacy of it. In trying to establish that the "traceable, verifiable, and complete" requirement has been implicit in the ASA (later ASME) B31.8 provisions since at least 1955, Dr. Duller and Mrs. North point to an ASME provision addressing the "verifiability" of leak survey records. They state in a data request response:

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[290] R.T. 120 (CPSD/Halligan).

[291] Ex. PG&E-18 at 1 (May 3, 2 011 Letter from CPSD to Southern California Gas Company) (CPSD wrote to SoCalGas: "We do not believe that reliance upon indirect evidence of the material condition of a natural gas transmission system is sufficient to meet the standard of "traceable, veri fiable and complete" recommended by the NTSB and required by the Commission.").

[292] R.T. 1324-25 (PG&E/Howe).

[293] Ex. PG&E-19 at 77 (Joint Meeting of the Technical Pipeline Safety Standards Committee and the Technical Hazardous Liquid Pipeline Safety Standards Committee July 12, 2012). *See also* R.T. 1314 (PG&E/Howe).

[294] R.T. 1246-47 (PG&E/Howe).

[295] Pub. Util. Code § 958(c); Ex. PG&E-20. *See also* R.T 124-26 (CPSD/Halligan).

> One example of where the term "verifiab ility" is explicitly mentioned in the ASME standards is seen in the requirement to keep leakage surveys. Specifically, the 1955 ASME standard ASA B31.1.8 Section 805.91 provides, "Leakage surveys are systematic surveys made for the purpose of locating lea ks in a gas piping system."
>
> Three types of surveys are referred to in this code and defined below. The significant difference between the three is the manner in which the presence of a leak is first detected. They all involve **verification** of the presence of a leak and its location, as for example, by the boring or driving of test holes in the vicinity of the leak and testing the atmosphere of these holes with a combustible gas detector or other suitable device."
>
> Like so many other ASME records retention r equirements shown in Appendix 9 of Dr. Duller's and Ms. North's report, these verifiable "leakage survey records . . . should be kept in the file of the operating company involved, as long as the section of the line remains in service.["] 1955 ASME standar d ASA B31.1.8, Section 851.5.[296]

These statements reveal that Dr. Duller and Mrs. North use the terms "traceable, verifiable, and complete" as a quality measure for judging all gas transmission records, including, in this illustration, leak survey records. [297] In contrast, PHMSA uses "traceable, verifiable, and complete" only with reference to design and test records used to establish MAOP.[298] Based on the ASME provisions they cite, it is apparent Dr. Duller and Mrs. North use the term "verifiability" to refer t o the verifiability of a field condition (in their illustration, the verification of a presence of a leak). In contrast, PHMSA uses "verifiable" not with reference to the verifiability of a field condition such as a leak, but with reference to the verifia bility of the record created about that condition:

> Verifiable records are those in which information is confirmed by other complementary, but separate, documentation. Verifiable records might include contract specifications for a pressure test of a line s egment complemented by pressure charts or field logs. Another example might include a purchase order to a pipe mill

[296] Ex. PG&E-73 (CPSD Response to PG&E's Data Request No. 6, Question 4) (emphasis in original).

[297] Ex. CPSD-16 (Violation A.1) (CPSD/Duller and North); R.T. 1330-37 (PG&E/Howe).

[298] Ex. PG&E-63 (Tab 1-1); Ex. PG&E-72 (July 31, 2012 Letter from PHMSA to American Gas Association).

> with pipe specifications verified by a metallurgical test of a coupon pulled from the same pipe segment.[299]

In fact, it was PHMSA's initial May 2012 definition of "verifiable" that sparked so much confusion in the industry that PHMSA felt compelled to clarify its meaning in a subsequent letter to the American Gas Association.[300]

Even assuming the "traceable, verifiable, and complete" requirement for MAOP records existed prior to January 3, 2011, it existed without any fair notice of what its terms meant individually or in conjunction, and without notice to the industry that MAOP records must satisfy that requirement.[301] CPSD has not pointed to a single instance where the terms "traceable, verifiable, and complete" appear in any Commission Order or regulation prior to January 3, 2011.[302] As discussed, PHMSA had not previously used the terms.[303] By all accounts, the terms were first used in January 2011 and first defined in May 2012.

It is the conjunction of the words "traceable, verifiable, and complete" in the context of the NTSB's recommendations that brings out a "specific, and broader, meaning" than existed previously.[304] The terms brings out a meaning that not only was previously undefined, it was unattainable in early eras. As Ms. Dunn's uncontroverted testimony established:

> When talking about a pipeline and its components, the need to trace each component through its entire lifecycle, starting from its manufacture through all repairs or other activities in which it is involved, requires either an army of engineers and records clerks devoted to nothing but making cross-references and delivering hardcopy records from person to person and team to team, as needed, or a sophisticated, integrated electronic information system that allows the linking of disparate pieces of data in multiple formats, created by different people and teams both within and outside an organization. This technology was not available throughout most of the last century. PG&E and other utilities

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[299] Ex. PG&E-72 (July 31, 2012 Letter from PHMSA to American Gas Association).

[300] Ex. PG&E-63 (Tab 1-1).

[301] *Fox Television Stations*, 132 S. Ct. at 2317.

[302] R.T. 120 (CPSD/Halligan).

[303] Ex. PG&E-19 at 67 (Joint Meeting of the Technical Pipeline Safety Standards Committee and the Technical Hazardous Liquid Pipeline Safety Standards Committee July 12, 2012) (Ms. Daugherty of PHMSA: [The May 2012 PHMSA Advisory Bulletin] also clarified some terms that were first mentioned by the NTSB that we also picked up on in our first advisory bulletin. Remember I said we issued two advisory bulletins. In the first advisory bulletin we referenced the terms 'traceable' 'verifiable' and 'complete.' And everybody came back and said, what exactly do you mean by that?").

[304] Ex. PG&E-62 at MD-27 (PG&E/Dunn).

> created elaborate, sometimes duplicative hardcopy file systems to facilitate access to necessary information, but they could not create the same depth and breadth of integrated informati on that [the] NTSB contemplates in "traceable, verifiable and complete" – and as will be available in PG&E's Project Mariner: the new, integrated Gas Asset Knowledge Management system.[305]

The Commission, having overseen the implementation of the NTSB's Janu ary 3, 2011 recommendations, knows that the terms "traceable, verifiable, and complete" introduced a new regulatory expectation different from what came before. It was not previously stated in regulation, and for most of the prior century it was not techn ologically feasible to attain. [306] Accordingly, for Dr. Duller and Mrs. North to hold PG&E to the "traceable, verifiable, and complete" legal standard of records completeness for activities conducted prior to January 3, 2011, and going as far back as 1955, c ontradicts the factual record and violates California due process guarantees.

V. ALLEGED VIOLATIONS P REDICATED ON THE REP ORTS AND TESTIMONY OF MARGARET FELTS[307]

A. Alleged Records Violations Relating To Line 132, Segment 180, San Bruno Incident

1. Violation 1: Salvaged Pipe Records

CPSD alleges PG&E violated Public Utilities Code Section 451 because PG&E does not have "records for salvaged pipe installed into Segment 180." [308] CPSD has presented no proof that salvaged[309] pipe was used in the construction of Segment 180, ho wever. Without proof that such pipe was present, no argument can be made regarding the lack of records. Assuming, for

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[305] Ex. PG&E-62 at MD-27 (PG&E/Dunn).

[306] Ex. PG&E-62 at MD-27 (PG&E Dunn).

[307] The description of these alleged violations is taken verbatim from the Revised Table 1 of Supplemental Testimony of Margaret Felts, submitted September 9, 2012. Ex. CPSD-15 (CPSD/Felts).

[308] Ex. CPSD-15 (Violation 1) (CPSD/Felts) CPSD asserts that this violation continued from 1951 to 2010, and possibly as far back as 1911, and that the violation is continuing based solely on the lack of the alleged records. Ex. CPSD-15 at nn.19 -20 (Violation 1) (CPSD/Felts); R.T. 277 (CPSD/Felts). CPSD characterizes this as one separate violation that came to light in the course of CPSD's investigation in this proceeding. R.T. 265-66, 277-78 (CPSD/Felts).

[309] "Salvaged" refers to pipe that has been installed, removed, and re -installed on a subsequent construction job. *See e.g.,* R.T. 280 (CPSD/Felts) ("We're talking here about records for salvaged pipe a nd so the – the record of when pipe was salvaged in one project, stored, and then used in another project related specifically to this section at Line 132[.]")

the sake of argument, that Segment 180 did contain salvaged pipe, CPSD's allegation fails because there was no legal requirement to maintain such records prior to the San Bruno accident.

In her revised initial report and testimony, CPSD consultant Margaret Felts stated that "most of the pipe" installed in Segment 180 was salvaged – that is, pipe that was reused from a prior installation.[310] Ms. Felts included Figure 5 from the NTSB August 2011 Report on the San Bruno accident in her initial written testimony to illustrate her conclusion that Segment 180 was constructed with salvaged pipe.[311] Ms. Felts based this allegation primarily on her mistaken belief that the NTSB's Figure 5 was the product of PG&E research and analysis of the source of pipe used in Segment 180,[312] and without undertaking a complete, independent analysis of pipe procurement records relating to Segment 180.[313] On cross-examination, Ms. Felts retreated from the authority of Figure 5 when informed that the diagram was created by the NTSB.[314]

When asked whether she had reviewed any documents underlying Figure 5 to check the accuracy of the Figure she included in her testimony, Ms. Felts answered: "No."[315] In fact, Figure 5 does not establish the presence of <u>any</u> salvaged pipe in Segment 180.[316] As Ms. Felts discovered during cross-examination, the material codes identified by the NTSB corresponding to each piece of pipe that Ms. Felts alleged was salvaged instead identified new, never-used pipe.[317] Without more than the now-disavowed Figure 5, CPSD has not presented any evidence that salvaged pipe was used in the construction of Segment 180.[318]

CPSD's theory of violation depends on putting the burden on PG&E to prove a negative: PG&E cannot conclusively document the origin of each joint of pipe used in the construction of Segment 180 and thus cannot prove that no salvaged pipe was used. But even when it reverses

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[310] Ex. CPSD-2 at 44 (CPSD/Felts).

[311] Ex. CSPD-2 at 45 (CPSD/Felts); R.T. 464 (CPSD/Felts).

[312] Ex. CPSD-2 at 44 (CPSD/Felts); R.T. 280, 466 ("Well, I did rely on [Figure 5] for this testimony. I assumed that was part of PG&E's analysis.") (CPSD/Felts).

[313] R.T. 471 (CPSD/Felts). ("I didn't have enough confirmation of the numbers with the pieces of paper I had to make changes. I don't want to change [Figure 5] that was not my image in the first place, just a piece of evidence that I was relying on. So I can't really edit [Figure 5]. And I didn't ever provide an accounting of the actual pieces of pipe or attempt to provide that.")

[314] R.T. 454 (CPSD/Felts).

[315] R.T. 542 (CPSD/Felts).

[316] *See, e.g.*, R.T. 542-63 (CPSD/Felts).

[317] R.T. 542-63 (CPSD/Felts).

[318] R.T. 466 (CPSD/Felts) ("I would change the statement that most of it was salvaged, but I think, as I recall, the pipe that might be – might have been new pipe was reconditioned in that it was rewrapped.").

the burden of proof, CPSD's case fails. Procurement records for the construction project indicate that Segment 180 was to be constructed from new 0.375 -inch wall thickness, grade X52 DSAW pipe.[319] PG&E did not purchase pipe for the Segment 180 relocation project, but instead used 30-inch DSAW pipe held in existing Company inventory. [320] PG&E's records show that it had sufficient 30 -inch DSAW pipe remaining in 1956 from prior pipe purchases to complete the Segment 180 project with pipe previously ordered but not used on projects in 1948 (Line 132), 1949 (Line 153) and 1953 (Line 131). [321] PG&E conducted an internal camera inspection of Segment 180 following the accident, confirming through markings seen inside the pipe that Segment 180 was constructed at least in part w ith pipe from these prior purchases. [322] Were PG&E to analyze the records for Segment 180 under the stringent requirements of its current MAOP validation effort, even then it would not indicate the presence of salvaged pipe.[323]

Although Segment 180 job file do cuments do not foreclose the possibility that some pipe used on the Segment 180 job may have been reused, CPSD failed to establish that the pups were or any other Segment 180 pipe was, in fact, salvaged pipe – a necessary predicate to this alleged violation. Ms. Felts admitted she does not "have any way to independently verify" that any of the pipe used in Segment 180 was, in fact, salvaged. [324] She testified, "we can't show that it was a new piece of pipe or a used piece of pipe" [325] and "I can't say one way o r the other specifically what it was, what kind of pipe was used, where it came from." [326] Ms. Felts admitted that there are many possible explanations of the origin of that pipe, including that it came from a respectable pipe vendor and reflected an error o n the pipe vendor's part.[327] Ultimately, Ms. Felts acknowledged she was unsure whether any pipe used in Segment 180 was salvaged.[328]

Assuming for the sake of argument that salvaged pipe had been installed in Segment 180, CPSD's allegation still fails. Histor ically, PG&E did keep a record in job files noting when it

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[319] *See, e.g.,* Joint R.T. 322, 368, 386, 393 -95, 424 (PG&E/Harrison). *Id.* at 442 (PG&E/Harrison) ("Prior to San Bruno from our view, it was all X52, .375 wall. It's new pipe. It's got material codes.")

[320] Joint R.T. 314, 341 (PG&E/Harrison).

[321] Ex. PG&E-61 at 4-1 (PG&E/Harrison).

[322] Ex. PG&E-61 at 4-1 (PG&E/Harrison).

[323] Joint R.T. 442 (PG&E/Harrison).

[324] R.T. 280 (CPSD/Felts).

[325] R.T. 453 (CPSD/Felts).

[326] R.T. 472 (CPSD/Felts).

[327] R.T. 452-53 (CPSD/Felts).

[328] R.T. 473 (CPSD/Felts).

had reused and reconditioned pipe in a new installation.[329] Additionally, the instances where reused pipe has been used in the gas transmission system are relatively few in percentage terms.[330] To go beyond this, and insist that PG&E maintain a "perfect" chain of custody, holds PG&E to a standard that did not exist in 1956 or at any time prior to the San Bruno accident.[331] The uncontroverted evidence in this case established that the gas transmission p ipeline industry's records practices in prior eras were never so good as to maintain a "perfect" chain of custody.[332] In fact, in an earlier era, Mr. De Leon recalls, as a federal pipeline safety regulator, counseling an operator that incomplete gas records were not an impediment to acquiring a gas company.[333]

Segment 180 ruptured because of a defect in the long -seam of the pipe. The failing was not one of records. No operator would have maintained records to the level of detail that would have disclosed the defects in the Segment 180 pipe.[334] Moreover, it is unrealistic that an operator would create a record documenting the use of substandard pipe; if it had such a record, it would have removed the pipe from the ground.[335] As explained in the testimony of David Harrison, had PG&E been aware of the condition of pup 1 and the other pups found in Segment 180, it would not have selected those pieces of pipe for use under any circumstances, regardless of whether they were new or reconditioned.[336]

2. Violation 2: Construction Records For 1956 Project GM 136471

CPSD asserts PG&E violated Section 451 because it failed "to create/retain construction records for" the 1956 Segment 180 project.[337] CPSD does not identify particular construction records it claims are required to be maintained in a job file, but the testimony suggests that, in CPSD's view, PG&E was obligated to create a record of its pipeline installation on a joint -by-joint level of detail, including a depiction of the six defective pups in Segment 180.[338] Contrary to CPSD's implicit assumption, neither Section 451 nor any law or regulation set forth a standard

[329] Joint R.T. 434-35 (PG&E/Harrison).
[330] R.T. at 435, 437 (PG&E/Harrison).
[331] Ex. PG&E-61 at 4-2 to 4-4 (PG&E/Harrison).
[332] Ex. PG&E-61 at 1-10 to 1-15 (PG&E/Howe).
[333] Ex. PG&E-61 at 1-4 to 1-5 (PG&E/De Leon).
[334] Ex. PG&E-63 (Tab 1-25) at 10, App. 5.
[335] Joint R.T. 337-38, 368 (PG&E/Harrison).
[336] Ex. PG&E-61 at 4-3 (PG&E/Harrison).
[337] Ex. CPSD-4 at 5 (CPSD/Felts). CPSD asserts that this is a continuing violation from 1956 to 2010. *Id.*
[338] Ex. CPSD-4 at 5 (CPSD/Felts).

addressing how construction records in 1956 should have been created and r etained. Moreover, CPSD presents no evidence that PG&E did not create all the records CPSD claims it should have, or that the records still in the job file for Segment 180 are legally insufficient. Contrary to CPSD's assertion that records were lacking and that the job file was merely an accounting file,[339] the job file contains a level of detail consistent with Company and industry practice in the 1950s.[340]

No matter how expansively CPSD reads the statute, Section 451 contains no standard related to recordke eping. PG&E cannot have violated Section 451 through its recordkeeping practices when the statute is silent on the issue. [341] Moreover, CPSD is incorrect when it asserts that industry standards at the time (ASA B.31.1.8 -1955) contain such a requirement. AS A B31.1.8 does not require an operator to document its pipeline construction jobs on a joint -by-joint basis. [342] In 1956, when Segment 180 was installed, industry practice did not include creating construction drawings or other documentation that detailed the pipeline installation at the joint -by-joint level. [343] Even today, the industry does not generally document p ipeline installations at the joint-by-joint level.[344] CPSD has not identified a regulation, industry standard or industry practice that would have required creation and maintenance of records detailing each piece of pipe installed or each girth weld made.[345]

PG&E agrees with CPSD that certain details of pipeline installation jobs may be documented at the joint -by-joint level. These details are included to indicate the location of pipeline features, such as the bends and valve locations identified on the detai l drawings cited by Ms. Felts.[346] The documents in the job file for Segment 180 are consistent with this practice. For example, construction drawings in the job file for Segment 180 show the length of the

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[339] Ex. CPSD-4 at 5 (CPSD/Felts).

[340] *See generally* Ex. PG&E-61 at 4-5 (PG&E/Harrison); Joint R.T. 309-10 (PG&E/Harrison).

[341] *See supra* Sections III.A and III.B.

[342] Ex. PG&E-61 at 4-5 (PG&E/Harrison).

[343] Ex. PG&E-61 at 4-5 (PG&E/Harrison).

[344] Ex. PG&E-61 at 4-5 (PG&E/Harrison).

[345] Ex. PG&E-61 at 4-5 (PG&E/Harrison).

[346] Ex. CPSD-4 at 5, n.28 (CPSD/Felts). The document provided by Ms. Felts in support of footnote 28 (Piping-Arrangement – M.LV. 502.12A & 30" Line 300 Bypass – Milpitas Termi nal – Drawing No. 383493 Change 4) depicts pipe bends and the location of a valve for the Line 300 bypass at Milpitas Terminal. Contrary to Ms. Felts' assertion that this drawing is from the 1950s, the revision date indicates that it depicts the facilitie s in approximately 1975.

individual pieces of pipe and the location of elbow s at the tie-in points.[347] However, rather than support CPSD's allegation that the Segment 180 job file is deficient, the lack of drawings depicting the six pups supports the conclusion that PG&E unknowingly received the pups as part of a longer pipe joint. PG&E witness David Harrison explained that if the pups had been welded together in the field, they would likely have been depicted on a construction drawing.[348] A logical conclusion, given that the six pups were welded together into a virtually -straight jointer,[349] is that the pups were delivered to the job site as part of a longer piece of pipe, and were not known to PG&E until after September 9, 2010.[350]

While the documents in the job folder for the construction of Segment 180 contain some accounting records , CPSD's claim that the job folder is merely an accounting file that lacks "construction drawings, plans, correspondence or details of the construction project"[351] is without merit. As described by Mr. Harrison, the job file contains the original design drawing,[352] including specific details on the configuration of the pipe at its tie -in points,[353] as well as records allowing an engineer to identify the diameter, grade, seam type and wall thickness of the pipe ordered for the segment[354] and the depth of cover specified at the time of installation.[355] It is not clear what additional information CPSD believes should have been present in a job file from the 1950s, and CPSD has presented no evidence that the type of records in the Segment 180 job file are legally deficient.

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

[348] Joint R.T. 324-25 (PG&E/Harrison).

[349] Joint R.T. 342, 597 (PG&E/Harrison).

[350] In its opening brief in the San Bruno OII (I.12 -01-007), TURN asserts that PG&E would have been alerted to the presence of the pups when the pipe was reconditioned. TURN Opening Brief at 10 -11. TURN's assertion assumes (without any proof) the following: (1) the joint containing the pups was stored outside in PG&E's storage yard prior to installation of Segment 180; (2) the joint containing the pups was located on the top of the other pipe in storage, or was otherwise exposed to sunlight while in storage; (3) the anti -corrosion wrapping or coating on the joint containing the pups wa s significantly deteriorated while in storage; and (4) the re -coating or re -wrapping was conducted by PG&E or otherwise supervised by PG&E in such a way that the pups would be observed and reported. There is no evidence showing the existence of the conditions necessary to support TURN's claim.

[351] Ex. CPSD-4 at 5 (CPSD/Felts).

[352] Joint R.T. 313 (PG&E/Harrison).

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

[354] Joint R.T. 314-15 (PG&E/Harrison).

[355] Joint R.T. 313 (PG&E/Harrison).

3. Violation 3: Pressure Test Records

CPSD contends PG&E's failure to locate and produce a record demonstrating a post-installation pressure test on Segment 180 constitutes a continuing violation of Section 451 (from 1961 to 2010), ASME B31.8 (from 1956 to 2010),[356] and Commission General Orders 112, 112-A and 112-B, § 107 (from 1961 to 1970).[357] While PG&E has not been able to locate records of any post-construction strength test conducted on Segment 180, CPSD's allegation fails because PG&E was not required to conduct a strength test in 1956, much less maintain records of a voluntary activity.

In 1956, no state or federal regulations mandated post-installation pressure tests.[358] At the time, the natural gas industry had available to it a number of recommended practices in ASA B31.1.8, including a provision to conduct strength testing.[359] The ASA B31.1.8 practices were not mandatory, however, and were not incorporated in state or federal regulations until several years later.[360] That PG&E used ASA B31.1.8 recommended practices as guidance in its gas pipeline construction practices during the 1950s does not alter the fact that the ASA standard was voluntary at the time Segment 180 was constructed. In fact, post-installation pressure testing did not become an accepted practice industry-wide until after the installation of Segment 180.[361]

The Commission first regulated natural gas transmission pipeline safety in 1961 by implementing General Order 112.[362] The new general order required, for the first time, that natural gas transmission pipelines be subjected to pre-service strength tests.[363] However, the new regulations contained an express exemption for existing pipelines like Line 132, stating:

> It is not intended that these rules be applied retroactively to existing installations in so far as design, fabrication, installation, established operating pressure, and testing are concerned. It is intended, however, that the provisions of these rules shall be

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[356] As Ms. Felts admitted on cross-examination, Segment 180 was constructed in 1956, not 1955, and she revised her testimony to reflect a 1956 start date for this alleged violation. R.T. 285 (CPSD/Felts).

[357] Ex. CPSD-15 (Violation 3) (CPSD/Felts).

[358] Ex. PG&E-61 at 4-6 (PG&E/Harrison).

[359] Ex. PG&E-61 at 4-6 (PG&E/Harrison).

[360] Ex. PG&E-61 at 4-6 (PG&E/Harrison).

[361] Joint R.T. 354-57 (PG&E/Harrison).

[362] *See, e.g.,* PG&E June 20, 2011 Response at 1-1.

[363] Ex. PG&E-4, App. A at § 209 (Decision No. 61269, with GO 112 attached).

applicable to the operation, maintenance, and up -rating of existing installations.[364]

This provision manifested the Commission's intent not to regulate the initial testing of pipeline facilities installed prior to 1961. Any attempt by CPSD to assert a pressure test ing requirement including asserting Section 451, is contrary to the express intent of General Order 112. CPSD has therefore failed to identify any requirement at the time Segment 180 was constructed that PG&E conduct a post -construction strength test. Wi thout such a requirement, CPSD's allegation that PG&E was required to maintain records of such a strength test fails as a matter of law.

The rationale for including this violation may rest on Ms. Felts' mistaken belief that a soap test (likely conducted to check for leaks on girth welds) was equivalent to hydrostatic pressure testing. Ms. Felts indicated on cross -examination that she determined PG&E likely conducted a soap test on Segment 180 based on her review of invoices in the job file showing the purchase of soap.[365] She initially likened a soap test to a form of hydrostatic pressure test for which records must be retained for the life of the facility.[366] But on further questioning, Ms. Felts acknowledged that she was unfamiliar with soap testing practic es in the 1930s and 1940s,[367] and she did not know whether a soap test qualified as a hydrostatic pressure test under 1950s-era industry standards.[368] Ultimately, Ms. Felts conceded that a soap test is not a pressure test within the meaning of ASA B31.8, as s oap tests only involve a small amount of pressure in the line to check for leaks, rather than the high pressure test contemplated by ASA B31.8, GO 112 and 49 C.F.R Part 192.[369]

4. Violation 4: Underlying Records Related To Maximum Allowable Operating Pressure On Segment 180

CPSD alleges PG&E violated Section 451 and ASME B31.8 f rom 1977 to 2010 by failing to have adequate records to substantiate an MAOP of 390 psig on Line 132.[370] Contrary

[364] Ex. PG&E-4, App. A at § 104.3 (Decision No. 61269, with GO 112 attached).
[365] R.T. 283-84 (CPSD/Felts).
[366] R.T. 518 (CPSD/Felts).
[367] R.T. 521 (CPSD/Felts).
[368] R.T. 592 (CPSD/Felts).
[369] R.T. 518-19 (CPSD/Felts).
[370] Ex. CPSD-15 (Violation 4) (CPSD/Felts).

to CPSD's assertion, PG&E properly established the MAOP of Line 132 from the Milpitas Terminal (mile point 0.00) to Martin Station (mile point 46.59) at 400 psig pursuant to 49 C.F.R. § 192.619(c), and retained records documenting this pressure.

In the early 1970s, the CPUC embraced the new federal regulatory requirement that transmission pipeline operators establish the MAOP for all transmission pipelines pursuant to 49 C.F.R. § 192.619.[371] This code section authorized an operator to establish MAOP (in addition to other methods) based on the highest operating pressure on the pipeline between July 1, 1965 and July 1, 1970 (Five Year Period). [372] This code section (49 C.F.R. § 192.619(c)) is referred to as the "grandfather clause."[373]

In response to this new requirement, PG&E's Gas System Design Department undertook to verify and record the MAOP for transmission lines. [374] To document this effort, a PG&E engineer prepared a spreadsheet for each transmission line. [375] On each spreadsheet, the engineer identified the "old" MAOP at which the line or line section had been operating, which was often established by prior pressure tests. [376] The engineer then documented the MAOP allowed by the new federal regulations, using either pressure test records or records of operating pressures experienced during the Five Year Period.[377]

PG&E established the MAOP for Line 132 using the highest operating pressure recorded on the line during the Five Year Period. [378] During the Five Year Period (as it is today), PG&E operated Line 132 in two distinct sections.[379] Between mile points 0.00 and 46.59 (from Milpitas Terminal to Martin Station), Line 132 operated at pressures up to 400 psig.[380] Between mileposts 46.59 (Martin Station) and the end of the line at the San Francisco Division Gas Load Center, Line 132 operated at pressures up to 145 psig. [381] This was reflected on the original

[371] Ex. PG&E-61 at 4-8 (PG&E/Phillips).
[372] Ex. PG&E-61 at 4-8 (PG&E/Phillips).
[373] Ex. PG&E-61 at 4-8 (PG&E/Phillips).
[374] Ex. PG&E-61 at 4-8 (PG&E/Phillips).
[375] Ex. PG&E-61 at 4-8 (PG&E/Phillips).
[376] Ex. PG&E-61 at 4-8 (PG&E/Phillips).
[377] Ex. PG&E-61 at 4-8 to 4-9 (PG&E/Phillips).
[378] Ex. PG&E-61 at 4-9 (PG&E/Phillips).
[379] Ex. PG&E-61 at 4-9 to 4-10 (PG&E/Phillips); R.T. 1118 (PG&E/Phillips)
[380] Ex. PG&E-61 at 4-9 to 4-10 (PG&E/Phillips).
[381] Ex. PG&E-61 at 4-10 (PG&E/Phillips).

spreadsheet for Line 132.[382] It divides Line 132 into two entries, as denoted by the number to the left of the designation column. PG&E has operating pressure logs from October 1968 reflecting the 400 psig pressure measured at Milpitas Terminal during this period.[383] These operating pressure logs establish a 400 psig MAOP for Line 132 from Milepost 0.00 to 46.59 under the grandfather clause.[384]

In 1978, the San Francisco Division wrote a memorandum stating the highest pressure actually experienced and recorded on Line 132 during the Five Year Period was only 390 psig at Milpitas Terminal.[385] On this basis, the Division adjusted the MAOP for the portion of Line 132 from milepost 35.84 (the division boundary) to milepost 46.59. Ms. Felts claims this reflects an intentional lowering of the MAOP for Line 132 at milepost 35.84.[386] Ms. Felts acknowledges that there is no pressure regulation on Line 132 at that milepost, so physically there was no way the MAOP could be 400 psig upstream of that location and 390 psig downstream.[387] Inasmuch as PG&E still has the pressure log from October 1968 showing a 400 psig pressure (and that log is in evidence),[388] the statement by the San Francisco Division that the highest recorded pressure at Milpitas Terminal was 390 psig is demonstrably incorrect. As explained by PG&E witness Steve Phillips, the gas engineer responsible for documenting pipeline MAOP during the early 1970s:

> Q: Okay. Under MAOP its says 390
>
> A: Yes. That's an error. Because I established the MAOP of Line 132 for Milpitas Terminal to Martin Station in '74/'75 based on a pressure chart at 400 pounds. There is nothing physically at Milepost 35.84 to restrict pressure. So it makes no sense.

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[382] Ex. CPSD-2 at 3, n.13 (CPSD/Felts) (citing PG&E Supplemental Response to CPSD Data Request No. 30, Question 30, Attachment 2, p. 102) (This PG&E data response was expressly referenced in Ms. Felts' written Reports and Testimony, *see* Ex. CPSD-2 at 3 (CPSD/Felts)).

[383] Ex. PG&E-42 (Milpitas Terminal pressure logs).

[384] *See, e.g.,* R.T. 1127 (PG&E/Phillips) ("[Under the grandfather clause, MAOP is established by] the highest actual operating pressure to which the segment was subjected during the five years preceding July 1, 1970. So that would be the head end of the line. And that was the pressure that would establish the MAOP for that line."); R.T. 1130 (PG&E/Phillips) (" Because I established the MAOP of Line 132 for Milpitas Terminal to Martin Station in '74/'75 based on a pressure chart at 400 pounds.").

[385] Ex. PG&E-61 at 4-10 (PG&E/Phillips).

[386] Ex. CPSD-2 at 4 (CPSD/Felts).

[387] R.T. 428-30 (CPSD/Felts).

[388] Ex. PG&E-42 (Milpitas Terminal pressure logs).

> And I've looked at the letter from the San Francisco Division. They state their pressure for Milpitas Station. So if 390 is the highest pressure recorded during '65 to '70, then you reduce the entire pressure from Milpitas to Martin Station to 390.
>
> I have no idea why. The only thing I could surmise is they did an analysis, and all they could find was a 390 pressure chart. But we have 400 logs, logs showing 400 pounds during the five years at Milpitas. And that establishes the accurate MAOP of Line 132 at 400 pounds.[389]

During a records review in 2003, PG&E employees recognized that the 1978 amendment to Line 132 showing an MAOP of 3 90 starting at milepost 35.84 was an error. [390] Consistent with the grandfather clause, PG&E amended the MAOP of Line 132 to accurately reflect that, based on records of pressures experienced during the Five Year Period, the MAOP between mileposts 0.00 and 4 6.59 was 400 psig. [391] PG&E's record correction did not establish a new, higher pressure for Line 132, but instead amended its records to reflect the MAOP allowed by the grandfather clause.[392] As Mr. Phillips explained:

> I have a pressure chart, sir, that I ca n show you the 400 pounds recorded at Milpitas Terminal in the five -year period.... That's how 192.619 is designed to work. You have a chart. You don't need to keep ten of them. All you need to keep is one as a record that, yes, that line was exposed to 400 pounds during the five year period."[393]

While PG&E's documents listing pipeline MAOP between 1978 and 2003 erroneously showed an MAOP of 390 psig, [394] PG&E did not maintain any pressure limiting equipment at mile point 35.84 that could serve to limit downstream pressure to the lower value.[395] Thus, when PG&E corrected its records in 2003, there was no change in operating conditions along the

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[389] R.T. 1130-31 (PG&E/Phillips).

[390] Ex. PG&E-61 at 4-11 (PG&E/Phillips).

[391] Ex. PG&E-61 at 4-11 (PG&E/Phillips).

[392] R.T. 1139 (PG&E/Phillips).

[393] R.T. 1139 (PG&E/Phillips).

[394] Appendix 1 to the Revised Report and Testimony of Margaret Felts contains Ms. Felts' interpretations of various documents that relate in some way to the Line 132 MAOP. Documents identified in the appendix support the establishment of a 400 psig MAOP for Line 132 from Milpitas to Martin pursuant to the grandfather clause, the 1978 revision and the correction made in 2003.

[395] Ex. PG&E-61 at 4-12 (PG&E/Phillips).

line.[396] Ms. Felts states that she is assuming the existence of underlying documents to support CPSD's allegation that part of Line 132 had a 390 psig MAOP, but she admits that she has never seen any direct reference to any such documents.[397] In contrast, PG&E has presented Mr. Phillips' testimony, as well as documentation of the highest operating pressure experienced during the Five Year Period. Mr. Phillips actually determined the 400 MAOP. Logs and other evidence support his determination of 400 MAOP for Line 132. As Ms. Felts agreed, if PG&E has records substantiating the 400 MAOP of Line 132, this alleged violation is moot.[398]

5. Violation 5: Clearance Procedures

PG&E recognizes that the clearance documentation for the electrical work at Milpitas Terminal did not fully comply with PG&E's written clearance policy and procedure. This shortcoming constitutes a violation of 49 C.F.R. § 192.13(c).

In evaluating the severity of the violation, however, the Commission should consider some additional evidence in the record. Despite the clearance documentation shortcoming, the field crew and gas system operators did follow good communication practices and took actions that focused on safety.[399]

Prior to beginning work, the crew at Milpitas Terminal conducted pre-work meetings (tailboards) on September 9, 2010, at which they addressed safety issues, discussed the day's project and outlined the steps they would follow.[400] The field crew and Gas Control also communicated throughout the process.[401] At 2:46 p.m., the lead gas control technician called Gas Control to alert them that the clearance work was beginning.[402] As the work progressed, the gas control technician called Gas Control several more times.[403] The purpose of these calls was to alert the gas system operators, prior to disconnecting the designated electrical equipment, that the field crew was about to take a step that could affect Gas Control's ability to monitor the

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[396] Ex. PG&E-61 at 4-12 (PG&E/Phillips).

[397] R.T. 438 (CPSD/Felts).

[398] R.T. 596 (CPSD/Felts).

[399] *See, e.g.,* Joint R.T. 143-44 (PG&E/Slibsager).

[400] Ex. PG&E-61 at 4-13 (PG&E/Slibsager and Kazimirsky). In addition, a pre-construction meeting was held in August in preparation for the project. *Id.* at n.22.

[401] Ex. PG&E-61 at 4-13 (PG&E/Slibsager and Kazimirsky).

[402] Ex. PG&E-61 at 4-13 (PG&E/Slibsager and Kazimirsky).

[403] Ex. PG&E-61 at 4-13 (PG&E/Slibsager and Kazimirsky). *See generally* Ex. PG&E-66 (Tab 4-3) (Transcript of Gas Control Log, September 9, 2010).

system at Milpitas Terminal.[404] These clearance communi cations ensured that both the field crew and the gas system operators were aware that intermittent SCADA interruptions could occur as part of the process.[405]

The field crew also took precautions when the steps they were taking on the project could potentially impact Gas Control's ability to control the system at Milpitas Terminal.[406] Prior to moving the connections for the Genius Blocks[407] from the existing electrical panel to the temporary UPS device, the lead gas transmission technician switched the valve cont rollers into manual, after documenting the pressures at each controller.[408] While it was not expected that disconnecting power to the Genius Blocks would impact the valve controllers,[409] the crew put the controllers into manual as an added precaution.[410] Once the Genius Blocks were reconnected to the temporary UPS device, the gas transmission technician and the contract engineer put the controllers back into automatic and rechecked the pressures at each controller to confirm they were functioning properly and t hat no pressure impact had occurred.[411] While these precautions were not detailed in the written clearance, they were communicated to Gas Control prior to and after the actions were complete.[412]

When the crew had completed all the steps in the electrical work they planned for the day, at approximately 5 p.m., the control system at Milpitas Terminal was functioning and no problems were occurring.[413]

As Mr. Slibsager testified, the field crew followed good clearance practices and kept gas control operators informed of the status and potential impacts of the work:

> In other words, they followed the work procedure in respect the field called in, established contact and information with the control

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[404] Ex. PG&E-61 at 4-13 to 4-14 (PG&E/Slibsager and Kazimirsky).

[405] Ex. PG&E-61 at 4-14 (PG&E/Slibsager and Kazimirsky).

[406] Ex. PG&E-61 at 4-14 (PG&E/Slibsager and Kazimirsky).

[407] A Genius Block is a brand name for the input/output device for the PLC, which allows interface between the PLC and field devices, such as process transmitters (as inputs), and solenoids and valve actuators (as outputs, *i.e.*, commands from the PLC).

[408] Ex. PG&E-61 at 4-14 (PG&E/Slibsager and Kazimirsky).

[409] The valve controllers had previously been connected to temporary UPS devices in April 2010. Ex. PG&E-61 at 4-14, n.24 (PG&E/Phillips).

[410] Ex. PG&E-61 at 4-14 (PG&E/Slibsager and Kazimirsky).

[411] Ex. PG&E-61 at 4-14 (PG&E/Slibsager and Kazimirsky).

[412] Ex. PG&E-61 at 4 -13 to 4 -15 (PG&E/Slibsager and Kazimirsky) (citing Ex. PG&E -66 (Tab 4 -3) (Transcript of Gas Control Log, September 9, 2010)).

[413] Ex. PG&E-61 at 4-14 (PG&E/Slibsager and Kazimirsky).

> room what they were going to do and what would transpire. The person they were talking to is an individual, it is a control tech who can fill that role. And I just have to assume that my control room understood that person was able to fill the clearance supervisor role given the qualifications.[414]

Mr. Kazimirsky underscored that the planned work was not expected to impact the gas system:

> The work that was performed that day did not or would not impact system operations. It would impact data going into SCADA. But as far as gas flowing on the line, it wouldn't be impacted. That is why they didn't feel there was a need for preplanning for abnormal operations. Nothing what they did there would have interrupted normal system operations.[415]

Although an unplanned pressure increase occurred, that resulted from an unexpected failure of two power supplies not involved in the clearance work that day.[416] As concluded by both CPSD and the NTSB, the pressure limiting system functioned as designed, and a non-defective pipe would not have ruptured.[417]

6. Violation 6: Operations And Maintenance Instructions

CPSD alleges PG&E violated Section 451 from 1991 to 2010 for allegedly having an out-of-date Operations and Maintenance Instructions ("O&MI") Manual at the Milpitas Terminal.[418] CPSD's evidence in support of this violation consists of a single data request response to a broad question asking PG&E to identify voluminous hardcopy records maintained at 11 different transmission facilities on September 9, 2010. CPSD's allegation is refuted by a more specific data request response confirming that the Milpitas Terminal O&MI Manual was present and up to date at the time of the accident.

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[414] Joint R.T. 143-44 (PG&E/Slibsager).

[415] Joint R.T. 150-51 (PG&E/Kazimirsky).

[416] Joint R.T. 92, 115, 150-51 (PG&E/Kazimirsky).

[417] PG&E's Request for Official Notice, Ex. 1 (Ex. San Bruno CPSD-1 at 90-91 (CPSD Incident Investigation Report, Released January 12, 2012)); PG&E's Request for Official Notice, Ex. 3 (Ex. San Bruno CPSD-9 at 9 (NTSB Report on PG&E Natural Gas Transmission Pipeline Rupture and Fire San Bruno, CA September 9, 2010)).

[418] Ex. San Bruno CPSD-15 (Violation 6) (CPSD/Felts).

Ms. Felts claims that, at the time of the accident, PG&E had not updated the O&MI Manual at the Milpitas Terminal in the 19 years following the initial issue.[419] Ms. Felts bases this claim on her interpretation of PG&E's response to a broad data request seeking information about PG&E's policies and procedures at 11 different gas facilities on S eptember 9, 2010.[420] CPSD requested a "[l]ist of PG&E policies and procedures, past and present, relevant to the operation and maintenance of unmanned major gas facilities."[421] In response, PG&E pointed out that, as a practical matter, it would be impossible for PG&E to state with certainty what was present at each of its eleven major transmission facilities on September 9, 2010, since PG&E was responding to the data requests in July and August of 2011, nearly a year after the fact:

> It is not possible to asce rtain whether the version contained at a station as of July/August 2011 was the exact version that existed on September 9, 2010, and in several instances new revisions of Operating and Maintenance Instructions have been issued since that time.[422]

Based on this response, Ms. Felts jumped to the conclusion that because PG&E could not definitively prove that the most recent revision[423] of the O&MI Manual was housed at Milpitas Terminal on a date approximately one year earlier, only the original 1991 O&MI Manual mu st have been present there as late as September 9, 2010.[424]

Ms. Felts' testimony on cross -examination revealed the lack of factual support for this assertion. According to Ms. Felts, PG&E's inability to definitively prove the presence of the

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[419] CPSD's alleged violation ignores that the latest revisions of O&MI manuals are available electronically on the PG&E intranet. These documents are available to PG&E personnel who operate and maintain major facilities, such as the Milpitas Terminal. Ex. CPSD-18 (PG&E Supplemental Response to CPSD Data Request No. 1, Question 1b) (This PG&E data response was expressly referenced in Ms. Felts' Written Reports and Testimony (*see* Ex. CPSD-2 at 8 (CPSD/Felts)).

[420] Ex. CPSD-18 (PG&E Supplemental Response to CPSD Data Request No. 1, Question 1b (August 1, 2011; August 15, 2011; August 22, 2011)) (*see* Ex. CPSD-2 at 8 (CPSD/Felts)).

[421] Ex. CPSD-18 (PG&E Supplemental Response to CPSD Data Request No. 1, Question 1 b (August 1, 2011; August 15, 2011; August 22, 2011)) (*see* Ex. CPSD-2 at 8 (CPSD/Felts)).

[422] Ex. CPSD-18 (PG&E Supplemental Response to Records OII Data Request No. 1, Question 1b (August 1, 2011; August 15, 2011; August 22, 2011)) (*see* Ex. CPSD-2 at 8 (CPSD/Felts)).

[423] Prior to the 1991 O&MI Manual was revised in 1998 (Rev. 2); 1999 (Rev. 3); 2004 (Rev. 4); and, 2009 (Rev. 6). *See* R.T. 293-94 (CPSD/Felts); *see also* Ex. CPSD -18 (PG&E Supplemental Response to CPSD Data Request 1, Question 1b, Attachment 4) (*see* Ex. CPSD-2 at 8 (CPSD/Felts)).

[424] Ex. CPSD-4 at 10 (CPSD/Felts) ("Because the January update was not issued until 2011, CPSD assumes the manual available at the Terminal on September 9, 2010 was Version 0, the 1991 manual without the 2011 update. Other than the manual included in the records inventory, there appears to be no record of which manual was available at the Terminal on September 9, 2010.").

O&MI Manual at Milpitas Terminal at the time of the incident satisfied her that the then -current version of the O&MI Manual was not at Milpitas Terminal on September 9, 2010:

> Q: So it was PG&E's inability sometime in 2011 to state with complete certainty what had been pr esent in Milpitas in September 2010 that led you to conclude that what was present in Milpitas on that date was a 1991 manual. Have I got that straight?
>
> A: Well, you gave me a list. PG&E gave me a list that said that there is one date in 1991 in the inve ntory on the shelf when PG&E looked after the incident and inventoried the items there. So I know that this manual was there. What I don't know is that there was any manual dated between 1991 and 2011 present there.
>
> Q: Okay. Then under the methodology t hat you applied, not knowing you assumed a violation; is that right?
>
> A: Yes.[425]

Ms. Felts even acknowledged shifting the burden of proof on this violation to PG&E:

> Q: And you're a lawyer, and what you're telling me is PG&E failed to carry a burden of proof t o you of exactly what was in Milpitas on September 9, 2010; isn't that right?
>
> A: Yes.[426]

Ms. Felts maintained her position that PG&E had not updated the Milpitas O&MI manual at the terminal even when confronted with evidence of multiple revisions between iss uance in 1991 and the 2011 revision provided in a data response.[427] In fact, the Milpitas Terminal O&MI manual was revised a total of five times prior to San Bruno, with the most recent revision occurring in 2009.[428] However, this did not persuade Ms. Felts that each revision was actually transmitted in hardcopy to the terminal:

> Q: And to believe, looking again at PG&E -32, that the 1991 manual was the one present in Milpitas in 2010, one would have to believe that PG&E made five revisions to that manual as sh own on this exhibit and never sent a one of them to the station for which it was the operating manual; is that right?

[425] R.T. 293-94 (CPSD/Felts).

[426] R.T. 300 (CPSD/Felts).

[427] R.T. 296-98 (CPSD/Felts).

[428] Ex. PG&E-32 (Milpitas Terminal O&MI manual, rev. 6).

> A: There's a couple of options here. One is that there was no manual and the one there as rec – as you pointed out in your exhibit 31 [revision 7 of the O&MI manual, issued in 2011] was – had this sheet on it, this cover sheet that says Rev 7 and shows changes from 1991 to 2011. So this manual, which is a 2011, could have been characterized on the inventory as a 1991 manual updated to 2011 , and your inventory was taken in 2011. So it could be that this manual with this characterization on it was put on the shelf at Milpitas after 9/9/2010.
>
> So there could have been no manual present on the date of the incident, or there could have been another manual, but PG&E represented that they couldn't be sure that the 2009 version was there. So the best I could do was go with the 1991.[429]

Neither of Ms. Felts' theories for this violation amounts to evidence that PG&E failed to maintain an up-to-date O&MI manual at the Milpitas Terminal. To the contrary, when a CPSD data request asked specifically whether PG&E maintained an up-to-date version of the O&MI manual at the terminal, PG&E responded, simply, "Yes."[430] While CPSD has ignored this assertion, it cannot prove a violation through Ms. Felts' speculation. Simply put, CPSD has failed to meet its burden of proof.

7. Violation 7: Drawing And Diagrams Of The Milpitas Terminal

CPSD alleges PG&E violated Section 451 by having an out-of-date operating drawing and incomplete SCADA display of Milpitas Terminal on September 9, 2010.[431] CPSD further alleges the drawing and SCADA display of Milpitas Terminal violated PG&E's own internal policies requiring retention of engineering records.[432] These violations continued, CPSD contends, from 2008 to 2010.[433] CPSD failed to satisfy its burden of proof both with respect to the alleged violations and the time period during which they allegedly continued.

a. PG&E's Operating Drawing Of Milpitas Terminal Was Up-To-Date On September 9, 2010

CPSD misconstrues PG&E's response to the following data request:

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[429] R.T. 299 (CPSD/Felts).

[430] Ex. PG&E-61 at 4-18 (PG&E/Slibsager and Kazimirsky).

[431] Ex. CPSD-15 (Violation 7) (CPSD/Felts).

[432] Ex. CPSD-15 (Violation 7) (CPSD/Felts).

[433] Ex. CPSD-15 (Violation 7) (CPSD/Felts).

> Is Drawing Number 383510 submitted to the NTSB the most recent Milpitas Operating Diagram as of September 9, 2010? If yes, does PG&E contend that drawing No. 383510 accurately reflects the Milpitas station as it existed on September 9, 2010? If no, provide a drawing that is accurate as of September 9, 2010.

PG&E responded as follows:

> No, the version of Drawing Number 383510 submitted to the NTSB was an updated version. Please see the attached copy of Drawing Number 383510 that was in effect as of Se ptember 9, 2010.[434]

Relying on this data response, Ms. Felts concludes that the drawing of Milpitas Terminal on September 9, 2010 was inaccurate. Ms. Felts characterizes the above PG&E data response as follows:

> In response to a data request, PG&E verified t hat drawing #383510, which it submitted to the NTSB, had been corrected after September 9, 2010 to accurately reflect the terminal design on that date. Thus, the diagram available to the personnel at Milpitas Terminal on September 9, 2010 did not accurate ly reflect the then current terminal design.[435]

Ms. Felts changes PG&E's response that it "updated" the diagram into a statement by PG&E that it had "corrected" the diagram. This mischaracterizes PG&E's data response, and Ms. Felts' conclusion is unsupported by the record.

The fact that PG&E updated the drawing of Milpitas Terminal does not suggest, let alone prove, that the drawing was inaccurate on September 9, 2010, or at any other time. On September 9, 2010, the drawing contained the necessary informa tion for the crew at Milpitas Terminal to fully respond to the unplanned pressure increase.[436] The drawing accurately reflected the regulation and monitor valves that controlled pressure on the outgoing Peninsula pipelines, which were the central focus of t he gas control technician as he worked with gas system operators to address the situation.[437]

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[434] Ex. CPSD-2 at 9 (CPSD/Felts).

[435] Ex. CPSD-2 at 9 (CPSD/Felts).

[436] Ex. PG&E-61 at 4-19 (PG&E/Slibsager and Kazimirsky).

[437] Ex. PG&E-61 at 4-19 (PG&E/Slibsager and Kazimirsky).

PG&E updated the drawing of Milpitas Terminal to reflect operational changes made after September 9, 2010, and to correct information unrelated to the events on Sep tember 9, 2010[438] as follows:

- November 2010 – The depiction of valves V31, V47, V49, and V65 was revised from normally open to normally closed; the maximum operating pressure (MOP) values for Line 109 and Line 132 were revised from 375 psig to 300 psig. The se revisions were made to reflect the reduced MOPs and the valve positions following the pressure reductions implemented at the direction of the Commission after the events on September 9, 2010. The MAOP of Line 100 was corrected from 375 psig to 400 psig.

- January 2011 – PG&E corrected block valve number from 167 to 169. This valve is located on the pig receiver for Line 100.

- July 2011 – PG&E corrected the valve and pipeline size on the cross -tie between Line 131 and Line 300A.[439]

The fact that PG&E made these changes does not prove, as CPSD would have it, that the drawing of Milpitas Terminal was out -of-date or inaccurate on September 9, 2010. CPSD has failed to carry its burden of proof with respect to this alleged violation.

b. PG&E's SCADA Display Of Mil pitas Terminal Was Accurate And Complete On September 9, 2010

CPSD alleges further that the SCADA display of Milpitas Terminal viewed by gas system operators on September 9, 2010, was "inaccurate and incomplete."[440] Again, CPSD points to a single data response – PG&E's response to Records OII Data Request 8, Question 08(c). The data request asked PG&E to "identify all changes made to the . . . SCADA operating diagrams . . . of the Milpitas Terminal after the September 9, 2010 San Bruno incident and before any physical changes were made to the Milpitas Terminal." PG&E responded as follows:

> On October 27, 2010, existing valves and piping related to the bypass system were added to the SCADA Milpitas Terminal operating diagram to provide gas system operators additional visibility of the bypass line configuration outside the Milpitas

[438] Ex. PG&E-61 at 4-19 to 4-20 (PG&E/Slibsager and Kazimirsky) ("The Milpitas Terminal operating diagram was updated either to reflect operational changes made following the events on September 9, 2010, or to correct information not related to the events on September 9, 2010, and that was not relevant to the crew's actions at Milpitas Terminal to address the pressure increase or electrical problems.").

[439] Ex. PG&E-61 at 4-19 (PG&E/Slibsager and Kazimirsky).

[440] Ex. CPSD-2 at 9 (CPSD/Felts).

> Terminal fence line. The valves that were added to the diagram were V-0.11, V-0.12, V-0.13, V-30, V-31, V-32, V-57.45, V-300, V-400, V-401, V-500, V-502.12A, V-600 and V-602, along with the associated piping. See attached snapshots of the SCADA Milpitas Terminal operating diagram before and after this revision. (Attachment 5).[441]

From this response, Ms. Felts concludes that "a bypass line outside of the Milpitas Terminal fence line" was "missing" from the SCADA display on September 9, 2010, and that this rendered the display somehow inaccurate or incomplete on that date.[442]

> On September 9, 2010 the diagram at the Control Room was apparently missing a bypass line outside of the Milpitas Terminal fence line. This appears to be a significant inaccuracy in the diagram because, during the emergency, PG&E personnel were attempting to control high-pressure gas that they thought might be by-passing the Terminal.[443]

Ms. Felts' conclusion that the SCADA display of Milpitas Terminal on September 9, 2010, was "missing a bypass line" is incorrect. The SCADA display on September 9, 2010 accurately reflected bypass piping and valves used in daily operations at Milpitas Terminal.[444]

The bypass piping and valves that Ms. Felts asserts were "missing" from the SCADA display, and that PG&E made visible in the display on October 27, 2010, are part of an alternate station bypass system located outside of Milpitas Terminal, and across a highway.[445] PG&E normally maintains the alternate station by-pass system in a closed position, as it was throughout the events of September 9, 2010. The valves and piping that are a part of the alternate station bypass were not involved in the events on September 9, 2010.[446] PG&E added this alternate station bypass system to the SCADA display on October 27, 2010 for operational reasons unrelated to the events of September 9, 2010. PG&E had been investigating several strategies designed to maintain reliable gas supply to the San Francisco Peninsula during the winter

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[441] Ex. PG&E-61 at 4-20 to 4-21 (PG&E/Slibsager and Kazimirsky).

[442] Ex. CPSD-2 at 9 (CPSD/Felts). Ms. Felts speculates that this allegedly missing bypass line "appears to be a significant inaccuracy."

[443] Ex. CPSD-2 at 9 (CPSD/Felts).

[444] Ex. PG&E-61 at 4-21 (PG&E/Slibsager and Kazimirsky). The SCADA display as it existed on September 9, 2010 was provided to CPSD as Attachment 5 to PG&E's response to CPSD Data Request 8, Question 8, Ex. CPSD-18. *See* Ex. CPSD-2 at 9 (CPSD/Felts). Attachment 5 depicts the "station bypass" and valves 62 and 63 (the bypass line valves) at the right side of the diagram.

[445] Ex. PG&E-61 at 4-21 (PG&E/Slibsager and Kazimirsky).

[446] Ex. PG&E-61 at 4-21 (PG&E/Slibsager and Kazimirsky).

months. Among other options, PG&E considered potentially reconfiguring the outgoing pipelines from Milpitas Termi nal to permit varying pressures among the lines, which may have required the use of the normally-unused bypass system. In anticipation of the possibility that the alternate bypass system could come into daily use, PG&E engineers and Gas Control added this piping and valves to the SCADA display of Milpitas Terminal to enhance gas system operators' visibility with respect to the bypass configuration that would be temporarily in use.[447]

Ms. Felts' factual conclusions regarding the Milpitas Terminal operating di agram and SCADA display used by gas system operators are incorrect. The alleged violations CPSD asserts based on those factual conclusions are unsupported by the record.

c. The Beginning And End Dates Of CPSD's Alleged Violation Lack A Factual Basis

CPSD alleges PG&E violated Section 451 starting in 2008 and continuing until 2010. During her cross-examination, however, Ms. Felts seemed uncertain about when th e alleged continuing violation began and ended, and for what reasons. When asked to explain the basis for her chosen end date, she seemed confused and suggested that the violation still continues today.[448] CPSD's revised table of violations, however, liste d 2010 as the end date.[449] Ms. Felts also was unsure about the beginning date, testifying that she would "have to go back and check," but that the beginning date was somehow related to the "date of the drawing."

> A: That the drawing was out of date at the time of the date there, 2008, and continues to be out of date. I think it would be a continuing violation to the . . . It would have been a continuing violation to the time that a new drawing could have been produced, but I don't have that date.
>
> Q: And how did you pick the 2008?
>
> A: I have to go back and check on that. I think it's probably the date of the drawing.[450]

Without more to substantiate the dates during which this alleged violation was "continuing," PG&E does not have a fair opportunity to fully address and defend this alleged violation.

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[447] Ex. PG&E-61 at 4-21 to 4-22 (PG&E/Slibsager and Kazimirsky).

[448] *See, e.g.,* R.T. 300 (CPSD/Felts).

[449] Ex. CPSD-15 at 6 (Violation 7) (CPSD/Felts).

[450] R.T. 300 (CPSD/Felts). The source and relevance of the alleged 2008 date is also unclear. The earliest drawing provided to CPSD is dated December 2, 2009.

8. Violation 8: Backup Software At The Milpitas Terminal

CPSD alleges PG&E violated Section 451 by failing to maintain copies of valve controller programming software at the Milpitas Terminal. [451] CPSD has presented no evidence that the lack of the software at the terminal was causally linked to the accident or constituted a legal violation.

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. [452] However, the lack of the software and cable played no role in the unexpected pressure increase or the response to it. [453] In fact, despite power supply issues experienced prior to the incident, the valve controllers continued to function as normal. [454] Restoring programming to the valve controllers prior to the accident would not have prevented or reduced the pressure increase at the Milpitas Terminal. [455] Given these facts, Ms. Felts' focus on the controller backup software is misplaced. Even if the technician had been able to download the controller programming and connect his laptop to the three valve controllers at Milpitas Terminal, the malfunction would not have been resolved any sooner. The controllers experienced a rare malfunction that the technician could not have resolved on his own, regardless of the software he possessed. [456] To resolve the problem, PG&E had to contact the manufacturer and receive specialized instructions to reset the valve controllers via a physical interface on the front of the controllers. [457]

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[451] Ex. CPSD-2 at 10 -11 (CPSD/Felts); Ex. CPSD-4 at 14 -15 (CPSD/Felts); Ex. CPSD -15 (Violation 8) (CPSD/Felts).

[452] Ex. PG&E-61 at 4 -25 (PG&E/Slibsager and Kazimirsky). The gas technician on duty was headquartered at Hollister Station, but was covering Milpitas Terminal. Hollister Station uses a different model of the same valve controller (Siemens 352 vs. Siemen s 353), and the software and cable connections between the models are not interchangeable. *Id.*

[453] Ex. PG&E-61 at 4-25 (PG&E/Slibsager and Kazimirsky).

[454] Ex. PG&E-61 at 4-24 (PG&E/Slibsager and Kazimirsky). When the voltage from the power supplies fluctuated, pressure transmitters sent zero or negative pressure readings to the valve controllers. The valve controllers properly compensated for the apparent lack of pressure in the pipeline by commanding the regulator valves open. This action demonstrates that the valve controllers were working properly and had not lost power or programming when the pressure increase began. *Id.*

[455] Ex. PG&E-61 at 4-25 (PG&E/Slibsager and Kazimirsky).

[456] Ex. PG&E-61 at 4 -25 (PG&E/Slibsager and Kazimirsky); Joint R.T. 160-61 (PG&E/Kazimirsky) ("He indeed didn't have the software or the cable [.] However, on September the 9th that was a moot point because to restore the configuration of the controllers he wouldn't need a computer. As we discussed earlier, that software or that program could be restored by a sequence of key strokes on the controller itself, not on computer.").

[457] Joint R.T. 95-96 (PG&E/Kazimirsky).

In alleging this violation, Ms. Felts relies on a provision of a PG&E O&MI Manual requiring PG&E to have backup software onsite at Milpitas Terminal [458] – a provision that has nothing to do with software for valve controllers. The provision on which Ms. Felts relies addresses programming of a Programmable Logic Controller (PLC):

> The PLC sy stem is located in the computer room in the Control Build […] The PLC may be accessed via programming terminal in the computer room or any PC with the GE VersaPro software. Copies of the program are kept on the hard disk of the programming terminal and t he back -up copies of the programs must be kept on a floppy diskette at the Terminal. A hard copy is available at the terminal.[459]

As the quoted provision makes clear, the language on which Ms. Felts relies concerns programming for the PLC. [460] On September 9, 2010, three valve controllers at Milpitas Terminal, and not the PLC system, experienced programming problems. [461] During cross - examination, Ms. Felts acknowledged she had relied on a provision that had nothing to do with the valve controllers:

> Q: So given t hat the issue on that night was valve controllers, not the programmable logic controller, this provision that we've been looking at in Exhibit P -32 has nothing to do with the software for those valve controllers, correct?
>
> A: That's correct.[462]

Lastly, to est ablish the start date of this alleged continuing violation, Ms. Felts again relies on the erroneous assumption that the only version of the O&MI Manual at Milpitas Terminal was the original dated 1991. As discussed above with CPSD's alleged Violation No. 6, CPSD lacks any factual basis for that assumption. In any event, as Ms. Felts testified during cross-examination, she has no idea when, if ever, the backup software ceased to be at Milpitas Terminal:

> Q: And is it correct that you do not know when if eve r that backup software ceased to be at Milpitas?

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[458] Ex. CPSD-2 at 10 (CPSD/Felts).

[459] Ex. PG&E-32 (Milpitas Terminal O&MI – manual, rev. 6).

[460] Ex. PG&E-61 at 4-25 (PG&E/Slibsager and Kazimirsky).

[461] Ex. PG&E-61 at 4-24 (PG&E/Slibsager and Kazimirsky).

[462] R.T. 306 (CPSD/Felts).

A: That's true.[463]

With respect to Violation No. 8, CPSD has failed to establish any factual basis for the substantive violation or when it purportedly occurred.

9. Violation 9: Supervisory Control And Data Acquisition System

CPSD alleges PG&E violated Section 451 from 2008 to 2010 based on an allegedly "unsafe design" of its SCADA system.[464] It perceives that PG& E's Gas Control operators were too slow to recognize the rupture, could not identify the location of the rupture and could not identify the valves closest to the rupture to shut off the gas, all of which it attributes to the "unsafe design" of the SCADA system.[465] As shown below, PG&E has refuted each of CPSD's assertions.

The SCADA system is used by operators in PG&E's Gas Control to monitor and operate the transmission system in real time. Gas Control uses SCADA to continuously monitor pressures in transmission lines. SCADA is equipped with alarms that are triggered to alert Gas Control that a line may be approaching above- or below-normal pressures. SCADA allows operators to control pressure in transmission lines through use of approximately 300 remotely-controlled valves and compressor stations along PG&E's transmission system.[466]

On September 9, 2010, PG&E gas system operators were faced with analyzing a high volume of data, both reliable and unreliable, as a result of power issues and the pressure increase at the Milpitas Terminal.[467] Operators trended the SCADA data at stations and monitoring points up and downstream from Milpitas Terminal to analyze what was happening and what responsive actions were required.[468] Trending SCADA data in this manner is the appropriate and effective method of analyzing the state of events on gas transmission systems, during both normal and abnormal operating situations.[469] Despite the volume of alarms and varied reliability of the data, operators were aware of the pressure increase at Milpitas Terminal (as well as the

[463] R.T. 307 (CPSD/Felts).

[464] Ex. CPSD-2 at 11-12 (CPSD/Felts); Ex. CPSD-4 at 15 (CPSD/Felts); Ex. CPSD-15 (Violation 9) (CPSD/Felts).

[465] Ex. CPSD-2 at 11-12 (CPSD/Felts).

[466] PG&E June 20, 2011 Response at 6B-16 to 6B-17.

[467] Ex. PG&E-61 at 4-26 (PG&E/Slibsager and Kazimirsky).

[468] Ex. PG&E-61 at 4-26 (PG&E/Slibsager and Kazimirsky).

[469] Ex. PG&E-61 at 4-26 (PG&E/Slibsager and Kazimirsky) [redacted].

pressure increases downstream) and acted to address it. [470] Operators had a technician at the Milpitas Terminal troubleshoot the cause of the pressure increase, and were aware that the monitor control valves (which provide protection against overpressure) had been actuated to limit pressure on the Peninsula pipelines, including Line 132. [471] System operators used the SCADA system to lower pressure upstream of Milpitas Terminal to 370 psig as an additional measure.[472] However, before these remedial steps could take effect, Line 132 ruptured approximately 30 miles downstream from the Milpitas Terminal.[473] During this time, pressure at Segment 180 had not exceeded 386 psig,[474] well below the 400 psig MAOP.

Contrary 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,"[475] as Ms. Felts characterizes it). As described in the discussion of Violation 8, *supra*, PG&E did not lose control of the valve controllers at the Milpitas Terminal. In fact, the valve controllers responded appropriately, opening the regulator valves to compensate for the zero- and negative-pressure readings that were provided by the malfunctioning pressure sensors. [477] Once the pressure at the Milpitas Terminal reached a predetermined set point (below the 400 psig MAOP, and well below the MAOP plus 10% limit permitted for abnormal operations by 49 C.F.R. § 192.201), monitor valves operated as designed to limit the pressure increase and maintain pressure control.

Ms. Felts incorrectly alleges that, after the rupture, gas system operators "did not recognize the drop in pressure until almost 30 minutes later [6:45 p.m.], when someone from another location called in and asked them to look for the pressure drop on their SCADA screens."[479] In fact, 12 minutes after the first low pressure indication came in through the SCADA system at 6:15 p.m., gas system operators received a telephone call from Concord

[470] Ex. PG&E-61 at 4-27 (PG&E/Slibsager and Kazimirsky).
[471] Ex. PG&E-61 at 4-27 (PG&E/Slibsager and Kazimirsky).
[472] Ex. PG&E-61 at 4-27 (PG&E/Slibsager and Kazimirsky).
[473] Ex. PG&E-61 at 4-27 (PG&E/Slibsager and Kazimirsky).
[474] Ex. PG&E-61 at 4-27 (PG&E/Slibsager and Kazimirsky).
[475] Ex. CPSD-2 at 11 (CPSD/Felts).

[477] Ex. PG&E-61 at 4-24 (PG&E/Slibsager and Kazimirsky).

[479] Ex. CPSD-2 at 12 (CPSD/Felts).

Dispatch relaying the report of flames in the San Bruno area. [480] At 6:29 p.m., two minutes after the initial call, and 14 minutes after the low pressure alarm, gas operators established that the low pressure alarm at Martin Station was connected to the outside reports of flames and concluded that there was likely a line break in the San Bruno area. [481] Ms. Felts fails to explain how a PG&E gas control operator could be unaware of the rupture in San Bruno for another ten minutes after saying: "We have a line break of [sic] San Bruno with flames. Sounds like a jet engine and Martin Station is dropping like a rock. . . . Line break in San Bruno." [482] The gas control operator's statement demonstrates that, as of 6:29 p.m., Gas Control was aware of the line rupture, and in connection with reports of flames, that it was located in San Bruno.[483]

Ms. Felts asserts that the gas system operators did not know if there were valves on Line 132 that could isolate the rupture.[484] She bases this assertion on the following quote from the gas control recordings: "I'm guessing there has to be some valves between Milpitas and [Martin] Station that Division will be operating."[485] The speaker who made the statement on which CPSD relies ("Speaker 4") was not a g as system operator. [486] The speaker was the off -duty Milpitas Terminal temporary supervisor who was called at home by a gas control operator to inform him of the current situation.[487] The supervisor was observing that there would necessarily be valving that Peninsula Division personnel would need to do to reroute gas around the rupture to maintain gas supplies to the San Francisco Peninsula. [488] The statement was not made by a gas control operator and was not related to the valves between Milpitas Terminal and M artin Station.[489] Without more, CPSD has not presented any evidence that PG&E gas control personnel were unable to identify the relevant valves on Line 132.

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[480] Ex. PG&E-61 at 4-27 (PG&E/Slibsager and Kazimirsky).
[481] Ex. PG&E-66 (Tab 4-3) (Transcript of Gas Control Log, September 9, 2010).
[482] Ex. PG&E-66 (Tab 4-3) (Transcript of Gas Control Log, September 9, 2010).
[483] Ex. PG&E-61 at 4-27 (PG&E/Slibsager and Kazimirsky).
[484] Ex. CPSD-2 at 12 (CPSD/Felts).
[485] Ex. CPSD-2 at 12, n.54 (CPSD/Felts).
[486] Ex. PG&E-61 at 4-28 (PG&E/Slibsager and Kazimirsky).
[487] Ex. PG&E-61 at 4-28 (PG&E/Slibsager and Kazimirsky).
[488] Ex. PG&E-61 at 4-28 to 4-29 (PG&E/Slibsager and Kazimirsky).
[489] Ex. PG&E-61 at 4-28 to 4-29 (PG&E/Slibsager and Kazimirsky).

10. Violation 10: Emergency Response Plans

In 2009 and 2010 CPSD audited PG&E's emergency response plans and found them to be satisfactory and compliant with the applicable regulations. [490] Ms. Felts agrees PG&E's plans met regulatory criteria, [491] but claims PG&E nonetheless violated Section 451 bec ause the emergency response plans were "too difficult to use."[492] Ms. Felts' comment that the plans were "too difficult to use" does not amount to a legal standard and has no basis in the applicable federal code requirements, GO 112 -E or Section 451. In an y event, the allegation that the emergency response plans were "too difficult to use" is not supported by the evidence. The evidence demonstrates that PG&E's Emergency Response procedures complied with all applicable regulations, as Ms. Felts concedes[493] and CPSD itself confirmed in its own audit.[494]

Federal requirements for emergency response are set forth in 49 C.F.R § 192.615. Section 615 requires that each operator "shall establish written procedures to minimize the hazard resulting from a gas pipeline em ergency." The procedures must provide, "at a minimum," for certain items, including identification of events that require immediate action; communication and coordination with external emergency responders and public officials; prompt and effective respon se to an emergency; actions to protect people first, then property; emergency shutdown and pressure reduction; making safe any hazards; and safely restoring service. Additionally, operators are required to train appropriate personnel and review the training's effectiveness; review employee activities for effectiveness; and establish and maintain liaisons with appropriate external emergency responders and public officials. The Commission adopted these requirements in GO 112-E.

Commission staff regularly reviews PG&E's compliance with Section 615. CPSD's Utility Safety Reliability Branch audits the gas emergency plan through its annual review cycle,

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[490] Ex. PG&E-61, Ch. 4 App. A at 5 -6 (CPSD's 2009 Audit finding PG&E's emergency procedures and public awareness program procedures satisfactory); Ex. PG&E -61, Ch. 4 App. B at 5 -6 (CPSD's 2010 Audit of PG&E's Peninsula Division finding PG&E's emergency procedures and public awareness program procedures satisfactory).

[491] R.T. 443 (CPSD/Felts); Ex. CPSD-4 at 15 (CPSD/Felts).

[492] R.T. 443 (CPSD/Felts); Ex. CPSD -4 at 15 -16 (CPSD/Felts). In the San Bruno OII proceedings, CPSD also makes a llegations relating to this Violation and whether the plan was effective. CPSD cannot duplicate alleged violations in each proceeding.

[493] R.T. 443 (CPSD/Felts); Ex. CPSD-4 at 15-16 (CPSD/Felts).

[494] Ex. PG&E-61 at 4 -39 to 4 -56 (PG&E/Bull); Ex. PG& E-61, Ch. 4 App. A at 5 - 6 (CPSD's 2009 Audit finding PG&E's emergency procedures and public awareness program procedures satisfactory), Ex. PG&E -61, App. B at 5 - 6 (CPSD's 2010 Audit of PG&E's Peninsula Division finding PG&E's emergency procedures and publ ic awareness program procedures satisfactory).

and also conducts periodic audits of PG&E's divisions and districts.[495] In 2009 and 2010, CPSD audited PG&E's emergency response plan. In each audit, CPSD did not identify any deficiency with the plan, and did not find that it was "too difficult to use." In fact, CPSD found PG&E's plan "satisfactory."[496]

From March 2 to March 5, 2009, CPSD conducted an audit of PG&E's Operation, Maintenance and Emergency Plan.[497] In the audit, CPSD reviewed the emergency procedures per the individual subparts of Section 615 and found each of PG&E's corresponding procedures "Satisfactory."[498] In the 2010 audit of the Peninsula Divi sion, which covers the San Bruno area, CPSD found PG&E's emergency procedures for the Peninsula Division "Satisfactory" for each of the specific provisions of Section 615.[499] The CPSD audits did not raise any objections or concerns regarding the emergency p lan being "very complex," "difficult for personnel to implement," or "unwieldy," contrary to Ms. Felts' conclusions.[500] The audits did not point to any other factors regarding the plans' usability.[501] In addition, the audits noted that the plan was updated on a schedule in accordance with the regulatory requirements.[502]

On September 9, 2010, PG&E had in place a comprehensive emergency response plan comprising three main sources of procedures, the Company -wide Gas Emergency Plan, the Division Emergency Plans and the Gas Transmission & Distribution Emergency Plan Manual.[503] The emergency response plan materials were designed to be implemented by personnel trained

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[495] Ex. PG&E-61 at 4-36 (PG&E/Almario).

[496] Ex. PG&E-61, Ch. 4 App. A at 5 -6 (CPSD's 2009 Audit finding PG&E's emergency procedures and public awareness program procedures satisfactory); Ex. PG&E -61, Ch. 4 App. B at 5 -6 (CPSD's 2010 Audit of PG&E's Peninsula Division finding PG&E's emergency procedures and public awareness program procedures satisfactory).

[497] Ex. PG&E-61 at 4-36 (PG&E/Almario).

[498] Ex. PG&E-61, Ch. 4 App. A at 5 -6 (CPSD's 2009 Audit finding PG&E's e mergency procedures and public awareness program procedures satisfactory); Ex. PG&E-61 at 4-36 (PG&E/Almario).

[499] Ex. PG&E-61, Ch. 4 App. B at 5 -6 (CPSD's 2010 Audit of PG&E's Peninsula Division finding PG&E's emergency procedures and public awareness prog ram procedures satisfactory); Ex. PG&E-61 at 4 -36 to 4 -37 (PG&E/Almario).

[500] Ex. PG&E-61 at 4-37 (PG&E/Almario).

[501] Ex. PG&E-61 at 4-37 (PG&E/Almario).

[502] Ex. PG&E-61, Ch. 4 App. A at 5 -6, Cover Letter (CPSD's 2009 Audit finding PG&E's emergency procedures and public awareness program procedures satisfactory), Ex. PG&E-61, Ch. 4 App. B at 5 -6, Cover Letter (CPSD's 2010 Audit of PG&E's Peninsula Division finding PG&E's emergency procedures and public awareness program procedures satisfactory); Ex. PG&E-61 at 4-37 (PG&E/Almario).

[503] Ex. PG&E-61 at 4-35 (PG&E/Almario); Ex. PG&E-61 at 4-40 (PG&E/Bull).

on their use, and accordingly, contained significant portions devoted to training and assessment.[504]

David Bull, an expert on emergency response plans, reviewed PG&E's response plans. Mr. Bull has thirty-seven years of experience in the natural gas pipeline industry, including experience regarding regulatory compliance, emergency response and evaluation and development of operations, maintenance and emergency manuals.[505] Mr. Bull is also an Associate Staff member for the PHMSA Office of Training and Qualifications (T&Q) and has been conducting classes for T&Q since 1977.[506] Based on his review and analysis, Mr. Bull summarized his conclusion that PG&E's emergency plan is compliant with all applicable regulatory guidance, as follows:

> [T]he Plan meets all the requirements of the federal regulations in § 192.615. Part I, Basic Plan of the Company Plan meets all the required elements for a written emergency plan as defined in § 192.615(a) and required actions listed in § 192.615(b) and (c). It complies with the items listed in the PHMSA Enforcement Guidance and follows the compliance guidelines in the GPTC Guide for Emergency Plans. The Peninsula Division Emergency Plan and the GT&D Manual work in conjunction with the Company plan to support compliance. The Plan is organized in a functional manner such that trained employees are able to implement it.[507]

Ms. Felts conceded on cross-examination that PG&E's emergency plans meet regulatory criteria.[508]

> Q: In your rebuttal testimony, CPSD-4 at page 15, line 21, you acknowledge, quote: "PG&E points out that its gas emergency plan meets regulatory criteria."
>
> A: Yes.
>
> Q: You don't take issue with that, do you?
>
> A: No.[509]

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[504] Ex. PG&E-61 at 4-35 (PG&E/Almario).

[505] Ex. PG&E-61, Ch. 4, App. C at 4-39, (Curriculum Vitae of David E. Bull, ARM).

[506] Ex. PG&E-61 at 4-39 (PG&E/Bull); PG&E-61, Ch. 4 App. C at 2 (Curriculum Vitae of David E. Bull, ARM).

[507] Ex. PG&E-61 at 4-45 to 4-46 (PG&E/Bull).

[508] Ex. CPSD-4 at 15 (CPSD/Felts) ("PG&E points out that its Gas Emergency Plan meets regulatory criteria.").

[509] R.T. 443 (CPSD/Felts).

Although PG&E complied with the law, Ms. Felts claims that the plans were "too difficult to use."[510] This is not a legal standard. Moreover, Ms. Felts' testimony fails to support this contention. In fact, Ms. F elts' conclusion rests on her after -the-fact assessment of phone calls and transcripts[511] from September 9, 2010, and not on the contents of the plan itself:

> Q: And as I said, your conclusion is based on reviewing the actual response on September 9 after the fact and coming to the conclusion that the plan was difficult to use; correct?
>
> A: I came to the conclusion that there was a problem in implementing the plan. And I guess I can draw from there that it's too difficult to use.
>
> [...]
>
> Q: So again, you're looking not prospectively, not at the way the plan was devised before this incident but rather how you view the plan having been carried out during an actual emergency; correct?
>
> A: Yes.[512]

Ms. Felts formed this opinion even though she admits to not having co mplete information: Ms. Felts never received training on PG&E's emergency plan and she has never participated in a drill on PG&E's emergency response plan. [513] Finally, Ms. Felts conceded that no one at PG&E ever told her that the emergency plan was too difficult to use.[514]

Contrary to Ms. Felts' testimony, PG&E's expert witness on emergency response plans, Mr. Bull, concluded that the emergency response plans were not too difficult to use. The plan sets forth a functional organization that follows Section 61 5 and can be implemented by trained personnel.[515] The emergency plan was designed in a manner that trained personnel could and did

[510] R.T. 443 (CPSD/Felts); Ex. CPSD-4 at 15-16 (CPSD/Felts).
[511] R.T. 446 (CPSD/Felts).
[512] R.T. 446 (CPSD/Felts).
[513] R.T. 444-45 (CPSD/Felts).
[514] R.T. 445 (CPSD/Felts).
[515] Ex. PG&E-61 at 4-51 to 4-54 (PG&E/Bull).

implement the plan. [516] Mr. Bull also reviewed transcripts and accounts of the emergency response and concluded that PG&E's response was prompt and effective.[redacted]

Finally, Ms. Felts misconstrued the understandable level of intensity during the emergency on September 9, 2010, as a "problem" with the emergency plan. [518] Ms. Felts alleges that the transcript of the audio recording of the San Francisco gas control room during the San Bruno emergency demonstrated "confusion about the emergency response plan." [519] She bases her contention on the transcript excerpts she titles "Excerpt_ER_Confusion." [520] The transcripts show that operators understood Kirk Johnson was in charge as the incident commander of the Emergency Operations Center, the highest level response center. [521] Additionally, the excerpts show that the operators understood what response centers needed to be opened and what the purposes of those centers were. [522] While there was some interchange of the terms GRC (Gas Restoration Center) and PRC (Pipeline Restoration Center) that required explanation, the substitution was merely because the term GRC had changed to PRC; the operators and contacts understood what the GRC/PRC response center was and its purpose. [523] The excerpts do not show confusion – they show unscripted communications during a time of intense activity, communications in which Gas Control was supporting the activation of the emergency response centers required under the emergency plan. [524] A legal violation regarding emergency response plans cannot be based on mere after-the-fact criticisms that the emergency response could have been "better."

CPSD alleges this violation based on Ms. Felts' personal opinion that the emergency plan was "too difficult to use" – an opinion based on hindsight and formed without the benefit of any of the training or background provided to PG&E personnel. In light of PG&E's compliance with the regulatory framework specifically designed to address emergency plans, and on which PG&E

[516] Ex. PG&E-61 at 4 -54 (PG&E/Bull) [redacted].

[redacted].

[518] Ex. CPSD-4 at 17 (CPSD/Felts).

[519] Ex. CPSD-2 at 13 (CPSD/Felts).

[520] Ex. CPSD-2 at 13 n.56 (CPSD/Felts).

[521] Ex. PG&E-61 at 4-37 to 4-38 (PG&E/Almario); Ex. PG&E-61 at 4-54 to 4-55 (PG&E/Bull).

[522] Ex. PG&E-61 at 4-37 to 4-38 (PG&E/Almario); Ex. PG&E-61 at 4-54 to 4-55 (PG&E/Bull).

[523] Ex. PG&E-61 at 4-37 to 4-38 (PG&E/Almario); Ex. PG&E-61 at 4-54 to 4-55 (PG&E/Bull).

[524] Ex. PG&E-61 at 4-37 to 4-38 (PG&E/Almario); Ex. PG&E-61 at 4-54 to 4-55 (PG&E/Bull).

relied to formulate its emergency plan, Ms. Felts' subjective opinion does not support a violation.

11. Violation 11 : Incidents Of Operating Line 132 In Excess Of 390 Maximum Allowable Operating Pressure

CPSD alleges PG&E violated Section 451 by overpressure events on Line 132 on three separate days: December 11 , 2003, December 9, 2008 and September 9, 2010. [525] CPSD is wrong on both the facts and the law. First, CPSD's alleged violation rests on its erroneous contention that the MAOP for Line 132 from Milepost 35.84 to 46.59 (the San Francisco Division boundary t o Martin Station, including Segment 180) was 390 psig. As explained in detail in discussing Violation 4, *supra*, PG&E properly established and documented a 400 psig MAOP for Line 132 from mile points 0.00 to 46.59, and operating Line 132 above 390 psig is not a pressure excursion. Second, even if the MAOP of Line 132 had been 390 psig, Section 451 cannot be construed to prohibit sporadic transient overpressure events when federal regulations (incorporated by GO 112 -E) expressly authorize overpressure prote ction to be set at 10% over MAOP. Furthermore, the evidence shows that on the three days CPSD identifies, the pressure measured several miles upstream of milepost 35.84 (and Segment 180) did not exceed 386 psig – lower than both the actual 400 psig MAOP of Line 132 and the 390 psig MAOP CPSD claims.

a. Operating Line 132 Above 390 PSIG Is Not A Pressure Excursion

CPSD alleges that PG&E violated Section 451 by operating Line 132 in excess of 390 psig on three occasions: December 11, 2003, December 9, 2008 and September 9, 2010. [526] CPSD alleges that PG&E operated Line 132 "to 400 psig and held it at this level for 2 hours each time" in 2003 and 2008.[527] CPSD alleges that PG&E operated Line 132 "to at least 394 psig" on September 9, 2010. [528] As explained in more detail in response to Violation 4, *supra,* PG&E established the 400 psig MAOP for Line 132 using the highest pressure recorded on the line during the five -year period between J uly 1, 1965 and July 1, 1970 and in accordance with the

[525] Ex. CPSD-4 at 17 (CPSD/Felts); CPSD-15 at 6 (CPSD/Felts).
[526] *See, e.g.,* Ex. CPSD-4 at 17 (CPSD/Felts).
[527] Ex. CPSD-4 at 17 (CPSD/Felts).
[528] Ex. CPSD-4 at 17 (CPSD/Felts).

procedure outlined in the grandfather clause. PG&E was therefore authorized to operate Line 132 above 390 psig.

b. Section 451 Cannot Be Read To Punish Overpressure Events

As explained above in section III.B, Section 451 is not a catch-all regulatory provision. To stretch to make Section 451 applicable to these overpressure events contradicts other gas pipeline safety rules adopted by General Order 112-E. Under the federal regulations, pipeline operators are to operate their lines at or below pipeline MAOP. [529] However, the regulations contemplate that operators will experience excursions above MAOP from time to time. [530] The regulations require operators to set their overpressure protection so that the pressure does not exceed the MAOP plus 10 percent. [531] Moreover, they do not require operators to report these excursions unless the pressure exceeds 110% of MAOP.[532]

Assuming for the sake of argument that Section 451 applied, and that Line 132 had an MAOP of 390 psig, CPSD has not presented evidence that PG&E operated Line 132 above 390 psig from milepost 35.84 to 46.59 (including Segment 180) on any of the three days in question. Pressure data provided to the NTSB demonstrates that pressure measured at the Half Moon Bay tap (located at approximately milepost 30, several miles upstream from milepost 35.84) only reached 372.19 psig in 2003, and 376.46 psig in 2008. [redacted] Additionally, as explained in PG&E's response to Violation 9, *supra*, pressure at Segment 180 did not exceed 386 psig on September 9, 2010.[534] CPSD has presented no evidence that the section of pipeline from milepost 35.84 to milepost 46.59 experienced pressures above 390 psig on any of the three days in question.

12. Violation 12: Preservation Of Records Related To Brentwood Video Camera Six

CPSD alleges PG&E failed to attempt to preserve video from the Brentwood alternate gas control facility on September 9, 2010 in violation of paragraph 7 of Executive Director

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[529] 49 C.F.R. § 192.619(a).

[530] *See, e.g.,* 49 C.F.R. § 192.195 ("Protection against accidental overpressuring").

[531] 49 C.F.R. § 192.201(a)(2)(i) (requiring an operator to maintain pressure limiting equipment that limits pressure to 110% of MAOP or 75% SMYS, whichever is lower).

[532] 49 C.F.R. § 191.23(a)(5).

[redacted]

[534] Ex. PG&E-61 at 4-27 (PG&E/Slibsager and Kazimirsky).

Clanon's order to "[p]reserve all records related to the incident,"[535] as well as Commission Resolution L -403,[536] which c ontained language substantively the same as the preservation order.[537] Although PG&E initially provided an incorrect response to a data request, the fact is there never was any video to preserve, and CPSD failed to establish a violation.

The allegation rela tes to a security camera installed in May 2010 inside the Brentwood alternate gas control facility. PG&E had consolidated gas control operations in San Francisco, which resulted in the Brentwood facility being unoccupied most of the time.[538] The camera was intended to record only when motion activated, *i.e.*, upon unauthorized entry, and was otherwise limited to a live stream accessible from PG&E's Fairfield security facility.[539] The camera had no audio recording capability and no operational purpose. A still photo of the view from the camera demonstrated that the camera could not capture meaningful information about operations, *e.g.*, information that appeared on the gas control computer monitors.[540] In short, the security camera at the Brentwood facility prov ides no information other than possibly assisting in identifying the physical movements of operators; it provides no operational information that would have informed CPSD's investigation.

Regardless, even assuming the Brentwood video would have had some re levance in this proceeding, CPSD has not met its burden of proving the alleged violation. The camera in the Brentwood facility did not record video on September 9, 2010, thus there was no video for PG&E to preserve.[541] PG&E cannot have violated the Commiss ion's preservation order or Resolution L -403 by not preserving (or attempting to preserve) a video that never existed. Moreover, as Ms. Felts acknowledged, PG&E's General Counsel sent a thorough and unambiguous preservation notice to the entire company tw o days before the Executive Director's notice.[542] PG&E's preservation notice applied to all relevant paper and electronic documents,

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[535] Director Clanon's preservation order states in pertinent part: "Preserve all records related to the incident, including work at the Milpitas terminal during the month of September 2010. " Ex. PG&E-26 at 1; R.T. 243 (CPSD/Felts).

[536] Ex. PG&E-27 (Public Utilities Commission of the State Bar of California Resolution No. L -403, September 24, 2010).

[537] Ex. PG&E 27 at 12; R.T. 243-44 (CPSD/Felts); Ex. CPSD-3 at 11 (CPSD/Felts).

[538] R.T. 1510-11 (PG&E/Cochran); R.T. 1402 (PG&E/Seager).

[539] R.T. 1510-13, 1519 (PG&E/Cochran).

[540] R.T. 1511-13 (PG&E/Cochran); R.T. 1406, 1438 (PG&E/Seager).

[541] R.T. 1514-16 (PG&E/Cochran).

[542] R.T. 244 (CPSD/Felts).

and included an instruction to disable any automatic deletion of electronic files.[543] Ms. Felts stated that she had no critic ism of the internal PG&E preservation notice and that she believed it was consistent with the directive from Mr. Clanon and Resolution L-403.[544]

Ms. Felts alleges a time period for this violation, 2010 to 2012, that is unsupportable and improper. The record establishes that video from the Brentwood security camera for September 9, 2010 has never existed and never will exist. Nonetheless, Ms. Felts and CPSD advocate a continuing violation against PG&E until the non-existent video is produced. Ms. Felts testified:

> [Ms. Felts]: It's a continuing violation.
>
> Q: On what basis?
>
> A: Well, on the basis that a video hasn't surfaced yet.
>
> Q: So in your view, this will continue to be a violation until the video surfaces?
>
> A: Yes.[545]

As discussed *supra* at Section III.C, for a violation to be continuing, it must be one that may be remediated. A non-existent video recording cannot be created after the fact. By CPSD's reasoning, this violation will, therefore, continue in perpetuity. That, however, is not the law.

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

CPSD alleges PG&E violated Rule 1.1 of the Commission's Rules of Practice and Procedure by providing contradictory data responses regarding the video recording at the Brentwood alternate gas control facility.[546] PG&E acknowledges its original data response contained incorrect information. Upon discovering its mistake, PG&E provided an updated da ta response correcting the information. Under these facts, CPSD has not established that PG&E violated Rule 1.

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[543] Ex. PG&E-28 (Email dated September 11, 2010, URGENT: Document Retention Relating to 9/9/10 San Bruno Incident).

[544] R.T. 243, 248 (CPSD/Felts).

[545] R.T. 314 (CPSD/Felts).

[546] Ex. CPSD-3 at 1-5, 11 (CPSD/Felts).

PG&E provided the original data response [547] to CPSD on October 10, 2011. PG&E provided in that response the facts it thought to be true at that time:

> Video cameras are installed at the Brentwood facility to monitor security system activation events. Video is recorded and retained on digital video recorder until it is automatically overwritten when the disk array becomes full which occurs approxima tely -- which occurs after approximately 60 days. The video recording from the Brentwood facility for September 9 and 10 was overwritten in this manner.[548]

As it turned out, that response was not entirely correct, as PG&E learned some months later. Thus, on March 9, 2012, PG&E provided a revised data response[549] that detailed new facts PG&E had become aware of, namely, that video from the Brentwood security camera had not been recorded on September 9, 2010. PG&E corrected its response from (paraphrasing) "th e video does not exist because it was overwritten," to "the video does not exist because it never recorded."

CPSD has not established that PG&E violated Rule 1.1 with these data responses for two reasons. First, CPSD was never misled with respect to the c entral fact in the data response – that the video did not exist. Both responses informed CPSD that the video did not exist; the difference between the responses lay in why the video did not exist. [550] That there was no video from the Brentwood facility for September 9, 2010 was an accurate statement at all times.

Second, PG&E had no intention of misleading the Commission with either data response, and did not know it had provided incorrect information until an unrelated inquiry resulted in the discovery of additional information. As explained by Kerry Cochran, a PG&E corporate security supervisor, when CPSD first requested the video from the Brentwood alternate gas control room from September 9, 2010, Mr. Cochran reviewed the digital video recorder remotely and determined that there was no video for September 9, 2010. [551] Having found no recording from September 9, 2010, and because the data request came approximately a year after that date, Mr. Cochran presumed, erroneously as it turned out, that the video fro m that day had been overwritten, which occurred in the normal course on all video recording devices (183 throughout

[547] Ex. PG&E-67 (Tab 5-8); Ex. PG&E-61 at 5-3 (PG&E/Seager).

[548] Ex. CPSD-3 at 2 (CPSD/Felts); R.T. 204 (CPSD/Felts).

[549] Ex. PG&E-67 (Tab 5-9).

[550] R.T. 233-34 (CPSD/Felts).

[551] R.T. 1514-15 (PG&E/Cochran).

the system[552]) in approximately 30 -60 days.[553] Mr. Cochran further testified that a subsequent, more technical data request regarding the security camera's programming led him to discover that there had been a programming error when the camera was installed and that, while a live feed from the Brentwood facility was available, video from the camera inside the facility had never recorded.[554]

When PG&E learned the correct information – that the video did not exist because it had not been recorded – PG&E self-disclosed its error and provided CPSD with an updated data request response with the correct information. These facts, which are undisputed, demonstrate that PG&E's mistake was unknowing and unintentional, and that it corrected the information upon realizing its error. The Commission has repeatedly held that Rule 1 violations require a showing of purposeful intent, recklessness or gross negligence in regard to communications with the Commission.[555] Ms. Felts conceded during testimony that she is not claiming that either of PG&E's data responses was an intentional misstatement:

> Q: So I guess the question is, are you claiming either or both of these is an intentional misstatement?
>
> A: I think that's unnecessary in this particular instance.
>
> Q: So you're not making that claim?
>
> A: Right.

The record demonstrates that CPSD has not, and cannot, prove the required mental state to establish a violation with regard to PG&E's Brentwood security camera data responses. CPSD has failed to meet its burden and this alleged violation cannot stand.[556]

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[552] R.T. 1531 (PG&E/Cochran).

[553] R.T. 1515, 1527 (PG&E/Cochran).

[554] R.T. 1515 (PG&E/Cochran).

[555] *S. Cal. Edison*, 2004 Cal. PUC LEXIS 207, at *17; *Application of Pac. Fiber Link, LLC*, D.02-08-063, 2002 Cal. PUC LEXIS 533.

[556] Ms. Felts takes the position that the Commission should find that both PG&E data responses are false and constitute Rule 1 violations. *See* R.T. 256 (CPSD/Felts) ("Q: Okay. So in the absence of being able to determine which one is true, you are asking the Commission to find that both of them are false? A: Yes.).

14. Violation 14 : PG&E's Data Responses Regarding Personnel At Milpitas Terminal On September 9, 2010

CPSD alleges PG&E violated Rule 1.1 by failing in two data responses to "identify all the people in Milpitas handling the pressure problem on September 9, 2 010."[557] CPSD asserts that PG&E "omitted the Supervisor for the Milpitas Terminal" who "was present after 5 PM at the Milpitas Terminal."[558] The record does not substantiate this alleged violation. Neither of the data requests on which CPSD bases this viola tion asked PG&E to identify "the people in Milpitas handling the pressure problem on September 9, 2010" or who were "present after 5 PM at the Milpitas Terminal." In short, the alleged violation is based on PG&E's failure to answer a question that was not asked.[559]

The first data request [560] asked in Question 8d, "For all diagrams identified above [GIS and SCADA diagrams of Milpitas Terminal], state whether personnel at the Milpitas Terminal had access to those diagrams on September 9, 2010. Identify the personnel who had that access." Ques tions 8a, 8b and 8c in the same data request asked about the Milpitas Terminal diagrams and drawings that were available to gas system operators on GIS and SCADA on September 9, 2010 (8a and 8b), and whether those diagrams/drawings had been revised since September 9, 2010 (8c). [561] Question 8d asked whether the field personnel at Milpitas Terminal also had access to those drawings and diagrams. The clear import of this series of questions was whether or not the personnel who were attempting to address the is sues that were occurring at Milpitas Terminal (Gas Control and the field crew) had access to drawings and diagrams that might aid their efforts, and whether or not those documents were accurate.

Consistent with the call of the question, PG&E understood CPSD to be asking PG&E to identify the personnel on the field crew who were involved in responding to the power and pressure issues at Milpitas Terminal and for whom access to the drawings and diagrams (on

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[557] Ex. CPSD-3 at 8, 12 (CPSD/Felts).

[558] Ex. CPSD-3 at 8 (CPSD/Felts). CPSD states: "PG&E identified three employees who were present on the evening of September 9, 2010 (after 5 PM when problems at the Terminal arose), but omitted the Supervisor from the Milpitas Terminal. According to the SF Control Room Transcript, the Supervisor was present after 5 PM at the Milpitas Terminal."

[559] PG&E did identify the Milpitas Terminal supervisor in response to one of the data requests. Ex. PG&E-67 (Tab 5-14).

[560] Ex. PG&E-67 (Tab 5-13).

[561] Ex. PG&E-67 (Tab 5-13).

which the entire series of questions was focused) would be relevant.[562] PG&E's response identified three individuals.[563] Correspondingly, and again consistent with the call of the question, PG&E did not identify other personnel working out of Milpitas Terminal on September 9, 2010 who were not involved in t he work related to the events on September 9, 2010 (but who would have had access to the database on which drawings and diagrams are stored).[564]

The second data request on which CPSD bases this violation[565] asked PG&E to "[p]rovide the names of the maintenance personnel and the maintenance supervisor who were headquartered at the Milpitas Terminal on September 2010. Specify the hours each person identified was present at the Milpitas Terminal on September 9, 2010 and summarize the work that person performed du ring that time."[566] PG&E appropriately understood this question to be asking about all of the personnel who were assigned to ("headquartered at") Milpitas Terminal on September 9, 2010, whether or not they were involved in the power and pressure issues. PG&E provided the time cards for all five line employees who were headquartered at Milpitas Terminal on September 9, 2010, and these time cards listed the hours the employees worked and briefly described the work in which they were engaged.[567] PG&E also ident ified the acting Supervisor for Milpitas Terminal, and provided the hours and a description of the work he performed during his scheduled shift (7:30 a.m. to 4:30 p.m.) on September 9, 2010.[568] PG&E stated:

> [NAME] was the acting supervisor at Milpitas Termi nal on September 9, 2010. He was present at Milpitas Terminal from approximately 7:30 a.m. to 11:30 a.m., at which time he went to PG&E's Hollister station until leaving for the day at approximately 4:30 p.m. Mr. [NAME] performed general supervisory and management administrative tasks during that time at both locations.[569]

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[562] In fact, CPSD alleged Violation No. 7 is based on this same data response and asserts that th e drawings and diagrams of Milpitas Terminal were not accurate, and that, therefore, the field crew did not have accurate drawings when attempting to address the power and pressure issues. Ex. CPSD-3 at 11, n.28 (CPSD/Felts); Ex. CPSD-2 at 9-10 (CPSD/Felts). PG&E's understanding of the call of these questions was accurate.

[563] Ex. PG&E-67 (Tab 5-13).

[564] Ex. PG&E-67 (Tab 5-13).

[565] Ex. PG&E-67 (Tab 5-14).

[566] Ex. PG&E-67 (Tab 5-14) (emphasis added).

[567] Ex. PG&E-67 (Tab 5-14).

[568] Ex. PG&E-67 (Tab 5-14).

[569] Ex. PG&E-67 (Tab 5-14).

CPSD contends that PG&E violated Rule 1 because PG&E did not include in this second data response a statement that the acting supervisor at Milpitas Terminal returned to Milpitas Terminal, after his scheduled shift had ended, when he was informed of the Line 132 rupture. [570] 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 (as did many other off-duty PG&E personnel).

However, given that neither of the data requests asked PG&E to identify all personnel who were present at Milpitas Terminal after the rupture, or "after 5 PM," but asked different questions that PG&E reasonably understood to call for the responses it provided, the record does not support the alleged Rule 1 violation. PG&E provided good faith and complete responses to the questions it understood CPSD to be asking. PG&E did not attempt or intend to "mislead the Commission or its staff by an artifice or false statement of fact or law." [571] CPSD has not even approached establishing that PG&E acted with purposeful intent, recklessness or gross negligence, as required for Rule 1 violations.[572] The record cannot support this alleged violation.

15. Violation 15: WITHDRAWN

B. Alleged General Records Violations For All Transmission Lines Including Line 132

1. Violation 16: Job Files

CPSD alleges that since 1987 PG&E's job files were missing and disorganized, in violation of Section 451, ASME B31.8 and PG&E's records retention polices. [573] CPSD, however, has not established that any of PG&E's job files are in fact "missing," or that the organizational structure of PG&E's job files constitutes a violation of law. Because these allegations lack any legitimate factual or legal basis, they cannot support a violation of law.

CPSD failed to specify any "missing" job files in support of this allegation. Instead, CPSD's Violation 16 is based on an unsupported and erroneous factual inference. Ms. Felts identifies sequence gaps in job numbering, and infers that these gaps evidence "missing" gas

[570] Ex. CPSD-3 at 8 (CPSD/Felts).

[571] *See* Commission Rules of Practice and Procedure, Rule 1.1.

[572] *S. Cal. Edison*, 2004 Cal. PUC LEXIS 207, at *17; *Application of Pac. Fiber Link, LLC*, 2002 Cal. PUC LEXIS 533.

[573] Ex. CPSD-3 at 12 (CPSD/Felts); Ex. CPSD-15 (Violation 16) (CPSD/Felts).

transmission job files. [574] As Mr. Harrison's testimony shows, however, PG&E issues job numbers across the utility; this includes jobs for Gas Distribution, Hydro, Electric Distribution and Transmission, vehicle purchases, as well as all lines of business. [575] Gaps between one gas transmission job number and another may reflect intervening gas distribution, electric, hydro and other projects – not missing gas transmission jobs.[576] CPSD has not introduced any evidence – as opposed to Ms. Felts' inference – to support its allegation that PG&E is missing job files. Thus there is no basis on which to conclude that CPSD has sustained its burden of proving this alleged violation.

As PG&E expert witness Maura Dunn testified, throughout the history of records management, there has always been an advantage to storing information near where it is created and used. [577] Thus, for approximately 50 years PG&E has taken a decentralized approach to records management, dispersing recordkeeping respo nsibility to the personnel who make use of the documents. [578] Indeed, decentralization and some measure of duplication of records have historically been necessary to effectively and safely manage PG&E's extensive natural gas system.[579] Because hard copy recor ds had to be physically transferred from one location to another, distributing several sets of key records was an efficient and effective solution to the problem of sharing critical information across the company's large geographic footprint.[580]

This decent ralized approach to records management bore particular logic as applied to PG&E's job files. As PG&E engineer Brian Daubin testified, "a multitude" of parties within PG&E may consult job files in the course of their duties. [581] These individuals include pro ject managers, project engineers, field and maintenance personnel, integrity management personnel, design, drafting and estimating personnel and mapping personnel. [582] Each individual may reside in a different physical location across PG& E's 70,000 square mile service territory. [583] It is

[574] Ex. CPSD-2 at 32 (CPSD/Felts) (citing Ex. CPSD-6 (CPSD/Duller and North)).
[575] Ex. PG&E-61 at 3-37 (PG&E/Harrison).
[576] Ex. PG&E-61 at 3-37 (PG&E/Harrison).
[577] Ex. PG&E-62 at MD-24 (PG&E/Dunn).
[578] Ex. PG&E-62 at MD-16 (PG&E/Dunn).
[579] Ex. PG&E-62 at MD-22 (PG&E/Dunn).
[580] Ex. PG&E-62 at MD-22 (PG&E/Dunn).
[581] R.T. 2222 (PG&E/Daubin).
[582] R.T. 2222 (PG&E/Daubin).
[583] Ex. PG&E-61 at 3-38 (PG&E/Harrison).

therefore not only understandable but logical that PG&E's job files were dispersed and at least partially duplicative given limited technology, emerging needs, functional distinctions between divisions and districts and the size of PG&E's service territory. Drawings and other documents from job files were copied and distributed to the personnel who needed to make use of them.[584] Some pipeline projects – and thus the job files associated with them – spanned years or even decades.[585] Thus, as Ms. Dunn concluded, "[m]aking and distributing copies was really the only feasible option at the time."[586]

The evidentiary record contains no support, beyond Ms. Felts' impression, for the allegation that PG&E's job files are organized in an unsafe or inaccessible fashion. Ms. Felts and CPSD have failed to identify any individual within PG&E who supports the allegations regarding the organization of the company's job files:

> Q: Am I correct that nobody from PG&E told you from the standpoint of their use of job files, they were disorganized and unsafe? Is that right?
>
> A: Nobody has personally told me that.[587]

Indeed, PG&E pipeline engineer Todd Arnett, called by CPSD, 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 experience."[588] Similarly, David Harrison testified 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."[589] Mr. Harrison elaborated:

> And then the job files, I've been in probably 10 to 12 mapping offices and I've never seen one that was organized differently. And that is that the GM numbers are basi cally in a series of file cabinets, sometimes drawers, sometimes lateral files depending on the years of it, and then the service orders are tracked by wall map, plat and block. . . . It's very well understood by the PG&E people

[584] Ex. PG&E-62 at MD-23 (PG&E/Dunn).
[585] Ex. PG&E-62 at MD-23 (PG&E/Dunn).
[586] Ex. PG&E-62 at MD-21 (PG&E/Dunn).
[587] R.T. 318 (CPSD/Felts).
[588] R.T. 1863 (PG&E/Arnett).
[589] Joint R.T. 282 (PG&E/Harrison).

> that need access to the fi les how to look them up, where to find them, and it's a pretty straightforward process.[590]

In summary, CPSD failed to meet its burden of establishing with credible evidence that PG&E is missing job files or that the organizational structure of PG&E's job fil es constitutes a violation of law.

Even if CPSD had met its evidentiary burden of establishing a violation relating to PG&E's job files, CPSD's assertion that Violation 16 constitutes a continuing violation suffers from the defects discussed in Section III .C, *supra*. Ms. Felts acknowledged in live testimony that she has no proof of the purported start date of this violation:

> Q: Is the 1987 start date here – is that for missing job files or disorganized job files or both?
>
> A: I think it's both, and I've picked the 1987 date because that's the only date that we have in the recordkeeping history where we can see that PG&E purposely discontinued keeping records of this type, which was the pipeline history files. And in my review of the records, it appeared th at it's the mid to late '80s when files started to sort of become disorganized and disappear. ***But I don't have any proof of that.***[591]

This frank concession by Ms. Felts demonstrates CPSD cannot meet its burden of proving the start date of this purported c ontinuing violation. CPSD similarly failed to produce any evidence to support the end date of this purported continuing violation. As Ms. Felts testified, she supplied the start date for the violation, but the CPSD lawyers supplied the end date. Subsequently, and as discussed above, the ALJ correctly struck the end dates from CPSD's testimony.[592] Thus, CPSD has introduced into the record no evidence establishing the duration of any purported violation of law based on PG&E's job files.

Moreover, CPSD's all egations here lack any principled basis by which to allege a continuing violation. Ms. Felts asserted during cross -examination that Violation 16 is a continuing violation because "the records are still missing" [593] and argued that this purported violation wo uld continue until the records are located or until PG&E replaces the relevant

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[590] Joint R.T. 283-84 (PG&E/Harrison).

[591] R.T. 320 (CPSD/Felts) (emphasis added).

[592] R.T. 276-77 (ALJ Yip-Kikugawa).

[593] R.T. 322 (CPSD/Felts).

portion of pipe.[594] Given that Ms. Felts is unable to articulate which records are missing, PG&E has no reasonable opportunity to cure this purported violation by either means ad vocated by Ms. Felts.

2. Violation 17: Pipeline History Records

CPSD asserts that PG&E's inability to locate "Pipeline History Files" violates Section 451, ASME § B31.8 and PG&E's internal guidance requiring retention of engineering records.[595] However, CPSD has not shown any legal requirement that PG&E maintain its pipeline history files. And the record demonstrates that PG&E has retained the underlying pipeline data contained in these files. CPSD has not met its burden of proving this violation.

With the exception of Section 451 and ASME B31.8, the applicability of which is discussed in Section III.B., *supra,* this allegation rests exclusively on a long -rescinded internal PG&E standard. PG&E created the Pipeline History Files that Ms. Felts describes pursuant to former Standard Practice 463.7. [596] Ms. Felts accurately states that SP 463.7 required that the Pipeline History Files be maintained for the "life of the facility." [597] However, that requirement arose by operation of SP 463.7, not by operation of law – and Ms. Felts does not claim otherwise. Former SP 463.7 appears to have taken effect in 1969 and to have been operative until no later than October 1987.[598] When PG&E rescinded SP 463.7, PG&E repealed its "life of the facility" requirement along with it. [599] Once SP 463.7 was rescinded, the Divisions, Departments and Manager of Gas System Design still would have been in possession of secondary sources of information and copies of original documents found elsewhere, such as in job files.[600] At that point, SP 463.7 documents would have been subject to disposal under the Company's records retention standards. [601] CPSD presented no basis on which to conclude that PG&E was required to retain its pipeline history files after SP 463.7 was rescinded.

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[594] R.T. 323 (CPSD/Felts).
[595] Ex. CPSD-3 at 12 (CPSD/Felts); Ex. CPSD-15 (Violation 17) (CPSD/Felts).
[596] Ex. PG&E-61 at 2-19 (PG&E/Phillips).
[597] Ex. PG&E-61 at 2-21 (PG&E/Phillips).
[598] Ex. PG&E-61 at 2-21 (PG&E/Phillips).
[599] Ex. PG&E-61 at 2-21 (PG&E/Phillips).
[600] R.T. 1115-16 (PG&E/Phillips).
[601] Ex. PG&E-61 at 2-21 to 2-22 (PG&E/Phillips).

SP 463.7 addressed the subject: "Pipeline History Files, Establishing and Maintaining."[602] The standard was meant to provide "a current and uniform history record of pipelines (and mains) that have a Maximum Allowable Operating Pressure (MAOP) resulting in a hoop stress equal to or greater than 20% of the Specified Minimum Yield Strength (SMYS)."[603] In its original iteration, SP 463.7 gave responsibility for establishing and maintaining Pipeline History Files to supervisors in Division offices and to the Pipeline Operations Department, a predecessor organizational structure to PG&E's current gas transmission Districts.[604] The Supplement to SP 463.7 described the data that the history file should include.[605]

Available versions of SP 463.7 suggest that the standard imposed two reporting requirements on each responsible Division or Department. The first required the Division or Department to submit to the Manager of Gas System Design a completed initial copy of the 8 - letter size form entitled "Pipeline Survey" and to annually submit updated "Pipeline Survey" Sheets.[606] It imposed the further obligation on Divisions to submit annually to the Manager of Gas Distribution, a completed copy of Form 75 -352 "Annual Report for Pipeline and Mains Operating At or Over 20% SMYS" for each pipeline and main covered by the standard.[607] The form (Exhibit A to SP 463.7) is identified as a GO 112 -B form, indicating that it was an annual report then required under GO 112-B.[608] As for recordkeeping, SP 463.7 required that "[h]istory 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."[609]

The "Pipeline Survey Sheets" – a main output of the SP 463.7 standard – contained a summary of data about the pipeline reduced to a single sheet of paper.[610] The Pipeline Survey

[602] Ex. PG&E-61 at 2-19 (PG&E/Phillips).
[603] Ex. PG&E-61 at 2-19 to 2-20 (PG&E/Phillips).
[604] Ex. PG&E-61 at 2-20 (PG&E/Phillips).
[605] Ex. PG&E-61 at 2-20 (PG&E/Phillips).
[606] Ex. PG&E-61 at 2-20 (PG&E/Phillips).
[607] Ex. PG&E-61 at 2-20 (PG&E/Phillips).
[608] Ex. PG&E-61 at 2-20 (PG&E/Phillips).
[609] Ex. PG&E-61 at 2-20 to 2-21 (PG&E/Phillips).
[610] Ex. PG&E-61 at 2-21 (PG&E/Phillips).

Sheets were retained even after SP 463.7 was rescinded.[611] SP 463.7 also required the Divisions to keep in the Pipeline History Files selected documents relating to the numbered transmission lines, but these documents were themselves copies of underlying documents, as SP 463.7 makes clear.[612] SP 463.7 speaks in terms of those document files as being cross-referenced to "other permanent files, such as GM or Work Order Files."[613] Accordingly, 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.

3. Violation 18: Design And Pressure Test Records

CPSD alleges design and pressure test records are missing in continuous violation of Section 451 (and its predecessor provision) beginning in 1930 as well as violations of ASME B31.8, GO 112, 112-A, 112-B and PG&E's records retention polices.[614] CPSD failed to introduce facts sufficient to establish a violation of law due to missing post-installation design and strength test pressure records.

As a preliminary matter, CPSD's purported 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.[615] On cross-examination, CPSD witness Julie Halligan acknowledged historical industry practices with respect to maintenance of design and pressure test records (and the conduct of pressure tests themselves) are relevant to a determination of whether PG&E is guilty of this violation.[616] As discussed by Messrs. Howe and Zurcher, consideration of PG&E's recordkeeping in the context of such a historical perspective reveals that the problem of missing or incomplete pipeline records, particularly for vintage pipelines, is an industry-wide phenomenon by no means confined to PG&E.[617] Mr. Zurcher, who testified to personal experience with "probably approaching a hundred different operators across the U.S." summarized the industry reality as

[611] Ex. PG&E-61 at 2-22 (PG&E/Phillips).

[612] Ex. PG&E-61 at 2-21 (PG&E/Phillips).

[613] Ex. PG&E-61 at 2-21 (PG&E/Phillips).

[614] Ex. CPSD-3 at 12 (CPSD/Felts); Ex. CPSD-15 (Violation 17) (CPSD/Felts).

[615] Ex. PG&E-61 at 1-12 to 1-14 (PG&E/Howe).

[616] R.T. 100-01 (CPSD/Halligan).

[617] Ex. PG&E-61 at 3-6 to 3-8 (PG&E/Zurcher); Ex. PG&E-61 at 1-12 to 1-15 (PG&E/Howe) ("As operators have begun their search for records in order to comply with the concept of 'traceable, verifiable, and complete,' more and more have found that they may not have complete historical or verifiable records.").

follows: "[i]t is a known fac t that records get lost. I know of no one that's ever been cited for a lost record … I can tell you a thousand stories about lost records. It is very, very common." [618] Mr. Howe presented correspondence and commentary from industry participants (includin g but by no means limited to other California gas transmission operators) discussing various challenges with gas transmission records, particularly for older pipelines.[619]

CPSD's purported Violation 18 also suffers from the inadequate proof of dates detailed in Section IV.A, *supra*. Ms. Felts acknowledged on cross -examination that she selected the 1930 start date of this violation for no better reason than that this date represented "when [PG&E's] major pipeline system was installed." [620] However, as Ms. Felts also acknowledged, she has no factual basis by which to conclude whether and to what extent PG&E's records are indeed missing:

> Q: And have you actually yourself verified that there are any design or pressure test records missing from 1930?
>
> A: I've looked at projects from the full range of PG&E's pipeline system. I haven't looked at all of the records, but I believe I've looked at enough of them to say that there are missing records from the early years in 1930 on.
>
> Q: Can you identify for us the job files from 1930 in which you found missing records?
>
> A: I can't as I'm sitting here today. I might be able to if I go back and look through notes.[621]

With the exception of Exhibit CPSD-13 (characterized by Ms. Felts as a record of a 1929 project that "demonstrates the type of thing that I was seeing"), Ms. Felts was unable to produce or cite to any evidence of missing records to substantiate the 1930 start date of this purported violation.[622] CPSD bears the burden of proof of the existence and number of violations it alleges. Ms. Felts' general observations, unsupported by any specific evidence in the record, provide an inadequate and legally insufficient basis to find any violation of law, much less a

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[618] Joint R.T. 707 -11 (PG&E/Zurcher). Mr. Zurcher further narrated several examples from his own professional experience.

[619] Ex. PG&E-61 at 1-12 to 1-14 (PG&E/Howe).

[620] R.T. 324 (CPSD/Felts).

[621] R.T. 324-25 (CPSD/Felts).

[622] R.T. 518 (CPSD/Felts).

continuing violation dating decades into the past. *See* Pub. Util. Code § 1757(a)(4) (Commission findings must be supported by substantial evidence in light of the whole record). CPSD's failure to introduce credible evidence of this purported violation and the impossibility of curing or otherwise ending such a violat ion further demonstrate the impropriety of CPSD's assertion that Violation 18 constitutes a continuing violation.

4. Violation 19: Weld Maps And Weld Inspection Records

There is no regulatory requirement to maintain weld maps and weld inspection records.[623] There is no requirement retain x -ray film depicting girth welds. [624] Nonetheless, CPSD alleges that since 1930 PG&E failed to maintain all weld maps and weld inspection records in viol ation of Section 451, 49 C.F.R. §§ 192.241, 192.243, Article II Section 13(b), GO 112, 112 -A, 112-B and ASME B31.8.[625] For the reasons explained below, the allegation fails.

CPSD has not identified any specific legal or regulatory requirement that operators maintain weld maps, nor is industry expert Mr. Zurcher aware of any such requirements based on his extensive experience. [626] Instead, Ms. Felts' assertions regarding the "importance" of these documents are based on her unsubstantiated assumption th at such records would "normally be a source of key pipeline data for the integrity management risk assessment model" and "would provide invaluable information to PG&E in its current efforts to locate and evaluate welds." [627] Ms. Felts includes in her report a sample weld map, but fails to provide any description or indication of how PG&E would use such a document in its integrity management program. [628] Indeed, during cross -examination, Ms. Felts was generally unable to demonstrate the utility of her own sample weld map.[629] It is perhaps because of their limited value that weld maps are not identified in 49 C.F.R. Part 192 as a record type that must be created, reviewed or retained as part of any construction, maintenance or integrity management process. As Mr. Zurcher testified

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[623] Ex. PG&E-61 at 3-11 to 3-12 (PG&E/Zurcher).

[624] Ex PG&E-61 at 3 -12 (PG&E/Zurcher); Ex. Joint PG&E -37 at 2 -3 (1983 Part 195 Final rule re: Radiography); Joint R.T. 856 -61 (PG&E/Zurcher) ("I know of no one that keeps those kind s of records. It is not required in the regulations, in my opinion, nor in their opinion.").

[625] Ex. CPSD-3 at 13 (CPSD/Felts).

[626] Ex PG&E-61 at 3-11 (PG&E/Zurcher).

[627] Ex. CPSD-2 at 35 (CPSD/Felts).

[628] Ex. CPSD-2 at 35, fig.4 (CPSD/Felts).

[629] R.T. 402-04 (CPSD/Felts).

for integrity management purposes, operators use information or conservative assumptions regarding the vintage and method of welding employed on their pipelines.[630]

In any case, CPSD has not proven its allegations regarding PG&E's purported failure to retain weld inspection records. CPSD policy witness Julie Halligan deferred to Ms. Felts on all substantive questions relating to this purported violation.[631] Ms. Felts, in turn, acknowledged during cross-examination that she may in fact have m istakenly concluded that inspection records were "missing" when in fact the inspection in question was cancelled or postponed:

> Q: Now, you also as part of this say Weld Maps and Weld Inspection Reports Incomplete. What does that mean?
>
> A: There are – primarily it is weld inspection reports that were found in the – in PG&E's records that look like they were the reports that were created for a field, or doing a field inspection where the list of welds was identified on a form, but the form was not completed with the results of the inspection.
>
> Q: And in the case of these forms that you found that looked like they were prepared for an inspection but not completed, do you know whether that inspection may have been canceled or postponed?
>
> A: No.[632]

Ms. Felts furt her conceded that she could not identify any specific weld records that were missing or incomplete:

> And I can also tell you that today the files that I had viewed that were incomplete were in what was called non -pipeline feature list categories in the EC TS database. And it was at a time I was just noting that they were incomplete, and not keeping track of what projects they were on, or where they were in the database since it was non -PFL documents. I've since gone back and tried, in a couple of instance s, to find them. But due to additional scanning on the projects, the number of non -PFL pages in those projects has become so large that I don't have the time to find them again.[633]

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[630] Ex. PG&E-61 at 3-12 (PG&E/Zurcher).

[631] R.T. 103-04, 137 (CPSD/Halligan).

[632] R.T. 331-32 (CPSD/Felts).

[633] R.T. 332 (CPSD/Felts).

These concessions by Ms. Felts demonstrate that there is no credible basis f or the allegations concerning weld maps and weld inspection records. In fact, PG&E produced several thousand weld inspection reports in response to Paragraph Seven of the Commission's OII directives.[634] Thus, contrary to Ms. Felts' conclusions that "few we ld records can be found in PG&E job files,"[635] PG&E has shown that the company's practice has been to retain these types of records. Absent specific evidence to the contrary – of which CPSD has introduced none – there is no basis on which to find a violati on of law arising from PG&E's maintenance of weld inspection records.

Even if CPSD could muster facts to prove there are "missing" weld maps and weld inspection records, CPSD's allegations fail to establish a continuing violation. Ms. Felts has asserted that the violation continues until any missing records are found or the pipe to which they relate is replaced. [636] As with its other purported continuing violations, CPSD has failed to introduce evidence of a start or end date for Violation 19. In fact, Ms. Felts conceded during cross examination that, despite having alleged a continuing violation from 1930, she had no information as to when, if ever, it became an industry practice to create weld maps, much less retain them in perpetuity.[637]

5. Violation 20: Operating Pressure Records

CPSD alleges a continuing violation of Section 451 (and its predecessor provision) beginning in 1930 as well as violations of ASME B31.8, GO 112, 112 -A, 112-B and PG&E 's record retention polices based on PG&E's purported failure to retain complete and accessible operating pressure records. [638] Ms. Felts makes two identifiable claims regarding PG&E's operating history data. First, she claims that because PG&E does not mai ntain operating pressure history for the life of the plant, it cannot give an accurate accounting of pressure excursions above MAOP for any pipeline in the system. [639] Second, Ms. Felts claims that PG&E lacks an unspecified type of historic operating pressur e record needed for integrity management

[634] Ex. PG&E-61 at 3-56 (PG&E/Keas).
[635] Ex. CPSD-2 at 34 (CPSD/Felts).
[636] R.T. 331 (CPSD/Felts).
[637] R.T. 402 (CPSD/Felts).
[638] Ex. CPSD-3 at 13 (CPSD/Felts); Ex. CPSD-15 (Violation 20) (CPSD/Felts).
[639] Ex. CPSD-2 at 38 (CPSD/Felts).

purposes.[640] As discussed below, Ms. Felts does not provide an adequate legal or factual basis to support CPSD's allegations.

Ms. Felts' claim that the lack of complete operational pressure history for all pipelines in PG&E's system (even those built decades before the 2004 implementation of the integrity management rules) constitutes a violation of law finds no support in the regulations. Ms. Felts said she would expect to "see logs that summarize the history, the m aximums and minimums, over periods of time," but did not identify any regulation or statute that requires operators to maintain such records.[641] Ms. Felts further conceded on cross -examination that she is unaware of any operator in the industry that maintai ns operating pressure records dating to the 1930s or 1940s, the purported start date of this violation.[642] Industry expert Mr. Zurcher testified that in his extensive experience he is unaware of any general requirement that operators maintain such records.[643] As Mr. Zurcher explained, operators are not required to maintain records of overpressure events on transmission lines unless such events exceeded 110% of MAOP or 75% of SMYS.[644] In fact, to the extent specific records retention guidance has existed, it has generally treated pressure recording instrument charts as subject to finite retention periods.[645]

On cross-examination, Ms. Felts could not identify any use of pressure histor y records other than for integrity management purposes.[646] Implementation of the integrity management rules in 2004 created a new set of considerations for pressure history record retention. CPSD has introduced no evidence indicating that PG&E lacked opera ting pressure records dating from 2004, when operators were required to implement Integrity Management programs. 49 C.F.R. § 192.917(e)(3)-(4) requires operators to prioritize for assessment pipe segments with certain specified characteristics whose opera ting pressure increases above the maximum operating pressure experienced in the five years preceding the date the segment was identified as an HCA segment.[647] Since the rules relating to HCA identification required operators to identify all high

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[640] Ex. CPSD-2 at 38 (CPSD/Felts).

[641] R.T. 339 (CPSD/Felts).

[642] R.T. 343-44 (CPSD/Felts).

[643] Ex. PG&E-61 at 3-11 (PG&E/Zurcher).

[644] Ex. PG&E-61 at 3-11 (PG&E/Zurcher).

[645] *See, e.g.* 18 C.F.R § 225.3 (specifying the retention period for gas transmission and distribution Recording Instrument Charts, such as pressure).

[646] R.T. 339-40 (CPSD/Felts).

[647] 49 C.F.R. § 192.917.

consequence areas by December 17, 2004, this means that the five -year period of relevant operating pressure history extends back to December 17, 1999.[648] As PG&E has previously acknowledged, the company inadvertently and irretrievably lost operating pressure data for 1999.[649] However, as Mr. Zurcher explained, the missing data would not have a discernable negative impact on PG&E's determination and assessment of a manufacturing threat under this rule. If a pipeline reached its highest historical operating pressure in 1999, and PG&E lacks documentation of such an event, the consequence is that PG&E has subsequently operated the pipeline at a maximum pressure *lower* than that to which the pipe has previously been subjected.[650] If a pipeline operated throughout 1999 at a pressure *below* its highest historical operating pressure, then data to that effect would not inform PG&E's establishment of the maximum operating pressure for that pipe.[651]

In summary, CPSD has not introduced evidence of a factual or statutory basis for its claim that PG&E lacks operating pressure data that it was required to maintain.

6. Violation 21: Pre-1970 Leak Records

CPSD asserts that since 1930 PG&E's pre-1970 leak records have been missing, incomplete and inaccessible in violation of Section 451, Article II Section 13(b), ASME B31.8 and GO 112, 112-A and 112-B.[652] As discussed below, Ms. Felts testimony establishes that there is no credible evidentiary basis for this purported violation. CPSD has introduced no factual support for its allegation regarding missing leak records, has conceded that it lacks an adequate basis by which to conclude that PG&E's leak records are inaccessible and has introduced no factual or statutory basis for a finding that PG&E's leak records are incomplete.

On cross-examination, Ms. Felts conceded that the purported violation for "missing" leak records dating from 1930 to 1970 was based exclusively on her personal experience in being unable to locate leak records in a yet-unidentified PG&E file:

> A: I actually tried to find a job file related to that specific piece of pipe, and I can't tell you which pipeline it is in right now. But I do recall trying to find it, and did not find any pressure records.

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[648] Ex. PG&E-61 at 3-58 to 3-59 (PG&E/Keas).

[649] Ex. PG&E-61 at 3-58 (PG&E/Keas).

[650] Ex. PG&E-61 at 3-11 to 3-12 (PG&E/Zurcher).

[651] Ex. PG&E-61 at 3-11 to 13-12 (PG&E/Zurcher).

[652] Ex. CPSD-3 at 13 (CPSD/Felts); Ex. CPSD-15 (Violation 18) (CPSD/Felts).

> Q: And is that the same basis on which you picked 1930 as the start date for the pre-1970 leak records?
>
> A: Yes.
>
> Q: And it is that same job file that you were trying to find that you couldn't find that led you to pick that date?
>
> A: Probably.[653]

In this same line of questioning, Ms. Felts conceded that she did not have a basis to conclude that any of PG&E's pre-1970 leak records are, in fact, missing:

> Q: And based on not finding those records, ca n you say with a certainty that those records are not in fact in PG&E's files?
>
> A: No. Because I haven't looked at a hundred percent of PG&E's files.[654]

Ms. Felts similarly conceded that she assumed PG&E's leak records were missing because she was unable to locate certain A -Forms in the company's job files, even though PG&E's prepared testimony showed that A -Forms are retained either in job files *or* in separate so-called "leak library" files located at approximately 70 of the company's local offices.[655] As part of responding to Commission directives in this OII, PG&E undertook a review of all leak records maintained in these local offices, encompassing tens of thousands of documents.[656] PG&E produced weld-related leak records stored in local offices on Se ptember 30, 2011 as part of its Third Amendment to the June 20, 2011 Response.[657]

Ms. Felts further acknowledged that she was uncertain of the basis for her own allegation regarding "inaccessible" leak records and conceded that records she assumed to be inac cessible may, in fact, be fully available for use by PG&E personnel:

> Q: What do you mean by inaccessible?
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> A: Inaccessible is where we know there is a data set of leak information, but it is not accessible to your engineers at PG&E, Because . . . it is on a n old mainframe computer or not been translated into your current databases.

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[653] R.T. 346 (CPSD/Felts).

[654] R.T. 349 (CPSD/Felts).

[655] R.T. 374, 506-07 (CPSD/Felts); Ex PG&E-61 at 3-61 (PG&E/Cowsert-Chapman).

[656] Ex PG&E-61 at 3-61 (PG&E/Cowsert-Chapman).

[657] *See* Attachment P7-7010 to PG&E's Third Amendment to PG&E's June 20, 2011 Response.

> Q: And if it is on an old mainframe computer then it is not readily accessible or it is never accessible?
>
> A: *It has not been clear over time,* but I understand that recently that information may have been, or have given it to us to look at. I haven't seen it, but it is possible that it may be downloaded from the mainframe. *I'm not sure.*[658]

Finally, CPSD failed to provide specific examples of "incomplete" records of pre-1970 leaks on PG&E's system and further failed to demonstrate a regulatory or statutory requirement that PG&E's pre-1970 leak records include information that Ms. Felts, in her personal judgment, has determined should be present.[659] Ms. Felts asserts that PG&E's leak records are deficient because "[t]here are leak records, in one type of form, leak records in another type of form, and not a good way to track them down."[660] But Ms. Felts concedes that she has no basis on which to compare PG&E's historical leak records to other operators in the industry.[661] If she had such experience, Ms. Felts might realize that rather than identifying a violation of law, she has simply observed the reality that a utility that has operated for decades across a service territory spanning hundreds of miles may have evolving forms of recordkeeping to meet the needs of the business. For 55 years, PG&E has documented the discovery and repair of gas leaks in the Leak Repair, Inspection and Gas Quarterly Incident Report (also referred to as an "A-Form" and previously known as a "Leak Test Report" and "Pipe Shut Down" record).[662] The evolution of the form observed by Ms. Felts has been spurred both by the industry's recognition of the need for more detailed leak information and by changes in regulatory reporting requirements. For example, PG&E has historically used A-Forms as a source of data from which to complete annual reports, such as those required in PHMSA 7100.2-1, which asks operators to provide (among other items) the number of leaks in specified categories that have occurred on natural gas transmission and gathering lines during a given reporting year.[663] Over time, these reporting requirements have required increased granularity. Accordingly, the A-Form has evolved to call for field employees to gather increasing amounts of data, including pipe specifications, soil type, cathodic protection

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[658] R.T. 345 (CPSD/Felts) (emphasis added).

[659] R.T. 344-45 (CPSD/Felts).

[660] R.T. 347 (CPSD/Felts).

[661] R.T. 347 (CPSD/Felts).

[662] Ex. PG&E-61 at 3-60 (PG&E/Cowsert-Chapman).

[663] Ex. PG&E-61 at 3-62 to 3-63 (PG&E/Cowsert-Chapman).

and external pipe condition. [664] Far from signaling some kind of violation, this evolution demonstrates an appropriate adaptation to a changing industry.

CPSD failed to meet its burden of proof and this violation fails as a matter of law.

7. Violation 22: Leak Records From 1970 Forward

Ms. Felts appears to acknowledge that PG&E is not missing post-1970 leak records. [665] She erroneously asserts, however, that since 1970 PG&E's post-1970 leak records were incomplete and inaccessible in violation of Section 451, ASME B31.8 and internal PG&E records retention policies. [666] Like alleged Violation 21, this purported violation is based on Ms. Felts' unsupported personal impressions rather than on evidence. Accordingly, CPSD has not met its burden of proving this purported violation.

Ms. Felts alleges PG&E's A-Forms were incomplete because they "changed over time so that the historical record is inconsistent." [667] As discussed in the prior section, while the format and information called for by A-Forms have changed over time, these changes reflect evolving industry awareness regarding the importance of data that can be obtained from leak records, and changes to regulatory reporting requirements. Ms. Felts' limited observation that PG&E's A-Form has changed with time, without the necessary historical context, cannot support a conclusion that the company's leak records violate regulatory requirements. Indeed, since PG&E changed its form in part to comply with additional regulatory reporting requirements, Ms. Felts' observation substantiates PG&E's compliance with law.

Ms. Felts claims PG&E's leak records are inaccessible because "[o]nce the data was uploaded to databases, PG&E found that it was unable to include the historical data from one database to the next[.]" [668] As discussed in the prior section, Ms. Felts has since acknowledged that she is uncertain whether or not PG&E's historical leak data is, in fact, accessible when needed by the company's engineers. [669] A detailed articulation of the nature and history of PG&E's leak record maintenance programs is set forth in connection with PG&E's discussion of

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[664] Ex. PG&E-61 at 3-63 (PG&E/Cowsert-Chapman).

[665] R.T. 348 (CPSD/Felts) ("The records appear to be fairly complete.").

[666] Ex. CPSD-3 at 13 (CPSD/Felts); Ex. CPSD-15 (Violation 22) (CPSD/Felts).

[667] Ex. CPSD-2 at 40 (CPSD/Felts).

[668] Ex. CPSD-2 at 39 (CPSD/Felts).

[669] R.T. 345 (CPSD/Felts).

CPSD Violation Duller/North C3, and will not be repeated here. However, PG&E emphasizes that the decisions around the migration of data and functionality among PG&E's electronic leak records systems predated ASME B31.8S -2004 and the federal integrity manageme nt regulations.[670] Prior to these rules, there was no compliance -related reason to integrate large volumes of historic leak data into a new database. [671] In recognition of the contemporary emphasis on accessible leak records, however, PG&E has recently undert aken an effort to gather and digitize all preexisting leak records in a central database. [672] PG&E's drive to improve its existing systems, however, does not constitute evidence that its post -1970 leak records were maintained in a manner inconsistent with an y regulation or statute. CPSD has not met its burden of proving its Violation 22.

8. Violation 23: Records To Track Salvaged And Reused Pipe

CPSD alleges PG&E failed to maintain records to track the use of reconditioned pipe in violation of Section 451 (dating from 1954) and PG&E's internal policies (dating from 1994). [673] Ms. Felts advances several theories in support of the alleged violation: (a) the reconditioned pipe in PG&E's system "may not be satisfactory for continued service"; [674] (b) PG&E had a tracking system for salvaged and reused pipe through its accounting records, but "at some time in the past, PG&E apparently lost track of these records"; [675] and (c) in 1979, "in what app ears to be an intentional effort to eliminate records that show the use of salvaged pipe," PG&E modified its mapping standards. [676] Ms. Felts' assertions are wrong. Accordingly, CPSD cannot meet its burden of proof.

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[670] Ex PG&E-61 at 3-62 (PG&E/Cowsert-Chapman).
[671] Ex PG&E-61 at 3-62 (PG&E/Cowsert-Chapman).
[672] Ex PG&E-61 at 3-64 (PG&E/Cowsert-Chapman).
[673] Ex. CPSD-3 at 14 (CPSD/Felts); Ex. CPSD-15 (Violation 23) (CPSD/Felts).
[674] Ex. CPSD-2 at 43 (CPSD/Felts).
[675] Ex. CPSD-2 at 43-44 (CPSD/Felts).
[676] Ex. CPSD-2 at 45 (CPSD/Felts).

a. CPSD Presents No Evidence To Support Its Allegation That Reconditioned Pipe In PG&E's System Is Unsatisfactory For Continued Use

Reconditioning and reusing pipe has been an accepted practice within the gas industry and among regulators, as Ms. Felts conceded during cross examination.[677] In her report, however, Ms. Felts alleges that in "the process of reviewing PG&E records it has become apparent that PG&E has salvaged and reused transmission pipe now operating in its system that may not be satisfactory for continued service."[678] As PG&E witness David Harrison testified, however, 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.[679] The referenced documents do not support the conclusion that reconditioned and reused pipe is unsatisfactory for continued service.[680] In fact, on cross-examination Ms. Felts conceded that she has no affirmative evidence that PG&E reconditioned pipe without inspection.[681] This is unsurprising, because as Mr. Harrison testified, the process of inspecting and reinstalling reconditioned pipe was sufficiently routine that he would not expect to find documentation that the process was completed.[682] As Mr. Harrison explained: "pipe that's reconditioned, the steel doesn't really deteriorate on its own unless there's cathodic protection or some other issue going on with it. And so old pipe that's reconditioned is equivalent to fine pipe. And so by not tracking it, I don't see that as a major concern. It's equivalent to new pipe. The steel is still good."[683]

In summary, CPSD's assertion that reconditioned pipe in PG&E's gas transmission system is unsatisfactory or in an unsafe condition finds no support in the evidentiary record.

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[677] R.T. 462 (CPSD/Felts).

[678] Ex. CPSD-2 at 43 (CPSD/Felts) (emphasis added).

[679] Ex. PG&E-61 at 3-33 (PG&E/Harrison).

[680] Ex. PG&E-61 at 3-33 (PG&E/Harrison).

[681] R.T. 462 (CPSD/Felts) ("Q: So to be perfectly clear, you have no affirmative evidence that pipe was reconditioned and never inspected, correct?" A: "That's correct.").

[682] Joint R.T. 466 (PG&E/Harrison).

[683] Joint R.T. 248 (as corrected) (PG&E/Harrison).

b. CPSD Failed To Prove Its Allegation That PG&E Lost Records Of Salvaged Pipe

CPSD also maintains that PG&E lost records indicating the location of where it installed reconditioned pipe. PG&E has not, as best as it is aware, lost records about reconditioned and reused pipe. Many of the company's job files include records that demonstrate the use of reconditioned pipe.[684] These records include job estimates, shipping notices and journal entries or vouchers.[685] Where older records of this kind are lacking, it more likely is because they were never created.[686] As David Harrison testified:

> We have not found any evidence that we did not note reused pipe .... we are not done with the MAOP validation so we don't know for sure where every piece of reused pipe is. And we haven't looked at all of the data yet, so we think they're all in our job files. But I can't you know, I can't swear that everything is there. It appears to be. We have no evidence yet that it is not there.[687]

CPSD has provided no contrary evidence.

c. CPSD's Allegation That PG&E Intentionally Eliminated Records Of Reconditioned Pipe Is Wrong

Ms. Felts erroneously asserts that PG&E deliberately destroyed a tracking system it maintained for reconditioned pipe: "In 1979, in what appears to be an intentional effort to eliminate records that show the use of salvaged pipes, PG&E's drafting instructions in Mapping Standards 410.21-1, section II.3, state 'salvaged and abandoned mains – to be removed from plat sheets.'"[688] Ms. Felts acknowledged on cross-examination that that she has not reviewed earlier versions of this standard and is incapable of identifying an earlier drawing of PG&E's system that identified abandoned or salvaged pipes.[689]

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[684] Ex. PG&E-61 at 3-33 (PG&E/Harrison).

[685] Ex. PG&E-61 at 3-33 (PG&E/Harrison).

[686] Industry expert Mr. Zurcher testified he is unaware of any regulation requiring operators to track the age of reconditioned pipe installed prior to 1970, nor has CPSD identified such a requirement. Ex. PG&E -61 at 3-12 to 3-13 (PG&E/Zurcher).

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

[688] Ex. CPSD-2 at 45 (CPSD/Felts).

[689] R.T. 580-81 (CPSD/Felts).

Standard 421.21-1 addresses creating and maintaining distribution plat maps. [690] It gives direction to erase outdated information and revise plats to reflect street name changes. [691] The section of the standard that the CPSD quotes (see above) provides in full: " Salvaged and Abandoned Mains. To be removed from plat sheets. Consult with supervisory personnel for local operating procedures. SP 463 Abandonment of Gas Mains and Services." [692] As Mr. Harrison testified, the section instructs mappers to remove abandoned and disused mains from distribution plat sheets to avoid confusion. [693] It does not instruct mappers to destroy records showing the use of reconditioned and reused pipe in active pipelines. CPSD has introduced no evidence to the contrary. Instead, the record demonstrates that Ms. Felts' assertions are incorrect and that CPSD has failed to meet its burden of proof.

d. CPSD Cannot Meet Its Burden To Prove A Continuing Violation

In addition to its failure to establish a factual or legal basis for a violation of law relating to PG&E's records of salvaged or reconditioned pipe, CPSD's attempt to allege a conti nuing violation suffers from the same deficiencies detailed at length in Section III.C, *supra.* During cross-examination, Ms. Felts conceded that she "arbitrarily" selected 1954 as the start date of this purported violation. [694] Admittedly arbitrary allegati ons based on no particular evidence fail to meet CPSD's burden of proof. Moreover, Ms. Felts further asserted that "it's going to be difficult" for PG&E to ever cure this alleged continuing violation because, in Ms. Felts' view, the cure requires removal and replacement of all reconditioned and reused pipe in PG&E's system.[695] Because CPSD alleges an admittedly arbitrary start date, and has introduced no evidence of an end date, CPSD cannot sustain its allegation of a continuing violation.

[690] Ex. PG&E-61 at 3-34 (PG&E/Harrison).
[691] Ex. PG&E-61 at 3-34 (PG&E/Harrison).
[692] Ex. PG&E-61 at 3-34 (PG&E/Harrison).
[693] Ex. PG&E-61 at 3-34 (PG&E/Harrison).
[694] R.T. 350 (CPSD/Felts).
[695] R.T. 350 (CPSD/Felts).

9. Violation 24: Da ta In Pipeline Survey Sheets And The Geographic Information System

CPSD alleges that since 1974 there was "bad data in Pipeline Survey Sheets and GIS," resulting in violations of Section 451 as well as PG&E's "internal policies requiring retention of eng. records."[696] Ms. Felts' initial testimony emphasized two perceived deficiencies: (a) the transfer of data from hard copy sources to GIS lacked sufficient data quality checks; and (b) GIS contained numerous assumed or blank values.[697] Her rebuttal testimony added conclusory assertions about the importance of GIS data to gas control functions and integrity management, but no substantive factual allegations.[698]

As a preliminary matter, Ms. Felts fails to recognize that GIS is generally not PG&E's primary source of data for most day -to-day pipeline operations.[699] While GIS provides a centralized source of information, PG&E maintenance personnel would generally use the source record in connection with daily operations.[700] Moreover, as discussed below, PG&E's use of GIS, and its use of prior pipeline survey sheets to populate GIS, was consistent with industry practice. The Company's use of conservative, assumed v alues is consistent with regulatory and industry consensus standards. Accordingly, CPSD cannot meet its burden of proving that the data in GIS constitutes a violation of any law.

a. CPSD Failed To Prove Its Allegation Regarding PG&E's Transfer Of Data From Hardcopy Sources To GIS

Ms. Felts claims PG&E did not verify the data when transferring data from one source to another, *i.e.*, from source documents in job files, to pipeline survey sheets, to GIS.[701] "Errors in records have been carried forward from one system to the next without checks for accuracy, or in some cases even reasonableness."[702] PG&E has acknowledged that data errors exist within its

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[696] Ex. CPSD-3 at 14 (CPSD/Felts); Ex. CPSD-15 (Violation 24) (CPSD/Felts).

[697] Ex. CPSD-2 at 47-48 (CPSD/Felts).

[698] Ex. CPSD-4 at 37 (CPSD/Felts).

[699] R.T. 2212-13 (PG&E/Keas).

[700] R.T. 2212-13 (PG&E/Keas).

[701] According to Ms. Felts, the erroneous data she purports to identify within GIS was likely introduced in PG&E's hardcopy records "as early as in the '40s" rather than through the process of creating G IS itself. R.T. 351 (CPSD/Felts).

[702] Ex. CPSD-2 at 48 (CPSD/Felts).

GIS system.[703] However, this fact alone does not support a conclusion that PG&E's initial population of GIS lacked sufficient quality control efforts. In fact, the record supports only a conclusion that PG&E's original population of its GIS database w as consistent with industry norms. PG&E initially populated its GIS in the 1990s.[704] As PG&E witnesses have testified, a large portion of the data in GIS was populated from the company's pipeline survey sheets.[705] Geographical components of the pipe were dig itized from the pipeline survey sheets, and tabular information was transferred from the pipeline survey sheets into spreadsheet format.[706] These data sources were then linked to populate GIS.[707] Once this initial population was completed, PG&E mappers would enter subsequent as-built information directly into GIS rather than paper records.[708] Industry expert John Zurcher explained that his experience with populating GIS systems paralleled PG&E's in this regard:

> But I will tell you in personal experience in all the companies I have worked with and the two GIS systems I built, we never once went beyond what you would have called these survey sheets. Every company had them. We just took the data that we had available. We did not go back ever and research any other type of data.
>
> Again, as we would find errors in the data, those would get corrected. But I don't know of a single company that went back to try to resurrect original type data for anything. It was just a movement from one record system to another.[709]

Ms. Dunn confirmed that from a data management point of view, it was an acceptable practice for PG&E to use the pipeline survey sheets to initially populate GIS without returning to the source documents.[710]

CPSD has offered no testimony or other evidence to esta blish a different industry standard than the one Mr. Zurcher and Ms. Dunn described. Moreover, CPSD has introduced no evidence supporting its assertion that PG&E's transfer of data into GIS lacked appropriate

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[703] Ex. PG&E-61 at 3-66 (PG&E/Cowsert-Chapman).
[704] Ex. PG&E-61 at 3-66 (PG&E/Cowsert-Chapman).
[705] R.T. 2234-35 (PG&E/Daubin).
[706] R.T. 2238 (PG&E/Cowsert-Chapman).
[707] R.T. 2238 (PG&E/Cowsert-Chapman).
[708] R.T. 2235 (PG&E/Cowsert-Chapman).
[709] Joint R.T. 663 (PG&E/Zurcher).
[710] R.T. 1389-90 (PG&E/Dunn).

checks for accuracy. By contrast, PG&E witnes s Brian Daubin testified that during the creation of GIS, PG&E personnel conducted quality control checks against randomly selected pipeline survey sheets (or "plat sheets").[711] Plat sheets were selected at random, after which personnel cross-checked each d ata point in the selected plat sheets against the data entered into GIS.[712] Having failed to introduce evidence contradicting the testimony of industry experts and PG&E witnesses, CPSD cannot meet its burden of proving a violation relating to the original p opulation of PG&E's GIS system.

b. CPSD Has Not Proven A Violation Of Law Regarding Assumed Or Missing Values In GIS

CPSD is correct that PG&E's GIS is in some instances populated with assumed values. However, CPSD presents no evidence that the use of conservative assumed values in populating an operator's GIS system violates any law or industry standard. In fact, expert witness Mr. Zurcher explained on cr oss-examination that he worked on GIS systems for other pipeline operators and often used conservative assumed values:

> In 1989 I built my first GIS system. It was one of my jobs when I was with Panhandle Energy. Then in '97 I went to the Tenneco Energy and I built their first GIS system there. The process of GIS that we would go through often times was in order to get the data populated as quickly as possible, we would take often times numbers that were conservative … They were just conservative assumptions that we made in the interest of time in getting the project done so that we could be able to use the tool the way it was supposed to be used.[713]

Moreover, and as discussed in greater detail in connection with purported Violation 25, below, the use of a ssumed values is accepted in the integrity management context. ASME B31.8S specifically provides for the use of assumed values where the operator lacks data.[714] Through integrity assessments operators gather more information about the system, and use that information to address data gaps.[715] Given Mr. Zurcher's experience and expertise in the natural gas industry, compared with Ms. Felts' lack of such experience and expertise, CPSD has

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[711] R.T. 2240-41 (PG&E/Daubin).

[712] R.T. 2240-41 (PG&E/Daubin).

[713] Joint R.T. 661 (PG&E/Zurcher).

[714] Joint R.T. 669 (PG&E/Zurcher).

[715] Joint R.T. 669-70 (PG&E/Zurcher).

provided no substantial evidence to support a conclusion that an operator 's use of assumed values constitutes a violation of any law, regulation or industry standard.

Having failed to prove that the use of conservative values as a general matter violates the law, CPSD similarly failed to prove a violation of law relating to the specific assumed (and in some instances unknown) values in PG&E's GIS. Ms. Felts asserts in her written testimony that PG&E's GIS contains "assumed and blank values . . . for every segment of each pipeline" and implies that PG&E is thus missing vital inf ormation about the physical attributes of its pipes. [716] During cross-examination Ms. Felts acknowledged that she reached this conclusion based on a spreadsheet PG&E produced in discovery reflecting pipe segments that have one or more assumed or unknown valu es in GIS. [717] Ms. Felts conceded under cross -examination that of the 22,856 pipe segments represented on the spreadsheet, 22,480 were listed entirely or in part due to assumed or unknown data about the pipe's manufacturer. [718] 14,591 such segments were listed entirely or in part due to assumed or blank values relating to depth of cover. [719] CPSD has made no attempt to demonstrate why assumed or unknown fields in GIS relating to pipe manufacturer or cover depth constitute a violation of any law. As discussed abov e, GIS is not PG&E's primary source of data for most day -to-day pipeline operations, and PG&E maintenance personnel would generally use the actual system of record in connection with daily operations. [720]

Moreover, PG&E's conservative assumptions about a given pipe's characteristics are based upon known attributes such as the pipe's year of installation and PG&E's pipe purchasing specifications from the relevant time period. [721] Christine Cowsert-Chapman elaborated at length on PG&E's practice as follows:

> The default or assumed values are not necessarily going to be the same for every segment. So if you're making an assumption, you are going to look at the data fields that are populated, right, and make an assumed value based on if you understand the year the pipe was installed or the diameter of the pipe or some of the other pipe specifications, you can kind of figure out what type of pipe was installed during that period of time. You can do some analysis so that you're not just applying the same value peanut butter across

[716] Ex. CPSD-2 at 47 (CPSD/Felts).

[717] R.T. 481 (CPSD/Felts).

[718] R.T. 483 (CPSD/Felts).

[719] R.T. 483 (CPSD/Felts).

[720] R.T. 2212-12 (PG&E/Keas); R.T. 2223 (PG&E/Keas).

[721] Joint R.T. 1169 (PG&E/Keas).

> all of those segments. You would put some logic into it so that it gives you a conservative value that's relevant to that specific segment of pipe. And it would give you enough information that it could be relevant for an analysis . . . So it's not when we say it is an assumed value that it is necessarily the same assumed value for every single segment of pipe. It is an assumed value based on the context of the information we do know about that piece of pipe.[722]

c. PG&E Maintains A Process For Continuous Improvement Of Its GIS Data

Industry practices regarding pipeline data have changed since the era when operators initially populated GIS, and continue to change to this day. PG&E witness Kris Keas captured this concept succinctly: "the idea is that we are constantly improving those data sets."[723] As discussed briefly above, after the completion of projects, pipeline data such as geographic location, measurement and dimensions is now entered directly into GIS by PG&E's Mapping Group.[724] Also, PG&E has established a process by which field personnel can identify data inaccuracies and update that information in GIS.[725] This process refers to a reporting tool that resides within GIS and allows the GIS user to notify PG&E's Mapping Group of the need to investigate potential discrepancies.[726] The tool allows the GIS user to identify the location of the potential discrepancy, as well as written feedback regarding the issue that the user has identified. PG&E's Risk Management Instruction No. 6, Rev. 1 describes a process for notifying the Mapping Group to update GIS when a change needs to be made to the system as a result of records research conducted during some parts of the integrity management threat identification process.[727] Information that needs to be updated is provided to Mapping, which enters the updates into GIS.[728] This is followed by a quality control check conducted by more senior mapping personnel, in which the updated GIS entries are compared against the underlying documentation.[729] Thus, rather than an absence of quality control, the record demonstrates that PG&E has in place a robust process for continuous improvement of its GIS data.

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[722] R.T. 1952-53 (PG&E/Cowsert-Chapman).
[723] Joint R.T. 1168 (PG&E/Keas).
[724] R.T. 2243 (PG&E/Daubin).
[725] R.T. 2260 (PG&E/Daubin).
[726] R.T. 2260 (PG&E/Daubin).
[727] Ex. PG&E-61 at 3-66 to 3-67 (PG&E/Cowsert-Chapman).
[728] R.T. 2231 (PG&E/Daubin).
[729] R.T. 2231 (PG&E/Daubin).

10. Violation 25: Data Used In Integrity Management Risk Model

CPSD alleges that PG&E's integrity management program made use of inaccurate data in violation of Section 451. [730] During cross-examination, Ms. Felts asserted that this violation derives from two distinct issues: (a) purported errors in GIS, and (b) PG&E's use of conservative assumptions in connection with its integrity management program. [731] PG&E acknowledges the importance of thorough and complete data gathering, and as discussed above, has implemented several processes to enhance the quality of its pipeline data. However, as set forth in connection with PG&E's discussion of alleged Violation 24, and for the additional reasons set forth below, CPSD has not met its burden of proving that PG&E failed to maintain an integrity management program that was functional and in compliance with the law.

a. CPSD's Allegations Regarding Errors In GIS Are Not Supported By The Record

CPSD's allegations regarding the purported deficiencies in GIS are erroneous for all the reasons set forth in PG&E's discussion of purported Violation 24. CPSD has similarly failed to introduce evidence of any negative impact of purported errors or assumptions in GIS on PG&E's integrity management program. For example (and as discussed in greater detail in the San Bruno proceeding), the designation in GIS indicating that Segment 180 was seamless pipe, rather than DSAW, would not have changed PG&E's assessment of potential threats to the pipe. As PG&E engineer Chih-Hung Lee testified when called by CPSD: "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."[732]

Additionally, CPSD fails to recognize that GIS data is but one component of a much broader data gathering and integration process. PG&E uses GIS as a tool to assist with data collection and integration.[733] However, a second step of the data gathering process occurs during the pre-assessment phase of each integrity assessment. [734] During the pre-assessment phase, PG&E's integrity management engineers gather additional data from job files and information

[730] Ex. CPSD-3 at 14 (CPSD/Felts); Ex. CPSD-15 (Violation 25) (CPSD/Felts).
[731] R.T. 352-53 (CPSD/Felts).
[732] R.T. 1892-93 (PG&E/Lee).
[733] Joint R.T. 1156 (PG&E/Keas).
[734] Joint R.T. 1176 (PG&E/Keas).

sources.[735] One of the purposes of this process is to confirm the accuracy of the data gathered in the prior step. [736] If information from PG&E's hardcopy records or physical assessments indicates a potential threat not identified in GIS, PG&E updates GIS and identifies the threat going forward.[737] Information learned in the course of pipeline assessments and pre-assessments thus serves as a "continuous feedback loop" to help confirm and/or improve the data sets in GIS.[738] As Kris Keas testified, this process ensures that PG&E's integrity management program "uses constantly improving data sets."[739]

b. The Integrity Management Regulations Specifically Endorse Use Of Conservative Assumed Values

Where information is not available in GIS or in job files, PG&E's integrity management program uses conservative assumptions based on a review of the company's historical purchasing practices for steel pipe. [740] As PG&E witness Kris Keas testified, "I am comfortable with that because I know that where we don't know where the data is, we have taken some very conservative values . . . to make our engineering decisions."[741] Moreover, federal rules and ASME B31.8S specifically provide for this practice in connection with integrity management programs.

As John Zurcher testified, the integrity management rules and ASME B31.8S were drafted in full contemplation of the fact that operators would not possess complete records. [742] For example, ASME B31.8S articulates steps permitting operators to substitute conservative assumed values where pre-existing documentation is lacking. [743] In the case of manufacturing threats, Section 4.2 of the ASME B31.8S appendix states that operators are further permitted to reference sources such as the *History of Line Pipe Manufacturing in North America* to fill in missing pipe specifications. [744] Without significant prior experience in this subject area, Ms.

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[735] Joint R.T. 1075 (PG&E/Keas).
[736] Joint R.T. 1176-77 (PG&E/Keas).
[737] Joint R.T. 1180-81 (PG&E/Keas).
[738] Joint R.T. 1172 (PG&E/Keas).
[739] Joint R.T. 1168 (PG&E/Keas).
[740] Joint R.T. 979 (PG&E/Keas).
[741] R.T. 1468 (PG&E/Keas).
[742] Ex. PG&E-61 at 3-9 to 3-10 (PG&E/Zurcher).
[743] Ex. PG&E-61 at 3-9 to 3-10 (PG&E/Zurcher).
[744] Ex. PG&E-61 at 3-9 to 3-10 (PG&E/Zurcher).

Felts has wrongly alleged violations of law based on a practice that is permissible and appropriate under the integrity management rules.[745]

11. Violation 26: Missing Report For 1988 Weld Failure

Ms. Felts appears to believe that PG&E's Technological and Ecological Services (T&ES) Department prepared a "failure report" in or about March 1989, and the report went immediately missing.[746] Ms. Felts does not allege that any statute specifically required creation or maintenance of the report, and instead bases this purported violation on Section 451.[747] Ms. Felts dates the purported violation to 1988 (the year the leak on the weld was discovered), and alleges that the purported violation is a continuing one from 1988 until such time in the future as the report is found.[748]

As a preliminary matter, CPSD has not proved that the purportedly missing report ever existed. Assuming it was created, CPSD failed to prove when it went missing. On cross-examination, Ms. Felts conceded she has no information regarding when the report went missing (if it went missing at all) and could only observe that the report was not available when she searched for it in 2011.[749] In fact, it is likely such a report was never created.[750] Ms. Felts assumes a March 1, 1989 memo from T&ES is merely a "summary" report that attached a more detailed report that cannot now be found.[751] The March 1, 1989 T&ES memo refers to an "attached material failure report." But as PG &E witness David Harrison explained, that appears to be a reference to the material failure report initially prepared by the Golden Gate Region in December 1988.[752] That material failure report reflects that it went to Gas System Design.[753] It makes sense that T&ES returned that report as an attachment to its March 1, 1989 memo. After receiving the March 1, 1989 T&ES report, the evidence indicates that Gas System Design completed the bottom portion of the initial material failure report and in doing so hand wrote:

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[745] R.T. 354 (CPSD/Felts).

[746] R.T. 355-56 (CPSD/Felts).

[747] Ex. CPSD-3 at 14 (CPSD/Felts).

[748] Ex. CPSD-3 at 14 (CPSD/Felts); R.T. 356 (CPSD/Felts).

[749] R.T. 356 (CPSD/Felts).

[750] Ex. PG&E-61 at 3-41 to 3-48 (PG&E/Harrison).

[751] Ex. CPSD-4 at 39 (CPSD/Felts) ("Even though PG&E lost the Full Report it still has the summary report from the cover letter . . . .").

[752] Ex. PG&E-61 at 3-47 to 3-48 (PG&E/Harrison).

[753] Ex. PG&E-61 at 3-47 to 3-48 (PG&E/Harrison).

"Failed Section of Pipe Was Inspected. See the Attached T&ES Letter dated 3/1/89 ."[754] The notation does not reference any T&ES failure report.[755] CPSD cannot meet its burden of proving a violation of law for purportedly losing a document that it has not established ever existed.

Even if CPSD could establish that the allegedly missing report was created, CPSD failed to prove that PG&E was require d to maintain it in perpetuity. In her rebuttal testimony, Ms. Felts asserts that statements in the 1989 T&ES memo should have led PG&E to inspect pipe of the same vintage for "non-leaking cracks that could eventually propagate."[756] Even if Ms. Felts' assertion were true, it would not prove that PG&E was required by law to retain (if it ever existed) from 1989 until the present day an additional "failure report" relating to the pinhole leak. Moreover, the evidence shows that any documentation related to th is leak would have little, if any, engineering significance. David Harrison testified that the 1988 pinhole leak was not unusual and would not generally have raised questions about the integrity of other parts of Line 132.[757] Similarly, Kris Keas testified that a pinhole leak that has not experienced in-service growth would not necessarily be considered an integrity threat.[758] PG&E pipeline engineer Chih-Hung Lee testified that while he would have considered the leak in his work, minor longitudinal weld crac ks are "typical" and the documentation relating to the 1988 leak does not indicate any in-service defect growth.[759] Finally, when cross-examining Mr. Zurcher, CPSD tried to make the point that 6 of 17 PHMSA reportable incidents between 2002 and 2009 involved seam defects on DSAW pipe.[760] Mr. Zurcher explained on redirect, however, that the number of reportable incidents involving pinhole leaks is very small compared to the number of pinhole leak repairs in the industry. "Last year in the United States on tra nsmission pipe there were 1500 pinhole leaks that were repaired . . . . [a]nd 40 years ago, back to the first annual report, there were close to 20,000 pinhole leaks repaired per year."[761] Thus, from an integrity point of view, pinhole leaks are not relevan t to the system.[762] Because CPSD has not proved a

[754] Ex. PG&E-61 at 3-47 to 3-48 (PG&E/Harrison).
[755] Ex. PG&E-61 at 3-47 to 3-48 (PG&E/Harrison).
[756] Ex. CPSD-4 at 40 (CPSD/Felts).
[757] Joint R.T. 262-64, 568 (PG&E/Harrison).
[758] R.T. 1495 (PG&E/Keas).
[759] R.T. 1893, 1905, 1913 (PG&E/Lee).
[760] Joint R.T. 761-65 (PG&E/Zurcher).
[761] Joint R.T. 871 (PG&E/Zurcher).
[762] Joint R.T. 870-71 (PG&E/Zurcher).

1988 "failure report" ever existed or that PG&E was required to retain any such report if it did exist, CPSD has not met its burden of proof with respect to alleged Violation 26.

12. Violation 27: Missing Report For 1963 Weld Failure

CPSD's Violation No. 27 simply states: "1963 Weld Failure – No Failure Report." Ms. Felts does not claim any regulation specifically required creation or maintenance of the weld failure report, and instead bases this purported violation on Section 451. [763] Unlike the 1988 failure report discussed in the last section, there is good reason to believe there was a metallurgical report relating to a 1963 pipe fai lure near Alemany Boulevard. [764] David Harrison testified PG&E would like to locate a copy of this report. [765] PG&E still has correspondence from this era that references and transmits the report to the Commission, [766] which apparently cannot find it either.

CPSD does not identify any specific rule, regulation or even industry standard (much less one in effect in 1963 when the report supposedly went missing) that required the record to be maintained. Nor does CPSD identify an industry practice suggesting that an operator in 1963 would have retained the report for 50 or more years. In the absence of such proof, the failure to retain a report PG&E shared with the Commission 50 years ago cannot rise to the level of a violation of law. While Ms. Felts acknowledges that she has no information about when the report went missing, she dates the start of the violation to 1963 (when the weld repair was made) and alleges that the violation is a continuing one from that date until such future time as the report is found. [767] Ms. Felts' testimony, however, provides no evidentiary basis for a determination of when this report went missing. And, for the reasons discussed in Sections III.C and IV.A, as a matter of law this cannot be a continuing violation.

VI. ALLEGED VIOLATIONS P REDICATED ON THE REPO RTS AND TESTIMONY OF DR. PAUL DULLER AND ALISON NORTH

CPSD's records consultants, Dr. Paul Duller and Mrs. Alison North, are records experts. They are not engineers and do not profess to offer opinions about engineering. They evaluated

[763] Ex. CPSD-3 at 14 (CPSD/Felts).
[764] Ex. PG&E-61 at 3-40 (PG&E/Harrison).
[765] Ex. PG&E-61 at 3-40 (PG&E/Harrison).
[766] Ex. PG&E-61 at 3-40 (PG&E/Harrison).
[767] R.T. 356-57 (CPSD/Felts).

PG&E's recordkeeping practices from a records -centric point of view. By contrast, and as Ms. Dunn explained, PG&E took a process -centric approach to records. It organized its records in ways that made sense for those who did the work.

A. Alleged General Records Management Violations

1. Violation A.1 : Gas Transmission Division Records Management Practices

Dr. Duller and Mrs. North allege a general records management violation.[768] They allege PG&E had substandard recordkeeping practices when measured using GARP principles, that PG&E lacked traceable, verifiable, complete and accurate records, and that it widely distributed and poorly controlled records:

> PG&E's Gas Transmission Division lacked the necessary accurate and locatable records essent ial for safe pipeline operation, due to sub-standard records management practices.[footnote 1][769] PG&E did not have all of the necessary processes in place to ensure that traceable, verifiable, and complete and accurate gas transmission pipeline records and related information was available in a timely manner. Gas transmission pipeline records were widely distributed and poorly controlled across the Division. This led to inefficient and unsafe working practices.[770]

They characterize Violation A.1 as an "over arching violation" that covers the entire period from 1955 through September 2010.[771] And, indeed Violation A.1 references all of Section 6 and Section 7 of Dr. Duller and Mrs. North's initial report (82 pages of a 107 -page report excluding appendices) as e videntiary support for this one violation.[772] Violation A.1 states only one violation "for multiple records management deficiencies."[773]

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[768] Ex. CPSD-16 (Violation A.1) (CPSD/Duller and North).

[769] Footnote 1 of Dr. Duller and Mrs. North's report reads: "As defined using Generally Accepted Record -keeping Principles (GARP) and the Information Maturity Model defined by ARMA International, and used i n our report (citation 2 above) as the basis of an assessment and evaluation of PG&E's records management activities." Ex. CPSD-16 (Violation A.1) (CPSD/Duller and North).

[770] Ex. CPSD-16 (Violation A.1) (CPSD/Duller and North).

[771] Ex. CPSD-8 at 17 (CPSD/Duller and North); Ex. CPSD-16 (Violation A.1) (CPSD/Duller and North).

[772] Ex. CPSD-16 (Violation A.1) (CPSD/Duller and North); R.T. 650 (CPSD/Duller and North).

[773] Ex. PG&E-57 at 1 (Dr. Duller's Notes); R.T. 649-50 (CPSD/Duller and North).

PG&E's response to Dr. Duller and Mrs. North's Violation A.1 included the testimony of Maura Dunn.[774] Ms. Dunn has significant records management expertise. She matches Dr. Duller and Mrs. North's expertise and then exceeds it by bringing to bear her significant experience evaluating the records programs of U.S. -based utilities.[775] Her primary client ove r the past several years has been "a regional U.S. -based utility that has a similar profile and footprint to PG&E's."[776] Ms. Dunn reviewed Dr. Duller and Mrs. North's initial expert reports and testimony regarding PG&E's recordkeeping practices and provided opinions about their methodologies and conclusions.[777]

a. In The Past, The Pipeline Safety World Was Not "According To GARP"

Ms. Dunn criticized the methodology Dr. Duller and Mrs. North used to evaluate PG&E's historic records practices.[778] Dr. Duller and Mrs. North judged 50 plus years of practices using GARP, a relatively new model first published by ARMA International in March 2009.[779] Ms. Dunn explained that as an assess ment tool for this type of extended historical review, GARP and the Information Governance Maturity Model are ill -suited to the task.[780] The application of GARP's definition of essential characteristics of records management programs is subjective, dependin g on the judgment of the individual applying it, especially before ARMA published its GARP assessment tool on April 17, 2012.[781] Neither CPSD nor Dr. Duller nor Mrs. North had ever previously used GARP as an assessment tool.[782] In fact, Dr. Duller and Mrs. North were not aware of any prior assessments conducted anywhere (prior to the one they undertook here) using GARP.[783] Mr. Howe, a gas industry expert, had never heard of GARP

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[774] Ex. PG&E-62 (PG&E/Dunn).

[775] Ex. PG&E-62 at MD-1 to MD-3 (PG&E/Dunn).

[776] Ex. PG&E-62 at MD-2 (PG&E/Dunn).

[777] Ex. PG&E-62 at MD-4 to MD-5 (PG&E/Dunn); R.T. 1379 (PG&E/Dunn).

[778] Ex. PG&E-62 at MD-7 to MD-38 (PG&E/Dunn).

[779] Ex. PG&E-62 at MD -5 (PG&E/Dunn); *see also* R.T. 649 (CPSD/Duller and North) (where Dr. Duller and Mrs. North acknowledge that their task was to take a backwards look to determine what recordkeeping practices existed historically).

[780] Ex. PG&E-62 at MD-7 to MD-16 (PG&E/Dunn).

[781] The Duller/North written report and testimony was submitted on March 12, 2012, before ARMA even published its assessment tool.

[782] Ex. PG&E-62 at MD-8 (PG&E/Dunn) (citing CPSD Response to PG&E Data Request Nos. 6 and 8).

[783] Ex. PG&E-62 at MD-8 (PG&E/Dunn) (citing CPSD Response to PG&E Data Request Nos. 6 and 8).

until a few months prior to the submission of his testimony; was not aware of any instance where any gas utility in the United States had adopted GARP; and was not aware of any instance in which a regulator had previously assessed a utility's recordkeeping according to GARP or the Information Governance Maturity Model. [784] Mr. De Leon similarly testified that he had not heard of GARP and was not aware of PHMSA having ever used it or incorporated it into any regulatory standard. [785] CPSD had never previously used GARP. [786] When a records management group was recently polled, a significant percentage of the GARP users group had not yet used GARP.[787]

Ms. Dunn also explained that to the extent the GARP model is appropriate at all, it is more appropriate to a current state records assessment than a historical assessment. [788] Dr. Duller and Mrs. North produced what they characterized as a "GARP assessment of PG&E's records management as of the time of the San Bruno incident." [789] In effect, Dr. Duller and Mrs. North used a current-state records assessment tool to evaluate the state of PG&E's records as of September 2010. [790] Applying their "Occam's Razor" methodology, they then used their 2012 judgments to make sweeping generalizations about PG&E's practices going back to 1955. [791] Yet Dr. Duller and Mrs. North never took full account of evolving records retention schedule development, changes in information technology or changes in the legislative and regulatory environment in which PG&E operated. [792] The result was predictable: an assessment detached from historical context. [793] That Dr. Duller and Mrs. North used GARP to justify broad and unsubstantiated generalizations about practices that occurred decades ago added to the subjectivity of their analysis.

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[784] Ex. PG&E-61 at 1-9 to 1-10 (PG&E/Howe); R.T. 1261-62 (PG&E/Howe).

[785] Ex. PG&E-61 at 1-5 (PG&E/De Leon).

[786] Ex. PG&E-62 at MD-8 (PG&E/Dunn).

[787] Ex. PG&E-62 at MD-8 to MD-9 (PG&E/Dunn).

[788] Ex. PG&E-62 at MD-9 to MD-10 (PG&E/Dunn)

[789] Ex. CPSD-8 at 30 (CPSD/Duller and North).

[790] Ex. CPSD-8 at 30 (CPSD/Duller and North).

[791] *See* Ex. CPSD-6 at 2-13 (CPSD/Duller and North).

[792] Ex. PG&E-75 (PG&E Response to TURN Data Request No. 2, Question 10).

[793] Ex. PG&E-75 (PG&E Response to TURN Data Request No. 2, Question 10) ("Finally, Ms. Dunn also would have placed more emphasis on the *historical context* in which the records management activities in question were undertaken.").

Ms. Dunn illustrated how Dr. Duller and Mrs. North's emphasis on certain facts had the effect of artificially depressing their GARP scores for PG&E. Take the fact that PG&E maintained decentralized records without a master indexing system. Dr. Duller and Mrs. North use that fact to support sub-standard GARP assessment scores across a broad array of GARP assessment categories.[794] As Ms. Dunn explained:

> Dr. Duller and Ms. North mention job files or job folders dozens of times in their report. They use this one fact – the existence of multiple, geographically distributed copies of folders – to support their findings of sub-standard records management practices across all dimensions of GARP. The importance of this one fact – the existence of multiple job folders – is thereby increased beyond just one fact: it has impact on the GARP scores for Strategy; Policies, Standards and Procedures; Records Management Processes; Storage and Technology. This repeated re-statement of the same fact inflates the impact that the multiple job folders have on Dr. Duller's and Ms. North's overall assessment of the PG&E records management program.[795]

This heavy and repeated emphasis on a single fact highlights problems in using an assessment method so new that the assessment tool itself was not even available when Dr. Duller and Mrs. North undertook their GARP analysis.[796]

The contrast in method between Dr. Duller and Mrs. North on the one hand, and Ms. Dunn on the other, is stark. Take, for example, PG&E's 1964 records schedule, the oldest of PG&E's surviving corporate records retention schedules. By today's standards the 1964 schedule is a stinker. Ms. Dunn would give it a present-day GARP score of 1 (the lowest possible).[797] Dr. Duller and Mrs. North do not think much of the 1964 schedule either because they use it to anchor the start date for several of their records violations.[798] But that is where Dr. Duller and Mrs. North's analysis stops – it arrives at a start date for violations by judging a 1964 schedule against the standards of a 2009 GARP assessment method.[799]

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[794] Ex. PG&E-62 at MD-16 to MD-20 (PG&E/Dunn).

[795] Ex. PG&E-62 at MD-19 (PG&E/Dunn).

[796] Ex. PG&E-62 at MD-10 (PG&E/Dunn).

[797] Ex. PG&E-62 at MD-15 (PG&E/Dunn).

[798] R.T. 652-58 (CPSD/Duller and North); Ex. CPSD-16 (Violations B.2, B.5) (CPSD/Duller and North).

[799] Ex. CPSD-16 (Violation A.1) (CPSD/Duller and North); Ex. CPSD-6 at 6-35 to 6-36 (CPSD/Duller and North).

Ms. Dunn, in contrast, goes farther. She asks, is it fair "to subject the 1964 document to the requirements of GARP, which were not issued until 2009[?]"[800] She asks further, can I reach fair conclusions about how PG&E actually implemented its records management program 50 years ago by focusing on a single records retention schedule?[801] Ms. Dunn also asks, how did PG&E's corporate records policies change after 1964? [802] When Ms. Dunn asked that question, she observed that PG&E's corporate records policies matured, an observation Dr. Duller and Mrs. North never make because they never asked the question. Thus, where Dr. Duller and Mrs. North assign a flunking score of 1 to PG&E records retention policies, using the 1964 schedule to anchor the start date for several violations, Ms. Dunn assigns a passing score of 3 to the later retention schedules (1994 and 2010) because Ms. Dunn takes a broader, more contextual view. [803] She also points out that evaluating the entire records management program over 50 years based on these few documents is very difficult, leading her to ask how Dr. Duller and Mrs. North's GARP scores are to be evaluated other than subjectively, because the use of GARP and the Information Governance Maturity Model is unproven.[804]

b. The Duller/North Analysis Is Not Aligned With CPSD's Views Of The Section 451 Standard

What further compounds the error is that Dr. Duller and Mrs. North failed to align their opinions with CPSD's changing policy testimony. Each of Dr. Duller and Mrs. North's primary violations was said to be a violation of Section 451, a provision that, according to Ms. Halligan, required PG&E to have used "the best engineering practices." [805] Yet in reaching the conclusion that PG&E violated Section 451, Dr. Duller and Mrs. North did not evaluate past industry practices of any kind.[806] They did not reach any conclusions about what kinds of records need to be retained as a matter of engineering judgment. [807] In a handful of instances, they refer to a

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[800] Ex. PG&E-62 at MD-15 (PG&E/Dunn).

[801] Ex. PG&E-75 (PG&E Response to TURN Data Request No. 2, Question 10); *see also* R.T. 1381-86 (PG&E/Dunn).

[802] Ex. PG&E-62 at MD-15 (PG&E/Dunn).

[803] Ex. PG&E-62 at MD-15 (PG&E/Dunn).

[804] Ex. PG&E-62 at MD-15 (PG&E/Dunn).

[805] R.T. 73-74, 76 (CPSD/Halligan).

[806] R.T. 651-53 (CPSD/Duller and North).

[807] R.T. 637, 652 (CPSD/Duller and North).

"good safety r ecordkeeping practices" standard. [808] But on cross -examination they explained they did not evaluate PG&E according to either a "best engineering practices" or "good safety recordkeeping" standard.[809] At most, Dr. Duller and Mrs. North testified that a lack of records may lead to a public safety risk, but they could not evaluate that risk because they are not engineers.[810] The result is a purely subjective set of judgments detached from Ms. Halligan's testimony, detached from any statement of violations of which PG&E ever received notice, detached from regulatory standards and detached from objectively measured industry practices.

c. Ms. Dunn's Disagreement With Duller/North Goes Beyond Methodology; She Disagrees With The Substance Of Their Conclusions

Ms. Dunn's disagreement with Dr. Duller and Mrs. North goes beyond questions of methodology. She disagrees with their conclusio ns.[811] Ms. Dunn conducted a limited review of PG&E's records management program and concluded that it did "change and improve" over the time Dr. Duller and Mrs. North examined. [812] She pointed to the evolution of the records management guidance documents as e vidence that PG&E took an increasingly sophisticated approach to creating and managing records. [813] Where Dr. Duller and Mrs. North concluded that PG&E's recent records retention program was substandard, Ms. Dunn concluded it met the essential requirements for an effective program.[814]

Dr. Duller and Mrs. North found fault with PG&E's decentralized approach to records management.[815] Ms. Dunn answered that PG&E's decentralized approach was appropriate to PG&E's business structure and utility operations, [816] something Dr. Duller and Mrs. North never considered. Dr. Duller and Mrs. North repeatedly criticized PG&E because PG&E's job folders

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[808] R.T. 631 (CPSD/Duller and North); Ex. CPSD-8 at 27 ("good safety recordkeeping"), 65 ("best engineering judgment") (CPSD/Duller and North).

[809] R.T. 651-52 (CPSD/Duller and North).

[810] R.T. 689-90 (CPSD/Duller and North).

[811] Ex. PG&E-62 at MD-5 to MD-6 (PG&E/Dunn).

[812] Ex. PG&E-62 at MD-10 (PG&E/Dunn); *see also* Ex. PG&E-75 (PG&E's Data Response to TURN Data Request No. 2, Question 10).

[813] Ex. PG&E-62 at MD-10 to MD-14 (PG&E/Dunn).

[814] Ex. PG&E-62 at MD-15 (PG&E/Dunn).

[815] Ex. CPSD-6 at 6-26 (CPSD/Duller and North).

[816] Ex. PG&E-62 at MD-16 to MD-17 (PG&E/Dunn); *see also* R.T. 2222 (PG&E/Daubin); *see also* Ex. CPSD-6 at Table 6-24 (CPSD/Duller and North).

had been dispersed across the organization without centralized indexing.[817] "In making this point, Dr. Duller and Ms. North seem to assume that central control is always more desirable than distributed control."[818] Ms. Dunn squarely refutes that assumption. She identified technological limitations that existed in earlier eras, and PG&E's broad service territory, as reasons why "a decentralized approach made sense."[819] In fact, according to Ms. Dunn, decentralization had advantages in an earlier era, none of which Dr. Duller and Mrs. North seem to have considered.[820] For example, Dr. Duller and Mrs. North criticized the existence of multiple folders, located in different locations.[821] Ms. Dunn refutes the criticism:

> Dr. Duller and Ms. North conclude that the existence of multiple folders, located in different locations, is by definition negative. However, there is no evidence to support this conclusion. There are many job file numbers that span years or decades as work continued to be performed on a single pipeline component over time. Multiple job folders contain information relating to a single job folder because this is the way the work happened. Ideally, from a records management perspective, someone could have collected all the job folders, created an updated Master Job File and a central catalog or index, and either stored that Master Job File centrally with controlled circulation or made and distributed a new set of copies to the field. This may have been ideal, but it is not very feasible – and PG&E was faced with making practical decisions as they operated a large, complex business.[822]

Ms. Dunn further observed that Dr. Duller and Mrs. North's conclusions flowed from a records-centric view of records in which the absence of traditional records management catalogues and indexing tools marked what they deemed a program deficiency.[823] This records-centric view led Dr. Duller and Mrs. North to reach conclusions such as the assertion that the "bulk of the Gas Transmission Divisions Records Management activities prior to San Bruno focused upon addressing the operational needs of active projects."[824] This and other statements

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[817] Ex. CPSD-6 at 6-42 to 6-46, 6-55 to 6-57, 6-61 to 6-69 (CPSD/Duller and North); Ex. CPSD-8 at 35-38 (CPSD/Duller and North).

[818] Ex. PG&E-62 at MD-20 (PG&E/Dunn).

[819] Ex. PG&E-62 at MD-20 to MD-22 (PG&E/Dunn); *see also* Ex. PG&E-61 3-14 to 3-27 (PG&E/Phillips).

[820] Ex. PG&E-62 at MD-23 to MD-24 (PG&E/Dunn).

[821] Ex. CPSD-6 at 6-61 to 6-69 (CPSD/Duller and North).

[822] Ex. PG&E-62 at MD-23 (PG&E/Dunn).

[823] Ex. PG&E-62 at MD-16 to MD-19 (PG&E/Dunn).

[824] Ex. CPSD-6 at 7-106 (CPSD/Duller and North).

are the equivalent of faulting the scientists at the Smithsonian Museum of Natural History because records interest them only for what they tell us about natural history.[825] Ms. Dunn explained there is nothing wrong with focusing on the use of records to meet operational needs:

> But this is not how engineers look for or use documents. Instead, engineers start with physical assets (in this case, pipeline components) and work back to documents, as shown by the approach developed by PG&E's engineers for the MAOP Validation project. The engineers' focus is on the real world, physical assets, and only on the documents as they provide supporting information related to those assets, not the other way around. This type of approach is not uncommon outside of records management and other document-centric industries.[826]

d. PG&E's Records Practices Benchmark Against Those Of The Industry

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. Dr. Duller and Mrs. North failed to "look[] at other utilities, or even other U.S.-based companies operating over the same period of time."[827] Without such comparisons, conclusions that may seem reasonable in the abstract can turn out to be misleadingly divorced from reality. Take, for example, Dr. Duller and Mrs. North's conclusion that PG&E did not adequately handle its "'paper mountain' of historical records . . ."[828] Dr. Duller and Mrs. North portray this as a problem somehow unique to PG&E.[829] But in a different section of the report they assert that the "paper mountain" phenomenon pervaded many industries beginning in the 1990s:

> With the introduction of more and more technology to assist organizations to gain efficiency and market and sell their products more easily, alongside a need to reduce operating costs, the early 1990's saw many records centers 'downsize' and staff were replaced with document management software and electronic storage systems that 'could do the record-keeping job more easily' removing the necessity for records clerks to file and maintain paper repositories. This proved to be a mistake as the paper mountains increased, the new electronic systems were not intuitive so people

[825] Ex. PG&E-62 at MD-19 to MD-20 (PG&E/Dunn).

[826] Ex. PG&E-62 at MD-19 (PG&E/Dunn).

[827] Ex. PG&E-62 at MD-24 (PG&E/Dunn).

[828] Ex. CPSD-6 at 7-106 (CPSD/Duller and North).

[829] Ex. CPSD-6 at 7-106 (CPSD/Duller and North).

> reverted to paper, and previously well managed paper filing systems fell into disarray.[830]

Their suggestion that the "paper mountain" phenomenon pervaded industry finds support in a recent PHMSA power point presentation. There PHMSA included a slide describing "Issues We Have Seen" and identified "File drawers – Project files not properly indexed or recallable – poor housekeeping."[831] Accompanying the slide's text was a photograph of a woman sitting behind a desk piled high with a mountain of paper.[832]

In contrast, Ms. Dunn's evaluation of PG&E took into account industry experience and technological change. She conducted this type of evaluation based on her own experience working in the U.S. utility industry (experience Dr. Duller and Mrs. North lack) and by examining benchmarking data as well as primary sources (*i.e.*, reports and other documents submitted by utilities and energy companies referencing the implications of responding to the emerging "traceable, verifiable and complete" recordkeeping requirement).[833] She considered a recent ComEd survey conducted in late 2011/early 2012 that collected information about the records management practices of 10 U.S.-based utilities, including PG&E.[834] The findings show that PG&E's practices did not "stand out from the pack" of other operators.[835] "Two of the ten companies seem to be further ahead than the others, but the remaining eight respondents reported very similar conditions in terms of control, program effectiveness, and satisfaction with their programs."[836] For example, 90% of the respondents store records in off-site central repositories, and 80% place records management responsibility with the individual business units or departments.[837] Many operators, like PG&E, continue to maintain paper records, some of which are 50 or more years old.[838] Since the San Bruno accident, other operators (not just PG&E) are

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[830] Ex. CPSD-6 at 8-110 (CPSD/Duller and North).

[831] Ex. PG&E-21 at 4.

[832] Ex. PG&E-21 at 4.

[833] Ex. PG&E-62 at MD-24 to MD-33 (PG&E/Dunn).

[834] Ex. PG&E-62 at MD-24 to MD-26, MD-App. F (PG&E/Dunn).

[835] Ex. PG&E-62 at MD-26 (PG&E/Dunn).

[836] Ex. PG&E-62 at MD-26 (PG&E/Dunn).

[837] Ex. PG&E-62 at MD-25 (PG&E/Dunn); Ex. PG&E-63 (Tab 1-33) (in which the AGA, in October 2011, gave its members the following guidance about searching for MAOP records: "Identify a complete list of places to look for the records and as-built work orders. This might include central archives, warehouses and company facilities formerly and currently used for engineering, construction, operations and maintenance, pipeline integrity, mapping, purchasing and records storage.").

[838] Ex. PG&E-62 at MD-25 (PG&E/Dunn).

discovering data quality problems greater than previously recognized. [839] These findings refute Dr. Duller and Mrs. North's assertion that PG&E violated the law because its "[g]as transmission pipeline records were widely distributed and poorly controlled across the Division."[840]

Ms. Dunn stated that her opinions about industry experiences were supported by James Howe's testimony.[841] Mr. Howe testified that as gas pipeline operators have begun to search for records to comply with the new "traceable, verifiable, and complete" concept, "mor e and more have found that they may not have complete historical or verifiable records." [842] Mr. Howe recounted numerous industry documents and statements since the San Bruno accident in which the industry has acknowledged it faces substantial challenges in locating records. [843] Mr. Zurcher substantially corroborates Mr. Howe on this and other points. [844] CPSD did not offer any testimony from U.S. natural gas industry experts about how the industry has addressed records issues and thus did not point to any evidence that PG&E's experiences deviated materially from those of other operators. This omission left CPSD to take the counter-logical position that the Commission should judge PG&E according to a "best engineering practices" standard that treats actual "engineering practices" in the industry as irrelevant to the inquiry.

[839] Ms. Dunn pointed to an October 3, 2011, advice letter from Xcel Energy to the Public Utilities Commission of Colorado, requesting permission to raise its rates to cover increased costs related to its integrity management program. Ex. PG&E-62 at MD-33 (PG&E/Dunn). [redacted]

[840] Ex. CPSD-16 (Violation A.1) (CPSD/Duller and North).

[841] Ex. PG&E-62 at MD-26 (PG&E/Dunn).

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

[843] Ex. PG&E-61 at 1-12 to 1-15 (PG&E/Howe); *see, e.g.,* Ex. PG&E-63 (Tabs 1-15, 1-27, 1-29).

[844] Ex. PG&E-61 at 3-6 to 3-13 (PG&E/Zurcher); *see also* R.T. 1826-35 (PG&E/Zurcher).

e. The Duller/North Records-centric Approach Did Not Consider How PG&E Used Records In The Past

To the extent that Dr. Duller and Mrs. North acknowledge that a decentralized re cords management system may be appropriate, they insist upon consistency. David Harrison, a pipeline engineer with significant experience reviewing and handling PG&E's job files, [845] testified that in his experience, PG&E's job files are fairly well organize d.[846] The local systems are well established and consistent across different field offices. [847] Mr. Harrison explained that the organization of local mapping departments was consistent across the 10 -12 local PG&E offices he has visited. [848] The job files are st ored in cabinets, drawers or lateral files. [849] Service orders are tracked separately and maintained in different files. [850] According to Mr. Harrison, PG&E personnel well understand how job files are maintained and how job files may be located.[851] Mr. Harrison also explained that the process by which engineers identify job files makes sense.[852] The engineer would use wall maps, which would refer him or her to plat sheets (smaller sections of map), which in turn would identify characteristics of the pipe, includi ng the job number(s). [853] Using the job number, an engineer with the aid of local mappers would retrieve the job files.[854] Mr. Harrison never saw job files being discarded.[855]

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In summary, Dr. Duller and Mrs. North's Violation A.1 is an omnibus records violation that reflects a strong records-centric bias. PG&E expert Maura Dunn and other PG&E witnesses explained, however, that PG&E maintains an operations focus. It organized and controlled the records in ways that historically made sense for how the w ork got done. Changes in technology and changes in regulatory expectations will continue to drive PG&E and other operators to adopt records approaches more closely aligned with the 21st century methods Dr. Duller and Mrs.

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[845] Ex. PG&E-61 at 3-34 to 3-39 (PG&E/Harrison).
[846] Joint R.T. 281 (PG&E/Harrison).
[847] Joint R.T. 282 (PG&E/Harrison).
[848] Joint R.T. 283 (PG&E/Harrison).
[849] Joint R.T. 283 (PG&E/Harrison).
[850] Joint R.T. 283 (PG&E/Harrison).
[851] Joint R.T. 284 (PG&E/Harrison).
[852] Joint R.T. 282 (PG&E/Harrison).
[853] Joint R.T. 282 (PG&E/Harrison).
[854] Joint R.T. 282 (PG&E/Harrison).
[855] Joint R.T. 261 (PG&E/Harrison).

North favor. But those changes a re comparatively recent developments. They do not provide a basis to condemn decades of past PG&E gas records practices.

B. Alleged Records Retention Violations

In addition to the general recordkeeping violation, Dr. Duller and Mrs. North also allege the following six record retention violations, described as follows:

1. Violation B.1 : PG&E's minimal compliance with some of its own retention policies regarding leak survey maps violates other requirements.

2. Violation B.2 : PG&E's minimal compliance with some of its own line patrol report retention policies violates other requirements.

3. Violation B.3 : PG&E's minimal compliance with some of its own lin e inspection report retention requirements violates other requirements.

4. Violation B.4 : PG&E's m inimal compliance with some of its gas high pressure test record retention policies violates other requirements.

5. Violation B.5 : 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.

6. Violation B.6: 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.

Before addressing the particulars of each violation, PG&E makes four points applicable to all of them. First, in attempting to sup port violations B.1 through B.6, Dr. Duller and Mrs. North overlooked key gas standards. Despite asserting that their "specific area of concern" was the activities of the Gas Transmission Organization [856], their initial and supplemental reports exclusively addressed PG&E's general corporate records retention schedules. [857] In response to these reports and testimony, Ms. Dunn and Mr. Phillips pointed out that Dr. Duller and Mrs. North overlooked the records provisions in the Gas Transmission Standards that were actually

[856] Ex. CPSD-8 at 27 (CPSD/Duller and North).

[857] Ex. PG&E-62 at MD-41 (PG&E/Dunn) ("Based on Appendix 9 of their report, Dr. Duller and Ms. North looked only to the centrally released records retention schedules (those issued by the Corporate Secretary) to find the retention periods"). PG&E uses the term "corporate" records retenti on schedule to refer to the centrally -released records schedules.

used by the gas organization on a day-to-day basis.[858] To explain their mistaken emphasis on corporate records retention schedules, Dr. Duller and Mrs. North claim that they were misled into believing that the corporate records retention schedules were the applicable ones.[859] Mr. Phillips refuted that assertion, pointing to the numerous instances where in its June 20, 2011 filing, and in discovery responses, PG&E specifically directed Dr. Duller and Mrs. North to PG&E's Gas Transmission Standards for information about gas records retention requirements.[860] Dr. Duller and Mrs. North failed to address these Gas Standards in forming their opinions supporting alleged Violations B.1 through B.6.[861] As Ms. Dunn explains, those Gas Standards contain retention periods consistent with, or in excess of, those Dr. Duller and Mrs. North call for in their Violations B.1 through B.5.[862] Therefore, each of the Dr. Duller and Mrs. North's Violations B.1 through B.5 fall on this ground alone.

Second, Dr. Duller and Mrs. North's reading of decades-old corporate records retention schedules lacks essential context. PG&E's corporate records retention schedules drew upon Commission Resolutions adopting FPC (later FERC) retention requirements.[863] Prior to 1976, inconsistencies emerged between the Commission's records retention resolutions and the records provisions of various General Orders, including GO 112-C.[864] The uncontroverted evidence shows that PG&E was the gas utility that pointed out to the Commission these inconsistencies and helped the Commission address them through the adoption of FA-570 in 1976.[865] To assign fault to PG&E now because its pre-1976 records retention schedules did not fully harmonize FPC (later FERC) retention requirements to the requirements of General Order 112, only calls

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[858] Ex. PG&E-61 at 2-23 to 2-24 (PG&E/Phillips); *see also* R.T. 1113-14, 1183-84, 1186-87, 1191-92 (PG&E/Phillips).

[859] Ex. CPSD-8 at 18-19 (CPSD/Duller and North).

[860] R.T. 1184-95 (PG&E/Phillips); *see also* Ex. PG&E-69 (PG&E Response to Data Request No. 5, Question 3). CPSD devoted a significant part of its cross-examination of Mr. Phillips to the question of whether PG&E referenced its Gas Standards in prior discovery responses. R.T. 1140-55. (CPSD/Gruen). That line of questioning backfired on CPSD. R.T. 1184-95 (PG&E/Phillips) (in which Mr. Phillips identified numerous prior data responses and submissions in which PG&E clearly references Gas Standards as among different sources of records retention requirements).

[861] Dr. Duller and Mrs. North were not unaware of the Gas Standards and their relationship to gas records retention when they prepared their report. They referenced a former Gas Standard (SP 467.3) when claiming as part of Violation B.6 that PG&E failed to retain Pipeline History Files for the life of the facility as called for by that rescinded Gas Standard. Ex. CPSD-6 at 6-37, n.98 (CPSD/Duller and North).

[862] Ex. PG&E-62 at MD-46 to MD-55, App. D, App. E (PG&E/Dunn).

[863] Ex. PG&E-61 at 2-6 to 2-11, 2-17 (PG&E/Phillips).

[864] Ex. PG&E-61 at 2-7 to 2-11 (PG&E/Phillips); *see also* Ex. PG&E-64 (Tab 2-19); R.T. 1028-30 (PG&E/Phillips).

[865] Ex. PG&E-64 (Tabs 2-19, 2-20); *see also* Ex. PG&E-61 at 2-8 to 2-9 (PG&E/Phillips).

attention to the problem that PG&E helped the Commission identify and resolve in that early era. Inconsistencies of this kind are not records retention violations; they are examples of overlapping and/or inconsistent record retention requirements that over time need to be reconciled to allow regulated entities to comply.

Third, Dr. Duller and Mrs. North's review of PG&E's records schedules reflects hindsight judgments. The violations they assert (*e.g.*, alleged mistakes on a 1964 corporate records retention schedule) are far removed from the day-to-day realities of operating or regulating a gas utility. For the past 50 years, CPSD has audited PG&E's gas records, focusing on precisely the kinds of records that Dr. Duller and Mrs. North find to have been mis-scheduled.[866] CPSD has regularly examined maps and maintenance and operations records.[867] That is what they have repeatedly told the Commission and the public they have been doing in GO 112 audits going back at least to the mid-1990s.[868] It is unreasonable for Commission staff to now assert, for example, that a 1964 records retention schedule mistakenly schedules a particular kind of document.[869]

Finally, Violations B.1 through B.6 lack internal logic and legal sense. Consider two examples. First, Violations B.2 and B.3 specified that PG&E violated 49 C.F.R. § 192.709 until April 2010, yet specified that violations of Section 451 and ASME B31.8 for the same conduct continued through September 2010.[870] In the case of Violation B.2, Mrs. North explained that the Section 192.709 violation ended in April 2010 because PG&E issued revised retention schedules that, in her words, "actually complied."[871] Asked why, if the schedules complied as of April 2010, CPSD alleged that the violations predicated on Section 451 and ASME B31.8 continued until September 2010, Mrs. North had no answer.[872] Second, Violations B.2, B.3, B.4 and B.5 each assert violations of ASME B31.8 that start at various times between 1955 and 1994

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[866] Ex. PG&E-61 at 2-12 to 2-13 (PG&E/Phillips). *See also* Ex. PG&E-64 (Tab 2-27); Ex. PG&E-8 (CPSD USRB Electric, Natural Gas & Propane Safety Report 2009); Ex. PG&E-10 to Ex. PG&E-17 (CPSD USRB Electric, Natural Gas & Propane Safety Records 1997-2008).

[867] Ex. PG&E-61 at 2-12 to 2-13 (PG&E/Phillips).

[868] Ex. PG&E-8 (CPSD USRB Electric, Natural Gas & Propane Safety Report 2009), Ex. PG&E-10 to Ex. PG&E-17 (CPSD USRB Eelctric Natural Gas & Propane Safety Reports 1997-2008).

[869] *See supra* Section III.D.

[870] Ex. CPSD-16 (Violations B.2 and B.3) (CPSD/Duller and North).

[871] R.T 658-59 (CPSD/Duller and North); *see also* R.T. 681-83 (where Mrs. North explains that she and Dr. Duller asserted Violations B.1 through B.5, notwithstanding the fact that PG&E's policies of retention complied with the minimum requirements of the law).

[872] R.T 658-59 (CPSD/Duller and North).

and continue through 2010. [873] But this does not square with CPSD's policy testimony. Ms. Halligan testified that CPSD did not assert ASME B31.8 violations after GO112 -C took effect in 1971.[874]

PG&E's specific responses to each Duller/North Violation B.1 through B.6 are set out below.

1. Violation B.1: Leak Survey Maps

Neither PG&E's corporate records retention schedules nor its Gas Standards specified erroneous retention periods for Leak Survey Maps. Dr. Duller and Mrs. North's contentions to the contrary rest on a misunderstanding of both the facts and the law.

In their revised table of violations, Dr. Duller and Mrs. North contend that PG&E retention policies regarding leak survey maps violated Section 451 during the period from 1955 through September 2010.[875] They write: "In summary, by r equiring only a minimum retention period of 9 years, PG&E policy fails to establish that an existing leak survey map will be replaced with a new one." [876] Dr. Duller and Mrs. North claim the nine -year retention period specified in PG&E's corporate retention schedules for Leak Survey Maps violates Section 451, ASME B31.8, GO 112, §107 and 49 C.F.R. § 192.709.[877]

The testimony of PG&E pipeline engineer Steve Phillips answered Dr. Duller and Mrs. North's summary statement.[878] He pointed out that a nine -year retention period amply complies with Section 192.709(c)'s requirement to retain survey records "for at least five years or until the next . . . survey":

> Dr. Duller and Ms. North criticize PG&E's 2010 [corporate retention] schedule for mandating retention of "Leak Survey Maps" for only nine years, when Part 192.709(c) has required since 1996 that such records be kept for five years or until the next leak survey, whichever is greater. (P2 -3, at GTR0002478.) Even assuming that "Leak Survey Maps" qualify as a record of a "patrol, survey, inspection, and test" under Part 192.709(c), Dr. Duller and

[873] Ex. CPSD-16 (Violations B.2- B.5) (CPSD/Duller and North).

[874] R.T. 66 (CPSD/Halligan)

[875] Ex. CPSD-16 (Violation B.1) (CPSD/Duller and North).

[876] Ex. CPSD-6 at 6-35 (CPSD/Duller and North).

[877] Ex. CPSD-16 (Violation B.1) (CPSD/Duller and North).

[878] Ex. PG&E-61 at 2 -16 to 2 -17 (PG&E/Phillips); *see also* Ex. PG&E-62 at MD -46 to MD -55, App. D, App. E (PG&E/Dunn).

> Ms. North have to stack several layers of assumptions on top of one another to conclude that a nine -year retention period is insufficient to meet a five -year (or until the n ext leak survey) retention period. 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. [citation omitted]. And, the Commission historically has regularly performed audits of Di vision and District leak records, including audits of two Districts per year.[879]

PG&E's interval for conducting leak surveys, as described by Mr. Phillips, tracks the federal regulations. For pipe like PG&E's, "[l]eakage surveys of a transmission line must be conducted at intervals not exceeding 15 months, but at least once each calendar year."[880] The frequency of leak surveys required by regulation, coupled with PG&E standards, ensures that an existing leak survey map will be replaced with a new one multiple times within the nine-year retention period. As a result, the concern that Dr. Duller and Mrs. North express – that an existing leak survey map will not necessarily be replaced by a new one within nine years – has no grounding in fact or law.

In any event, and as Mr. Phillips further testified, PG&E's corporate retention schedules from 1994, 2005, 2008 and 2010, all include entries for "Leak Survey Inspections" and/or "Leak Survey Logs." Each mandates retention periods of life of the facility or in some cases longer.[881] With respect to those records, the retention schedules complied with Section 192.709(c), which requires that a record of each patrol, survey, inspection and test be retained for the life of the facility (from 1970 to 1996) or for at least f ive years or until the next survey or inspection (but not map) is completed, whichever is longer (from 1996 to the present).[882]

Dr. Duller and Mrs. North did not address Mr. Phillips' testimony on any of these points in their rebuttal testimony.[883] Instead, t hey complained about Ms. Dunn's testimony, which faulted Dr. Duller and Mrs. North for not addressing the retention periods set out in PG&E's Gas Standards.[884] PG&E's Gas Standards that pertain to leak surveys specify retention periods for

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[879] Ex. PG&E-61 at 2-16 to 2-17 (PG&E/Phillips).

[880] 49 C.F.R. § 192.706.

[881] Ex. PG&E-61 at 2 -17 (PG&E/Phillips) (citing P2 -212 at GTR0004316, P2 -225 at GTR0004420, P2 -227 at GTR0004479, and P2 -3 at GTR0002478); *see also* Ex. PG&E -62 at MD -46 to MD -55, App. D, App. E (PG&E/Dunn).

[882] Ex. PG&E-61 at 2-16 to 2-17 (PG&E/Phillips).

[883] Ex. CPSD-8 at 17-19 (CPSD/Duller and North); *see also* R.T. 1013-1154, 1198-99 (PG&E/Phillips).

[884] Ex. CPSD-8 at 17-19 (CPSD/Duller and North).

leak survey maps that comply with the Part 192 requirements. For example, SP 460.21-4, "Gas Leakage, Routine Inspection For," provides in part that records of leaks discovered, repairs made and routine leak survey tests shall be maintained for "as long as that section of main involved remains in service, plus 6 years" for numbered gas lines and secondary trunk mains.[885] As explained by Mr. Phillips, gas engineers followed these Gas Standards.[886] The corporate records retention standards and schedules that Dr. Duller and Mrs. North emphasize were just that – corporate records retention standards and schedules.[887] Dr. Duller and Mrs. North did not address these Gas Standards in their testimony.

2. Violation B.2: Line Patrol Reports

In their revised table of violations, Dr. Duller and Mrs. North contend PG&E retention policies regarding line patrol reports violated Section 451 and other provisions from 1964 through September 2010.[888] This violation appears to have been substantially (if not completely) mooted. It lacks merit in any event.

As Mr. Phillips testified, the Company's corporate retention guidance on line patrol reports complies with Part 192, contrary to alleged Violation B.2., and CPSD has even acknowledged this:

> Dr. Duller and Ms. North are critical of the retention periods for "Line Patrol Reports" listed in PG&E's 1994, 2005, and 2008 retention schedules. Yet each of those schedules provide that line patrol reports shall be retained for *the life of the facility for numbered gas transmission lines* and three years for all other lines. (P2-212, at GTR0004316; P2-225, at GTR0004420; P2-227, at GTR0004479.) The CPSD acknowledged its mistake in discovery responses served after the Duller/North report was issued: "CPSD notes that a violation would exist with the requirement to keep any non-numbered Gas Transmission Line for only three years. CPSD would make this addition as errata to Appendix 9 of Dr. Duller's and Ms. North's report and Appendix 8 of Ms. Felts' report. (This

[885] SP 460.21-4 (P2-1149); *see also* Ex. PG&E-62 at MD-48, App. D, App. E. (PG&E/Dunn).

[886] Ex. PG&E-61 at 2-24 (PG&E/Phillips); *see also* R.T. 1113-14 (PG&E/Phillips).

[887] R.T. 1109, 1111-14 (PG&E/Phillips); *see also* Ex. PG&E-62 at MD-41 (PG&E/Dunn).

[888] Ex. CPSD-16 (Violation B.2) (CPSD/Duller and North).

requirement is to also keep numbered gas transmission lines for the life of the facility.)"[889]

Dr. Duller and Mrs. North did not discuss this statement in their rebuttal testimony.[890] In any event, and as Ms. Dunn observed, PG&E's Gas Standards address patrol records.[891] The Gas Standards provided that patrol records were to be maintained for the life of the facility.[892] Dr. Duller and Mrs. North failed to address the substance of these Gas Standards.

3. Violation B.3: Line Inspection Reports

Violation B.3 alleges that between 1994 and September 2010, PG&E only minimally complied with policies regarding the retention of Line Inspection Reports.[893] CPSD primarily maintains that PG&E violated Section 451 (1994 through September 2010). As explained further in the Introduction to Section VI.B, Violation B.3 makes no sense. It seeks to enforce an ASME B31.8 industry standard in a time period during which Ms. Halligan indicated CPSD would not seek to enforce it. Moreover, it seeks to impose Section 451 and ASME B31.8 violations for a period of time (April 2010 through September 2010) when Dr. Duller and Mrs. North concede PG&E complied with applicable federal law. It seeks to vindicate a "life of the facility" record retention provision contained in an industry standard (ASME B31.8) when that same requirement was eliminated from federal regulations as unnecessary. Finally, the allegation is baseless because PG&E's gas standards provided that Line Inspection Reports would be retained for the "life of the facility."

The allegation that PG&E violated ASME B31.8 between 1994 and September 2010 makes no policy sense because Ms. Halligan testified that CPSD did not seek to enforce ASME B31.8 after General Order 112-C came into effect in 1971.[894] The allegation makes no sense as a matter of law because CPSD apparently construes ASME B31.8 and Section 451 to require PG&E to maintain Line Inspection Reports for the life of the facility when federal regulations directly on point require that they be maintained for five years or until the next patrol, whichever

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[889] 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.).

[890] Ex. CPSD-8 at 17-19 (CPSD/Duller and North).

[891] Ex. PG&E-62 at MD-46 to MD-55, App. D, App. E (PG&E/Dunn).

[892] Ex. PG&E-62 at MD-46 to MD-55, App. D, App. E (PG&E/Dunn); SP 460.2-1 (P2-1240).

[893] Ex. CPSD-16 (Violation B.3) (CPSD/Duller and North).

[894] R.T. 66 (CPSD/Halligan).

is longer.[895] The federal regulations eliminated the "life of the facility" requirement in 1996 because it proved unnecessary.[896] There is no surviving regu latory policy that needs to be vindicated decades after the fact.[897]

Mr. Phillips further explained:

> Dr. Duller and Ms. North are also critical of PG&E's 1994, 2005, and 2008 retention schedules for requiring that "Line Inspection Reports" be retained for only three years, in violation of the ASME standards and 49 C.F.R. Part 192. It would seem, however, that PG&E's mistake (if attempting to take account of a federal regulation in a retention schedule can be considered a mistake) was to schedule a category o f records described in the FERC records retention regulations. The 1994, 2005, and 2008 retention schedules addressing "Line Inspection Reports" each reference "FERC 23D." That is a reference to Part 225.3, Subsection (d) ("Records of general inspection and operating tests") of Section 23 ("Transmission and distribution —Gas"). It too specifies a three - year retention period. (P2 -212, at GTR0004316; P2 -225, at GTR0004420; P2-227, at GTR0004479.)[898]

Dr. Duller and Mrs. North's rebuttal testimony did not resp ond to the substance of Mr. Phillips' testimony on this or other points.[899] But no matter. The Gas Standards applicable to line inspection reports provide retention periods that comply with Part 192's requirements. For example, SP 460.2 -2, "Physical Inspe ction: Pipelines, Mains, and Services," provides in pertinent part that "[a] record of each inspection shall be filed in the Division or Pipe Line Operations Department for the life of the facility."[900] The gas engineers followed these Gas Standards.[901]

There is no violation.

4. Violation B.4: Pressure Test Records

PG&E corporate records retention schedules from 1994, 2005 and 2008 identify a "Gas High Pressure Test Record" as a category of record subje ct to a three -year retention

[895] 49 C.F.R. § 192.709(c).

[896] Ex. PG&E-61 at 1-7 (PG&E/De Leon).

[897] Ex. PG&E-61 at 1-7 (PG&E/De Leon).

[898] Ex. PG&E-61 at 2-16 (PG&E/Phillips).

[899] Ex. CPSD-8 at 17-19 (CPSD/Duller and North).

[900] Ex. PG&E-70 (P2-1325); *see also* Ex. PG&E-62 at MD-46 to MD-55, App. D, App. E (PG&E/Dunn).

[901] Ex. PG&E-61 at 2-24 (PG&E/Phillips); *see also* R.T. 1113-14 (PG&E/Phillips).

requirement.[902] In asserting that these schedules violate a "life of the facility" record retention requirement, Dr. Duller and Mrs. North assume that the term "Gas High Pressure Test Record" in the corporate records retention s chedule refers to a strength test pressure (hydrotest) record of the kind specified in 49 C.F.R. § 192.517. [903] The assumption lacks support.[904] Section 192.517 does not refer to pressure test records as "Gas High Pressure Test Records." [905] Moreover, PG&E's 1994, 2005 and 2008 corporate records retention schedules do not reference Section 192.517 as justification for the three -year retention period and do not link the retention requirement to any specific PG&E pressure test form. [906] They instead reference a form er FERC provision (FERC 23M) that addressed a category of records called "gas pressure." [907] The reference in PG&E's retention schedules to FERC 23M indicate that as used in the retention schedules the "Gas High Pressure Test Record" category referred to a d ifferent kind of record than the one Dr. Duller and Mrs. North assume.[908]

In any case, and as Ms. Dunn testified, PG&E's Gas Standards correctly stated a "life of the facility" retention period for strength test records of the kind required to be maintained by 49 C.F.R. § 192.517.[909] Dr. Duller and Mrs. North do not address the substance of this provision.

There is no violation.

5. Violation B.5: Transmission Line Inspections

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. In any event, PG&E's Gas Standards required that records of this type be maintaine d for the life of the facility.

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[902] Ex. PG&E-64 (Tab 2-11) at GTR0004314, (Tab 2-12) at GTR0004419, (Tab 2-13) at GTR0004478.

[903] Ex. CPSD-6 at 6-36 (CPSD/Duller and North); R.T. 677-79 (CPSD/Duller and North).

[904] R.T. 672-73 (CPSD/Duller and North) (Dr. Duller and Mrs. North explain their understanding of a "Gas High Pressure Test").

[905] 49 C.F.R. § 192.517.

[906] Ex. PG&E-64 (Tab 2-11) at GTR0004314, (Tab 2-12) at GTR0004419, (Tab 2-13) at GTR0004478.

[907] Ex. PG&E-64 (Tab 2-11) at GTR0004314, (Tab 2-12) at GTR0004419, (Tab 2-13) at GTR0004478.

[908] Ex. PG&E-64 (Tab 2 -11) at GTR0004314, (Tab 2 -12) at GTR00 04419, (Tab 2 -13) at GTR0004478. The Part 225 records retention schedule included at paragraph (m) "gas pressure" records and specified a three -year retention period. However, that category of record was deleted from the Part 225 regulations in 1983. *See* PG&E's Initial Response, April 18, 2011, at 1-51 to 1-52.

[909] Ex. PG&E-62 at MD-46 to MD-55, App. D, App. E (PG&E/Dunn).

With Violation B.5, Dr. Duller and Mrs. North contend that between 1964 and 2010 PG&E complied only minimally with retention policies for records they group together as "patrol maintenance reports, trouble reports, and line logs."[910] For support, they reference a two paragraph discussion that appears at page 6 -36 of their initial written report and testimony. There, and without reference to any specific PG&E documents, Dr. Duller and Mrs. North state, in relevant part:

> PG&E retention policies from September 1, 1964, April 6, 1994, March 14, 2005, and May 22, 2008 each required that PG&E retain transmission line inspections, including patrol maintenance reports trouble reports, and line logs. However, from 1955 to present, ASME standards required keeping such inspection records for the life of the facility. Moreover, from August 19, 1970 to June 5, 1996, the CFR required keeping such records for the life of the facility.[911]

Cesar De Leon explained that the "life of the facility" requirement was eliminated from Section 192.709 in 1996 because it was deemed unnecessary. [912] In any event, PG&E's Gas Standards specified that line records should be maintained for the life of the facility. [913] Dr. Duller and Mrs. North do not address the substance of these Gas Standards.

There is no violation.

6. Violation B.6 : Failure To Comply With Specific Record Retention Requirements

CPSD alleges PG&E failed to comply with specific record retention requirements, but it marshals only one specific instance to support its claim: PG&E's allegedly failed to maintain Pipeline History Files as specified in Standard Practice 463.7, effective 12/1/1969.[914] As alleged and supported by Dr. Duller and Mrs. North, Violation B.6 substantially (if not completely) overlaps with Felts Violation 17 (Pipeline History Records Missing). [915] PG&E incorporates by

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[910] Ex. CPSD-16 (Violation B.5) (CPSD/Duller and North).

[911] Ex. CPSD-6 at 6-36 (CPSD/Duller and North).

[912] Ex. PG&E-61 at 1-7 (PG&E/De Leon).

[913] Ex. PG&E-62 at MD-46 to MD-55 (PG&E/Dunn); *see also* Ex. PG&E-70 (SP 460.2-2 (P2-1325)).

[914] Ex. CPSD-16 at n.3 (CPSD/Duller and North); *see also* R.T. 683-85 (CPSD/Duller and North) (where Mrs. North labors to identify any documents covered by Violation B.6).

[915] Ex. CPSD-15 (Violation 17) (CPSD/Felts).

reference its discussion of Felts Violation 17.[916] To summarize that argument, PG&E rescinded Standard Practice 463.7 no later than October 1987, more than 25 years ago.[917] While it is true that PG&E cannot now locate the Pipeline History Files that were formerly maintained under this standard, by CPSD's own account those files went missing after the PG&E rescinded the standard.[918] To assert that PG&E should have retained the Pipeline History Files after 1987 confuses the "desirable with the mandatory."[919] There is no violation.

Dr. Duller and Mrs. North draw out one point in their rebuttal testimony that warrants further discussion. They insist that PG&E selectively quoted Dr. Duller and Mrs. North when it referred to their statement that Pipeline History Files were "really a secondary source of information."[920] They clarify that they used the term "secondary" in the quoted language merely to convey how engineers used the files: They used them as a secondary source of information.[921] Dr. Duller and Mrs. North emphasize further that Pipeline History Files were a "comprehensive collection of pipeline history information that would have formed an invaluable asset to the Company had it been retained and maintained, particularly in the absence of missing, misplaced or destroyed job folders."[922]

To be clear, Pipeline History Files were secondary sources of information in not one, but two senses of the word. First, and as Ms. Felts acknowledged, "the records that underlie the Pipeline History Files are the job files."[923] In other words, Pipeline History Files contained copies of historical records for numbered transmission lines, the originals of which resided in the permanent job files.[924] Pipeline History Files were also secondary in the sense that Dr. Duller and Mrs. North apparently meant. Mr. Phillips explained on cross-examination that the Pipeline History Files "were put together by the divisions and PLO primarily to provide the information back to the General Office departments so they could update their information there, and I

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[916] *See supra* Section V.B.2.

[917] R.T. 321-22 (CPSD/Felts) *see also* Ex. PG&E-61 at 2-21 (PG&E/Phillips).

[918] Ex. CPSD-6 at 6-37 (CPSD/Duller and North) (quoting NTSB Telephonic Interview with Larry Medina).

[919] Ex. PG&E-61 at 2-23 (PG&E/Phillips).

[920] Ex. CPSD-8 at 57-58 (CPSD/Duller and North).

[921] Ex. CPSD-8 at 57-58 (CPSD/Duller and North).

[922] Ex. CPSD-8 at 58 (CPSD/Duller and North).

[923] R.T. 320-21 (CPSD/Felts).

[924] Ex. PG&E-61 at 2-20 (PG&E/Phillips); Ex. PG&E-64 (Tab 2-28); R.T. 1115-16 (PG&E/Phillips); R.T. 1483 (PG&E/Keas); *see also* Ex. PG&E-61 at 2-21 (PG&E/Phillips).

believe a lso make annual reports to the Commission." [925] Mr. Phillips' understanding makes sense in light of the Commission's past reporting requirements. Standard Practice 463.7 emerged at roughly the same time (the late 1960s) as did the Commission's former GO 112 -B reporting requirements.[926]

What distinguished Pipeline History Files was their alternative filing system. [927] PG&E generally has organized its source records by job file number referenced to a wall map and a plat sheet.[928] Pipeline History Files contained co pies of many of the same documents that appeared in job files, but were organized by a linear referencing system, *i.e.*, by pipeline number and mile post, cross -referenced back to job files numbers. [929] The Pipeline History File system was in some respects mo re convenient for engineers. [930] But that does not mean that the law mandated the Pipeline History File system over the Job File system. It especially does not mean that the law mandated that PG&E maintain and update duplicates of the same records, in the s ame office, filed in two different ways. As Mr. Harrison explained:

> A: . . . But again I'm – I can't say that I have perfect memory of it because personally, I believe that I was one of the people that complained about the pipeline history files and pushe d them to eliminate the pipeline history files. And the reason is, it goes right back to your own witness Duller/North and the whole issue of having duplicate files with the same information in the same office, and that's what a pipeline history file was. We had job files and then the pipeline history file was the same information but it was organized linearly along the line. And –.
>
> MR. CAGEN: Q: By pipeline, is that you mean by pipeline?
>
> A: Along the lines, yes.
>
> Q: Please go ahead.
>
> A: By mile point.

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[925] R.T. 1115-16 (PG&E/Phillips) ("No. Pipeline History Files were secondary files. They weren't the primary job file documents or original documents").

[926] Ex. PG&E-61 at 2-20, n.19 (PG&E/Phillips); *see also* CPUC Decision 73223 adopting GO 112-B (1967) (a copy of which was provided as RH-7 to PG&E's June 2011 Response).

[927] Joint R.T. 287 (PG&E/Harrison).

[928] Joint R.T. 282, 287 (PG&E/Harrison).

[929] Ex. PG&E-61 at 2 -21 (PG&E/Phillips); Ex. PG&E-64 (Tab 2-28); R.T. 1115-16 (PG&E/Phillips); Joint R.T. 286-87 (PG&E/Harrison).

[930] Joint R.T. 288-89 (PG&E/Harrison).

> So it was basically a complete duplication of the data. And as I remember it in the divisions, we all thought it was crazy because why are we keeping – why are we having to make copies of data to put in this other file. So as I remember, we complained ab out it and they finally eliminated that practice because, again, it was a completely duplicate file in the same office.[931]

For these reasons, the points that Dr. Duller and Mrs. North raise in their rebuttal testimony do not substantiate their claimed violation.

C. Other Alleged Safety/Pipeline Integrity Violations

1. Violation C.1 : Wrong Year Used As Upper Limit In Gas Pipeline Replacement Program

CPSD alleges that PG&E violated Section 451 in carrying out its Gas Pipeline Replacement Program (GPRP).[932] It maintains that a mistake caused PG&E to exclude Line 132 from the GPRP. "If Line 132 had been included in this program and replaced the San Bruno rupture and fire could have been avoided." [933] This claim is without merit. As the evidence shows, sections of Line 132 built in 1948 did not meet other criteria for inclusion in the GPRP. They would not have been replaced regardless of the perceived records mistake.[934]

PG&E launched the GPRP in 1985. [935] The purpose of the program (as it related to gas transmission lines) was to replace transmission pipes that were welded using the oxyacetylene (Oxy-butt) technique, or were constructed using bell -bell chill ring (BBCR), or bell and spigot (BLSP) girth joint configurations. [936] These girth welds and joint configurations were particularly susceptible to ground movement -related failure (*e.g.*, earthquake, landslide).[937] CPSD maintains that a report prepared by a former employee indicates that the scope of GPRP was limited to replacing transmission pipe installed in 1947 and prior years. [938] CPSD contends

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[931] Joint R.T. 286-87 (PG&E/Harrison).

[932] Ex. CPSD-16 (Violation C.1) (CPSD/Duller and North).

[933] Ex. CPSD-16 (Violation C.1) (CPSD/Duller and North).

[934] Ex. PG&E-61 at 3-49 to 3-52 (PG&E/Roth).

[935] Ex. PG&E-61 at 3-52 (PG&E/Roth).

[936] Ex. PG&E-61 at 3-52 (PG&E/Roth).

[937] Ex. PG&E-61 at 3 -52 (PG&E/Roth); Ex. PG&E -65 (Tab 3 -21) (explaining that the large m ajority of pipeline failures in California earthquakes have been where "joints were constructed using oxy -acetylene welds installed prior to approximately 1930").

[938] Ex. CPSD-6 at 6-49 (CPSD/Duller and North).

that a 2007 PG&E report identified two jobs (GM 98015 on Line 132 and GM 95174 on Line 151) in which the susceptible girth welds had also been used, suggesting that the GPRP program should have included pipe installed in 1948 as well.[939]

Line 132, Segment 180, was constructed in 1956. But even if it had been ins talled earlier it would not have been a candidate for replacement under the GPRP.[940] 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.[941] This configurati on and welding method is superior to Oxy-butt, BBCR and BLSP girth welds and joint configurations, and does not exhibit the same susceptibility to ground movement -related failure.[942] Therefore, even if the scope of the GPRP program included pipelines constr ucted during 1956, Segment 180 would not have been considered for replacement.[943] Similarly, the 30-inch diameter portion of Line 132 built in 1948 on GM 98015 was constructed using the same beveled -edge shielded metal arc welding technique.[944]

Dr. Duller and Mrs. North respond in their rebuttal testimony that PG&E's 1990 GPRP report[945] provides "clear evidence that both Line 109 and Line 132 were to be replaced as part of the Gas Pipeline Replacement Program."[946] Their testimony is contradictory and mistaken. I f, as they now contend, all of Line 132 was in fact included in the GPRP, then Line 132 was not improperly excluded as they initially claimed.[947] But, their rebuttal testimony misreads the 1990 GPRP report to mean that PG&E intended to replace all of Line 1 32 as part of the GPRP. The 1990 GPRP report makes clear that the program did not include modern transmission pipe with arc welds.[948] Table 2 of that report specifies in detail the locations and amounts of transmission

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[939] Ex. CPSD-6 at 6-49 to 6-50 (CPSD/Duller and North).

[940] Ex. PG&E-61 at 3-52 (PG&E/Roth).

[941] Ex. PG&E-61 at 3-52 (PG&E/Roth).

[942] Ex. PG&E-61 at 3-52 (PG&E/Roth).

[943] Ex. PG&E-61 at 3-52 (PG&E/Roth).

[944] Ex. PG&E-61 at 3-52 (PG&E/Roth).

[945] Ex. PG&E-65 (Tab 3-19).

[946] Ex. CPSD-8 at 20 (CPSD/Duller and North).

[947] Dr. Duller and Mrs. North's initial contention, the one on which Violation C.1 was predicated, was that PG&E improperly excluded Line 132 from the GPRP program. Ex. CPSD-6 at 6-50 (CPSD/Duller and North); Ex. CPSD-16 (Violation C.1) (CPSD/Duller and North).

[948] Ex. PG&E-65 (Tab 3-19) at 23 ("Approximately 360 miles of the gas transmission system pipeline are included in the Gas Pipeline Replacement Program. The rest of the transmission system is well -constructed of modern arc-welded steel pipe that is expected to withstand the effects of seismic shaking").

pipe in the replacement program, and the status of replacement at the start of 1990.[949] The table only identified a total of 22 miles of transmission pipe for replacement in all of the San Francisco and San Jose geographic areas.[950] Of that amount, as of January 1990, only 11 miles remained to be replaced.[951] Line 132 (Milpitas to SF Gas Load Center) is approximately 51.50 miles in length, *i.e.*, significantly longer than 22 miles of Bay Area transmission pipe in the GPRP.[952] And, that is before taking into account the mileage of the other, older Bay Area Peninsula transmission lines (101 and 109).[953] Contrary to Dr. Duller and Mrs. North's assertions, 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.

2. Violation C.2: Impact Of Inferior Records On Predicting Earthquake Damage

Violation C.2 highlights the gap between Dr. Duller and Mrs. North's records expertise and their engineering expertise. Their contention – that PG&E did not track information about the location of reconditioned pipe needed for predicting earthquake risk – failed to grasp essential engineering facts.

Dr. Duller and Mrs. North allege that from 1992 to 2010, PG&E violated ASME B.31.8 and Section 451 because it lacked the "necessary accurate and readily locatable gas transmission line records" needed to "precisely identify which of its pipelines were more prone to extensive damage during some earthquakes and thereby ensure safe pipeline operation."[954] Dr. Duller and Mrs. North date the start of the violation to 1992, the year FEMA published a study related to earthquake risks.[955]

Dr. Duller and Mrs. North's sole initial support for this allegation was a 1992 FEMA report on earthquake resistant pipeline construction methods. Specifically, their initial report includes a self-described "short section that links earthquakes, pipelines and records

[949] Ex. PG&E-65 (Tab 3-19) at 24; *see also* Ex. CPSD-8 at 23 (CPSD/Duller and North).

[950] Ex. PG&E-65 (Tab 3-19) at 24.

[951] Ex. PG&E-65 (Tab 3-19) at 24.

[952] Ex. CPSD-18 (PG&E Response to CPSD Data Request No. 5, Question 9, Attachment 8). *See* CPSD-2 at 5 (CPSD/Felts); *see also* Ex. CCSF-3 at Ex. B (March 15, 2011 Declaration of Steven H. Phillips in R.11-02-019).

[953] Ex. CPSD-18 (PG&E Response to CPSD Data Request No. 5, Question 9, Attachment 8). *See* CPSD-2 at 5 (CPSD/Felts); *see also* Ex. CCSF-3 at Ex. B (March 15, 2011 Declaration of Steven H. Phillips in R.11-02-019).

[954] Ex. CPSD-16 (Violation C.2) (CPSD/Duller and North).

[955] R.T. 687-88 (CPSD/Duller and North); *see also* Ex. CPSD-6 at 6-91 (CPSD/Duller and North).

management."[956] The relevant sections are indeed short: they amount to a page and a half, much of it consisting of block quotations from the 1992 FEMA report. [957] There is no mention of any facts – just quotations from the FEMA report and broad conclusory statements. T he FEMA report provides no evidence regarding PG&E's recordkeeping practices. As Dr. Duller testified, "the FEMA report simply highlighted the issue of earthquake risk across the United States and its relationship to pipelines."[958]

In contrast, PG&E's June 20, 2011 response to the OII included an extended discussion of the efforts PG&E takes to address risks from ground movement, including earthquakes. [959] In its rebuttal testimony, CPSD did not address the sufficiency of any of these efforts by PG&E to manage the risks associated with ground movement, including earthquakes. Instead, Dr. Duller and Mrs. North stray beyond their area of expertise to offer opinions that rest on a factual misunderstanding about the age of girth welds in reconditioned and reused pipe:

> The rationale for the inclusion of this violation in the CPSD supporting testimony is that PG&E lacked accurate and readily locatable records relating to the use and location of reconditioned, reused or salvaged pipe within PG&E's Gas Transmission pip eline network. *This is particularly important as the age, specification and weld quality of reconditioned pipe may differ significantly from that of the line it is utilized within*.[960]

When asked to explain how the age of a girth weld would differ for recond itioned pipe in view of Ms. Felts' testimony that girth welds are typically removed from reconditioned pipe, Dr. Duller quickly retreated:

> Q: And you were here when Ms. Felts testified that when pipe is reconditioned, the girth welds are cut out and usuall y pieced, trimmed off the ends of each pipe, correct?[961]

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[956] Ex. CPSD-6 at 6-91 (CPSD/Duller and North).

[957] Ex. CPSD-6 at 6-91 to 6-92 (CPSD/Duller and North).

[958] R.T. 687 (CPSD/Duller and North).

[959] Ex. PG&E-61 at 3-49 to 3-52 (PG&E/Roth) (incorporating PG&E's June 20, 2011 Response, Ch. 6C, at 6C-22 to 6C-24).

[960] Ex. CPSD-8 at 22 (CPSD/Duller and North) (emphasis added).

[961] On cross-examination Ms. Felts testified:

> Q: So you're concerned about both longitudinal welds and girth welds?
>
> A: When you salvage and relocate pipe, typically you would salvage the pipe in sections at the girth welds and then trim that portion of the pipe off, according to the PG&E reconditioning process.

A: I wasn't here for all of Ms. Felts' testimony. I'm not an engineer.

Q: So you don't remember her testifying to that while you were here?

A: No.

Q: Would you agree that as among the consultants work ing for CPSD on this matter, questions of earthquake risk and how that relates to pipe would be in Ms. Felts' bailiwick rather than yours?

A: From an engineering perspective, Ms. Felts could comment on the nature and construction of the pipes. From a reco rdkeeping perspective, we were simply reporting on the absence of records and the potential for public safety risk because these records were not available.

Q: Public safety risk in this context, Dr. Duller, you would agree is an engineering risk, not a record risk, correct?

A: A lack of records would lead to that risk.

Q: A lack of records would lead to that risk depending on the actual physical qualities of the pipe, correct?

A: I'm not an engineer. I can't comment on that, that pipe.[962]

In sum, the initial support for Violation C.2 consisted mainly of a block quotation from a FEMA report, not evidence. Pressed on rebuttal to defend the allegation, Dr. Duller and Mrs. North state they were concerned about the age, specification and weld quality of gi rth welds in

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So when you're talking about relocating salvaged pipe, the girth welds wouldn't really matter because you're cutting them out. Unless you salvaged a section of pipe like the one that had several small pups and took it, took a 30 foot section that had six different pieces in it and elected not to cut at each of those welds in the recondition process.

R.T. 405 (CPSD/Felts).

[962] R.T. 689-90 (C PSD/Duller and North). Later in the course of his cross -examination, Dr. Duller expressed concern about the earthquake risks posed to longitudinal seams. R.T. 691 (CPSD/Duller and North). Again, he strays too far from his area of expertise. There is no evidence in the record that ground movement poses a significant risk of failure to longitudinal seams on transmission pipe. The risk of failure called out in the FEMA report is a risk of failure to certain kinds of girth welds. Ex. PG&E-61 at 3-51 (PG&E/Roth); *see also* Ex. CPSD-6 at 6-91 (CPSD/Duller and North). ASME B31.8S, which is incorporated into the federal integrity management regulations, identifies only a girth weld and pipe body threat from ground movement. ASME B31.8S, Nonmandatory App. A, § A4.3; *see also* Joint R.T. 1161-67 (PG&E/Keas).

reconditioned pipe.[963] However, is undercut by what Ms. Felts' testimony shows was an erroneous assumption – the girth welds in reconditioned pipe are the original ones, not new welds. In raising this allegation, Dr. Duller and Mrs. North st rayed into an area beyond their expertise. CPSD has not proven Violation C.2; in fact, Ms. Felts' cross -examination testimony disproves it.

3. Violation C.3: Leak Records

Dr. Duller and Mrs. North allege that PG&E failed to maintain a "definitive, complete and readily accessible database of all gas leaks."[964] Though they maintain that they did not express an opinion, from an engineering standpoint, whether PG&E should have maintained the leak records differentl y, they nonetheless conclude that the way PG&E maintained them "contributes to diminished PG&E pipeline safety."[965] As was established during the hearings, Violation C.3 overlaps with Felts Violations 21 & 22 to an extent CPSD has not yet explained.[966] Accordingly, PG&E incorporates by reference the portion of its brief above that addresses Felts Violations 21-22.

In their rebuttal testimony, Dr. Duller and Mrs. North pressed the argument for creating a definitive leak database based on considerations that we nt beyond their professed expertise. They faulted PG&E for having failed to collect or retain leak data prior to 1957.[967] And they observed purported "gaps" in PG&E's centralization of leak data (IGIS data only goes back to 1999): "Given these gaps in lea k records, CPSD does not believe it is possible for PG&E to analyze the historical leak data over the full lifetime of any given pipeline."[968]

These arguments assume that the systematic review of leak data was prevalent in past eras, and that leak data of al l types had a uniformly high value to an operator. Prior to the integrity management rules, operators generally did not have systematic programs in place to evaluate pipe repair data.[969] Even when integrity management rules took effect, ASME B31.8S instructed operators that in the case of time dependent threats older data "may not be relevant if

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[963] R.T. 405 (CPSD/Felts).

[964] Ex. CPSD-6 at 6-88 to 6-89 (CPSD/Duller and North); Ex. CPSD-16 (Violation C.3) (CPSD/Duller and North).

[965] Ex. CPSD-6 at 6-89 (CPSD/Duller and North).

[966] R.T. 365 (CPSD/Felts); R.T. 635-36 (CPSD/Duller and North).

[967] Ex. CPSD-8 at 24- 25 (CPSD/Duller and North).

[968] Ex. CPSD-8 at 25 (CPSD/Duller and North).

[969] Joint R.T. 731-32 (PG&E/Zurcher).

it was collected many years before the integrity management program was developed."[970] Information about a corrosion leak in one place does not impart information about the threat of corrosion leak in another place.[971] Similarly, information about a pinhole leak on the long seam of DSAW pipe that occurred 20 years ago is of limited value because it tends to reflect a localized threat that has already been addressed.[972] IGIS contains approximately 15 years of leak data, which in the past was generally adequate for the kinds of leak data analyses that PG&E performed.[973] And, leak data does get transferred into GIS.[974] 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 paper A-Forms).[975]

PG&E recognizes the evolving industry and regulatory understanding of the importance of having data, including leak data, centralized and available for ready recall, and is taking significant steps to achieve that goal. PG&E 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.[976] Recognizing the value of centralizing the data, however, is not the same thing as concluding that PG&E violated the law.

Thus, to the extent Violation C.3 stands apart from Felts 21 and Felts 22, it depends on an evaluation of engineering considerations. Dr. Duller and Mrs. North's analysis does not take these engineering considerations into account because, as they concede, they are not engineers and do not offer views about the value of the leak information from an engineering standpoint.

VII. OTHER ALLEGATIONS RAISED BY CCSF TESTIMONY

[intentionally left blank]

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[970] Ex. Joint PG&E-28 at 10 (ASME B31.8S – 2004).

[971] Joint R.T. 733-34 (PG&E/Zurcher).

[972] Joint R.T. 262-64, 274-75, 568 (PG&E/Harrison); R.T. 1926-31 (PG&E/Cowsert-Chapman) ("For more stable threats, such as a manufacturing threat, a leak doesn't necessarily tell you you have a problem"); R.T. 1936 (PG&E/Cowsert-Chapman) (explaining that that leak data became progressively less important in the GPRP program from Bechtel's perspective); R.T. 1998 (PG&E/Cowsert-Chapman); R.T. 870-71 (PG&E/Zurcher).

[973] R.T. 1958-59 (PG&E/Cowsert-Chapman); Ex. PG&E-61 at 3-61 (PG&E/Cowsert-Chapman).

[974] R.T. 2293 (PG&E/Keas, Daubin and Cowsert-Chapman); Ex. PG&E-61 at 3-61 (PG&E/Cowsert-Chapman).

[975] R.T. 1959 (PG&E/Cowsert-Chapman).

[976] Ex. PG&E-61 at 3-67 (PG&E/Cowsert-Chapman); *see also* R.T. 1959 (PG&E/Cowsert-Chapman).

VIII. OTHER ALLEGATIONS RAISED BY TURN TESTIMONY

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IX. OTHER ALLEGATIONS RAISED BY CITY OF SAN BRUNO TESTIMONY

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X. CONCLUSION.

PG&E reiterates its deep sorrow for the September 9, 2010 pipeline accident and its admission of responsibility for it. PG&E is at fault for installing defective pipe that never should have been put into service. But to blame PG&E's recordkeeping for that error and the tragedy that followed is to use hindsight and modern standards and practices to criticize historical practices of which CPSD's consultants have no knowledge.

PG&E's records were not a model. With the lessons learned from San Bruno, PG&E recognizes it past recordkeeping should have been better. PG&E's acknowledgement of that fact and having taken significant steps to impr ove is not, however, the same as conceding violations of law.

This proceeding is not a review of how PG&E should have managed its records. It is an enforcement proceeding in which CPSD carries the burden of proving by clear and convincing evidence, or at a minimum a preponderance of evidence, all of its alleged violations, including those said to be "continuing." CPSD's review did not meet this burden. First, it inappropriately relied on a rate-making statute, Section 451, as the primary basis for almost all of its violations. Such reliance violates California Constitutional guarantees of due process and fair notice. CPSD was not able to clearly articulate the Section 451 standard against which PG&E was to be judged.

Second, CPSD applied 20/20 hindsight to PG&E's recordkeeping practices spanning over 50 years by evaluating those practices using 2009 (GARP) and 2011 (the NTSB's traceable, verifiable complete) standards to assert violations of law. It also relied on inexpert testimony from individuals who had little to no experience evaluating the records of a large U.S.-based gas utility, and how they were created, used, stored and retrieved over the past 50-80 years. The application of these recent standards and the lack of gas records experience led CPSD's consultants to conclusions that ignored operational realities and technological changes that

necessarily influenced how PG&E created, used, stored and retrieved its records over those decades.

PG&E's responsive testimony provides the necessary perspective to allow the Commission to reach conclusions about PG&E's recordkeeping practices over the past several decades. The regulations and industry practice over the past 50 or more years did not requi re the kinds of recordkeeping practices CPSD alleges PG&E failed to follow. In this enforcement proceeding, PG&E must be judged against the requirements and practices existing at the time the allegedly violative conduct took place. Were PG&E's records er ror-free? No. And PG&E never maintained otherwise. However, its records practices were consistent with industry practices and past regulatory expectations.

Historically, legislators and regulators did not focus on recordkeeping. Legal requirements we re relatively few and far between. That is changing. PG&E and the entire industry are learning from the San Bruno accident. For its part, PG&E is engaged in a massive collection, digitization and state -of-the-art organization of its historical and curre nt pipeline safety records. The Commission, PG&E's customers and the public should expect no less.

Respectfully submitted,

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APPENDIX A

PROPOSED FINDINGS OF FACT

Regulatory Requirements Relating To Recordkeeping

1. The Commission first adopted gas pipeline safety rules in December 1960, when it issued General Order 112, effective July 1961.

2. GO 112 adopted, with modifications, what was then a voluntary industry standard (ASA B31.8 – 1958), and mandated that California gas utilities adhere to it.

3. Until GO 112-E came into effect, GO 112 included two categories of recordkeeping requirements: (1) those from the ASA B31.8 standards, including provisions addressed to the retention of pressure test records (ASA B31.8 § 841.417), operating and maintenance records (ASA B31.8 § 850.3), welding qualification records (ASA B31.8 § 824.25), corrosion records (ASA B31.8 § 851.4) and pipeline leak records (ASA B31.8 § 851.5); and (2) recordkeeping provisions unique to California.

4. In 1995, the Commission adopted GO 112-E, which automatically incorporated all revisions to the federal regulations by reference.

5. GO 112 exempted existing facilities from those provisions applicable to design, initial construction, initial inspection and initial testing of new pipelines and did not require that existing pipelines be pressure tested to establish the appropriate MAOP.

6. Similarly, the federal regulations at 49 C.F.R. Part 192 "grandfathered" existing pipelines such as Line 132, Segment 180 based on prior operating pressure history, and did not require that existing pipelines be pressure tested to establish the MAOP.

7. In 2002, Congress enacted the Pipeline Safety Improvement Act, which established integrity management requirements for gas transmission pipelines in high consequence areas.

8. Effective February 14, 2004, PHMSA promulgated the first integrity management regulations at 49 C.F.R. Part 192, Subpart O. The Subpart O regulations added, among other things, provisions requiring operators to retain records demonstrating compliance with Subpart O. 49 C.F.R. § 192.947.

9. GO 112-E has no unique record-keeping provisions apart from those contained in the Part 192 regulations.

The Commission Should Apply A Clear And Convincing Evidentiary Standard

10. The Commission indicated in its OII if violations were found it was prepared to impose on PG&E "daily fines for a significant period of time" in its OII. I.11-02-016 at 12.

11. The ALJ made numerous evidentiary rulings, the justification for which rested on the unprecedented importance of this proceeding. *See, e.g.* , R.T. 180 (ALJ Yip - Kikugawa); Joint R.T. 890-91 (ALJ Yip-Kikugawa).

12. CPSD has alleged continuing violations spanning as many as 80 years. Should the Commission find even one such violation, PG&E would be subject to a minimum penalty of about $15 million and a maximum of roughly $170 million.

13. The Commission has indicated that it may order, in addition to fines and penal ties, other "appropriate relief under the law." I.11-02-016 at 11.

Section 451 Is Not A Source Of Pipeline Safety Requirements

14. Twenty-three of Ms. Felts' twenty -six revised violations and all ten of the Duller/North revised violations rest primarily on Pu blic Utilities Code Section 451. Ex. CPSD-15 (CPSD/Felts); Ex. CPSD-16 (CPSD/Duller and North).

15. Section 451 is a ratemaking provision of the Public Utilities Code.

16. CPSD did not produce any evidence about whether PG&E furnished a level of service commensurate with the rates it received during the time period under investigation.

17. Dr. Duller and Mrs. North's reports did not consider the rates PG&E had historically received in concluding that PG&E had violated Section 451. R.T. 624 (CPSD/Duller and North).

18. CPSD did not offer any testimony that PG&E's past rates reflected the Commission's past adoption of a "best engineering practices available" standard.

19. CPSD refused to commit to advocate in the future for rate recovery sufficient to implement a "best engineering practices available" standard.

20. Apart from references to the ASA B31.8 voluntary standard for the period from 1956 to 1961, CPSD has not identified any industry practice, standard or common understanding with which PG&E failed to comply in order to supp ort its alleged Section 451 violations.

21. The Commission has never applied Section 451 to punish a utility for its gas recordkeeping practices. Joint R.T. 828 (PG&E/Zurcher).

22. CPSD's prior audits and inspections of PG&E's gas operations have not included a review for compliance with Section 451.

23. CPSD has audited PG&E's facilities and records for decades without previously raising the generalized recordkeeping violations it asserted in this enforcement proceeding. Ex. PG&E-8 at 11-15; R.T. 151-53 (CPSD/Halligan); Ex. Joint-50 at 9.

24. PG&E understood that in the past CPSD approved of many aspects of its data management program associated with risk management and integrity management. Ex. CPSD-50.

25. CPSD stated one set of expectations about what Section 451 required in mid-August 2012 and a different set of expectations about what Section 451 required the night before the hearings started. R.T. 72-73 (CPSD/Halligan).

Any Attempt To Use Section 451 As A Free-Floating Pipeline Safety Law Violates Due Process/Fair Notice Principles

26. In mid-August 2012, CPSD stated that it viewed Section 451 as requiring utilities to use "good engineering practices." Ex. PG&E-2 at 2.

27. On September 4, 2012, the night before the hearings started, CPSD changed its position and stated that i t views Section 451 as requiring utilities to use "the best engineering practices" available. Ex. PG&E-2 at 2; R.T. 72-74 (CPSD/Halligan).

28. Despite this shift, CPSD continued to assert a "good engineering practice" standard in the same testimony in which i t claimed to have shifted to the "best engineering practice" standard. Ex. PG&E-2 at 2-3; R.T. 76-78 (CPSD/Halligan).

29. CPSD is unable to identify any instance in which the Commission put utilities on notice during the period of the allegedly violative conduct that the Commission views Section 451 as requiring the use of the best engineering practices available. R.T. 85 (CPSD/Halligan).

30. The Commission has never given prior notice to California gas utilities that it views Section 451 as incorporating either a "good engineering practices" requirement or a "best engineering practices available" requirement.

31. CPSD concedes that its shift from advocating a "good" engineering practices standard to a "best engineering practices" standard "raised the bar." R.T. 72-73 (CPSD/Halligan).

[redacted]

Section 451 Did Not Incorporate The ASME B31.8 Standard Prior To 1961

33. On August 20, 2012, CPSD took the position that prior to 1961 ASA B31.8 carried the independent weight of law. Ex. PG&E-1 at 5-6 (Halligan Rebuttal Testimony).

34. On September 4, 2012, CPSD changed its position and advocated the view that Section 451 incorporated ASA B31.8 prior to 1961 because ASA B31.8 represented the "best engineering practice" available at the time. Ex. CPSD-1 at 7 (CPSD/Halligan).

35. In adopting GO 112 in 1960, the Commission twice described the existing ASA B31.8 standard as a "voluntary" industry standard. Ex. PG&E-4 at 4, 6.

36. When the Commission adopted the ASA B31.8-1955 standard in GO 112, it modified it to make certain its provisions were "mandatory rather than left optional." Ex. PG&E-4 at 11.

37. When the Commission adopted GO 112, it did so without reference to Section 451.

38. To construe Section 451 as having mandated adherence to the ASA B31.8 voluntary industry standard in the era prior to GO 112 renders the Commission's GO 112 rulemaking superfluous in contravention of established rules of construction and interpretation.

CPSD Does Not Allege Proper "Continuing" Offenses

39. Missing records rarely, if ever, can be recreated. Joint R.T. 799 (PG&E/Zurcher).

40. Imposing daily penalties for the length of time a record remains missing is grossly disproportionate to the gravity of the offense, particularly where, as here, the records were alleged to have gone missing years and decades ago.

41. PG&E did not have notice, prior to this proceeding, of CPSD's view that a violation based on a missing record is a "continuing violation" for each day the record remains missing.

42. PG&E did not have notice and an opportunity to cure the violations CPSD asserts during the period of the allegedly violative conduct.

CPSD's Delay In Raising 80 Years Of Alleged Continuing Violations Constitutes Laches

43. CPSD has existed as a unit of the Commission in one form or another since the 1950s. PG&E's Initial Response, April 18, 2011, App. A, Ch. 1 at 5.

44. CPSD has been reviewing filings for new pipeline construction projects and auditing and examining PG&E's gas records for decades. Ex. PG&E -8; Ex. PG&E-10 to Ex. PG&E-17; Ex. PG&E -61 at 3 -30 to 3 -31 (PG&E/Harrison); Ex. PG&E -65 (Tab 3-6 to 3-10); R.T. 92-94 (CPSD/Halligan).

45. CPSD's delay in raising its general records violations (Felts Violations 16 -27 and all Duller/North violations) is unreasonable.

46. For decades CPSD has reported that it conducted "GO 112" audits of PG&E's records and facilities without once reporting that it audited to ensure compliance with Section 451 or ASME B31.8 or otherwise cited an operator for violating these provisions. Ex. PG&E-8; Ex. PG&E-10 to Ex. PG&E-17.

47. There is no evidence of CPSD ever having audited PG&E to ensure compliance with Section 451 or ASME B31.8.

48. CPSD delayed unreasonably in alleging violations of GO 112 (and its successor rules) and Part 192 of the Code of Federal Regulations.

49. CPSD's unreasonable delay in asserting its general records violations prejudiced PG&E.

CPSD's Case Assumes Facts Rather Than Attempting To Carry Its Burden To Prove Violations

50. There is no record evidence that supports the end dates for any of CPSD's alleged "continuing" violations. *See, e.g.*, R.T. 276-77.

51. There is no record evidence that supports the start dates for any of those "continuing" violations alleged by CPSD for which its witnesses assumed the earliest conceivable start date.

Dr. Duller And Mrs. North Used Improper Assessment Methods

52. Dr. Duller does not have any engineering experience.

53. Mrs. North does not have any engineering experience.

54. Dr. Duller and Mrs. North did not evaluate PG&E's records management practices to determine if they comported with "best engineering practices." R.T. 652 (CPSD/Duller and North).

55. Dr. Duller and Mrs. North's testimony does not establish any violation even assuming that Section 451 has the meaning CPSD claims. They did not link any of their perceived records deficiencies to CPSD's articulated standard for finding a Section 451 violation. Nor did Ms. Felts link their perceived deficiencies to CPSD's standard. Ms. Felts did not meaningfully review Dr. Duller and Mrs. North's testimony. R.T. 363-65 (CPSD/Felts).

56. Neither Dr. Duller nor Mrs. North had ever provided expert testimony before. R.T. 644 (CPSD/Duller and North).

57. Dr. Duller and Mrs. North purposefully destroyed notes taken in the course of their engagement as contemplated expert witnesses. R.T. 641 (CPSD/Duller and North).

58. Dr. Duller and Mrs. North's destruction of their notes potentially prejudiced PG&E.

59. The assessment methodology by which Dr. Duller and Mrs. North judged PG&E's historic recordkeeping practices (GARP and ARMA's Information Governance Maturity Model) was not published until 2009.

60. PG&E was given no notice prior to this enforcement proceeding that its record management practices would be judged by a standard defined by the 2009 GARP principles and the Information Governance Maturity Model. Ex. PG&E-62 at MD-8 (PG&E/Dunn).

Margaret Felts Did Not Ground Her Opinions In Relevant Expertise or Objective Criteria

61. Ms. Felts' testimony does not establish any violation even assuming that Section 451 has the meaning CPSD claims. Ms. Felts did not claim violations of Section 451 based on a "best engineering practices" standard but instead based on her personal judgment about what constitutes an "unsafe condition." *See, e.g.* , R.T. 357-58 (CPSD/Felts).

62. Ms. Felts lacks the expertise necessary to support her conclusions.

63. Ms. Felts i s not, and has never worked as, a pipeline engineer. R.T. 173 (CPSD/Felts).

64. Ms. Felts had no knowledge of any actual industry recordkeeping or integrity management practices in the natural gas pipeline transmission industry. R.T. 343-44, 347, 354-55, 399-400, 402, 408, 416, 517, 592 (CPSD/Felts).

65. Ms. Felts did not ground her conclusions in objective criteria.

66. The Commission does not credit Ms. Felts' testimony.

The NTSB's "Traceable, Verifiable, And Complete" MAOP Records Verification Requirement Creates New Expectations

67. The "traceable, verifiable, and complete" standard was first articulated by the NTSB in its January 3, 2011 safety recommendations.

68. PHMSA first attempted to define the terms "traceable, verifiable and complete" in May 2012. Ex. PG&E-19 at 77; *see also* R.T. 1314 (PG&E/Howe).

69. The gas industry views the "traceable, verifiable, and complete" standard as a new regulatory obligation. Ex. PG&E-61 at 1-10 to 1-12 (PG&E/Howe); R.T. 1247-53 (PG&E/Howe); R.T. 1268-72 (PG&E/Howe); Ex. PG&E-62 at MD -29 to MD -33 (PG&E/Dunn).

70. The gas industry as a whole has struggled to implement the new "traceable, verifiable, and complete" standard. Ex. PG&E-21 at 4; Ex. PG&E -61 at 1-9 to 1-15 (PG&E/Howe); Ex. PG&E-63 (Tab 1-25) at 10.

71. PG&E had no notice prior to Ja nuary 3, 2011 that it should maintain MAOP records that are "traceable, verifiable, and complete."

72. Until very recently, it was not technologically feasible for gas utilities to maintain "traceable, verifiable, and complete" MAOP records. Ex. PG&E-62 at MD -27 (PG&E/Dunn).

Felts Violation 1: Salvaged Pipe Records

73. PG&E's job file for the construction of Segment 180 does not contain records that salvaged pipe was used in the construction of Segment 180. Joint R.T. 442 (PG&E/Harrison).

74. Material codes found on records from the construction of Segment 180 indicate that PG&E ordered new X -52 DSAW pipe. Joint R.T. 322, 368, 386, 393 -95, 424, 442 (PG&E/Harrison).

75. "Figure 5" cited by Margaret Felts was created by the NTSB, and was not created or validated by PG&E. R.T. 454 (CPSD/Felts).

76. "Figure 5" cited by Ms. Felts does not accurately depict the pipe used in constructing Segment 180. Each pipe identified in Figure 5 as "salvage" pipe is identified with material codes that correspond to new X52 DSAW pipe. R.T. 542-63 (CPSD/Felts).

77. PG&E did not purchase pipe for the Segment 180 relocation project, but instead completed the installation using 30 -inch DSAW pipe held in existing company inventory. Joint R.T. 314, 341 (PG&E/Harrison).

78. PG&E had sufficient 30 -inch DSAW pipe remaining in inventory from prior purchases in 1948 (Line 132), 1949 (Line 153) and 1953 (Line 131) to complete the Segment 180 project. Ex. PG&E-61 at 4-1 (PG&E/Harrison).

79. An internal camera inspection of Segment 180 confirmed through markings inside the pipe that Segment 180 was constructed, at least in part, with pipe from prior purchases. Ex. PG&E-61 at 4-1 (PG&E/Harrison).

80. Ms. Felts stated that she was unsure whether any pipe used in Segment 180 was salvaged. Joint R.T. 452 (CPSD/Felts).

81. If PG&E reviewed the records for Segment 180 using the stringent requirements of the current MAOP validation effort, it would not indicate the presence of salvaged pipe. Joint R.T. 442 (PG&E/Harrison).

82. Historically, PG&E kept a record in job files noting when it had reused and reconditioned pipe in a new installation. Joint R.T. 434-45 (PG&E/Harrison).

83. The gas transmission pipe industry has never had a practice that maintains a "perfect" chain of custody documenting the source of each pipe used in its system. Ex. PG&E-61 at 1-10 to 1-15 (PG&E/Howe).

84. CPSD has not proven the presence of salvaged pipe in Segment 180. CPSD has therefore failed to prove Felts Violation 1.

Felts Violation 2: Construction Records For 1956 Project GM 136471

85. Construction drawings in the 1956 construction project GM 136471 job file include details of pipeline features such as the tie -in points, showing the length of individual pieces of pipe and the location of elbows. Joint R.T. 325 (PG&E/Harrison).

86. The 1956 construction project GM 1 36471 job file includes the original design drawing, as well as records showing the diameter, grade, seam type, and wall thickness of the pipe ordered for this project, the design pressure, and the depth of cover specified at the time of installation. Joint R.T. 311-15 (PG&E/Harrison).

87. The 1956 construction project GM 136471 job file does not contain any depiction of the six pups in Segment 180 that were involved in the rupture on September 9, 2010. Ex. CPSD-4 at 5 (CPSD/Felts).

88. The absence of drawings of the six pups in the GM 136471 job file indicates that the pups were part of a jointer manufactured by the pipe mill. Joint R.T. 325 (PG&E/Harrison).

89. If PG&E had been aware of the substandard pipe, or the presence of six short pups welded together, it would have removed the pipe from the ground. Joint R.T. 337 -38 (PG&E/Harrison).

90. Regulations, industry standards and industry practice did not call for operators to document pipeline installations on a joint-by-joint level in 1956. Ex. PG&E-61 at 4-5 (PG&E/Harrison).

91. CPSD has not proven that regulations, industry standards or industry practices required operators to document pipeline installations on a joint -by-joint basis. CPSD has therefore failed to prove Felts Violation 2.

Felts Violation 3: Pressure Test Records

92. PG&E has not located records of a post -construction strength test conducted on Segment 180. Ex. PG&E-61 at 4-6 (PG&E/Harrison).

93. In 1956, there were no federal or state regulations that required post -installation pressure tests on gas transmission pipelines. Ex. PG&E-61 at 4-6 (PG&E/Harrison).

94. ASA B31.1.8 (1955), a voluntary industry standard, provided recommended practices to the gas industry, including recommendations to conduct post -installation pressure tests. Ex. PG&E-61 at 4-6 (PG&E/Harrison).

95. Post-installation pressure testing was not required by state regulations until the adoption of GO 112 (effective July 1, 1961) and not under federal regulations until 1970 following passage of the Natural Gas Pipeline Safety Act and the ad option of the federal Part 192 pipeline safety regulations. Ex. PG&E -61 at 4 -6 (PG&E/Harrison).

96. Both federal and state regulations, adopted years after the 1956 installation of Segment 180, only applied pressure test provisions to newly -installed pipelines. Ex. PG&E-61 at 4-6 (PG&E/Harrison).

97. Post-installation pressure testing did not become an accepted practice industry -wide until after the installation of Segment 180. Joint R.T. 354-57 (PG&E/Harrison).

98. A soap test is not a pressure test within the mean ing of ASME B31.8, as soap tests only involve a small amount of pressure in the line to check for leaks, rather than the high pressure test contemplated by ASME B31.8, GO 112 and 49 C.F.R. Part 192. R.T. 518-19 (CPSD/Felts).

99. CPSD has failed to prove that PG&E was required to conduct a hydrostatic pressure test on Segment 180. CPSD therefore fails to prove Felts Violation 3.

Felts Violation 4: Underlying Records Related To Maximum Allowable Operating Pressure On Segment 180

100. Prior to the San Bruno accident , the grandfather clause (49 C.F.R. § 192.619) authorized pipeline operators to establish MAOP by identifying the highest pressure experienced on the pipeline between July 1, 1965 and July 1, 1970 (the "Five Year Period"). Ex. PG&E-61 at 4-8 (PG&E/Phillips).

101. During the Five Year Period (and as it is today), Line 132 was operated in two distinct sections. The section between mileposts 0.00 and 46.59 (Milpitas Terminal to Martin Station) operated at pressures up to 400 psig. The section between mileposts 4 6.59 and the end of the line at the San Francisco Division Gas Load Center operated at pressures up to 145 psig. Ex. PG&E -61 at 4 -9 to 4 -10 (PG&E/Phillips).

102. PG&E documented the highest operating pressure during the Five Year Period on the section of Line 132 from Milpitas Terminal to Martin Station at 400 psig, and established the MAOP accordingly. Ex. PG&E -42 (Milpitas Terminal operating pressure log).

103. A 1978 memorandum from PG&E's San Francisco Division did not "sectionalize" Line 132 at milepost 35.84 , as CPSD contends. The document was not an operating

pressure log that measured line pressures at the Milpitas Terminal during the Five Year Period. R.T. 1130-31 (PG&E/Phillips); Ex. PG&E-61 at 4-11 (PG&E/Phillips).

104. The San Francisco Division mistakenly believed that Line 132 was only operated to a high pressure of 390 psig at the Milpitas Terminal in the Five Year Period. Ex. PG&E-61 at 4-10 (PG&E/Phillips).

105. There is and has been no pressure limiting equipment on Line 132 between Milpitas Terminal and Martin Station that could serve to limit pressure downstream of milepost 35.84 to a lower MAOP than upstream. Ex. PG&E -61 at 4 -12 (PG&E/Phillips).

106. The MAOP of Line 132 from mileposts 0.00 to 46.59 was properly established at 400 psig. CPSD has therefore failed to prove Felts Violation 4.

Felts Violation 5: Clearance Procedures

107. The written clearance to perform work at the Milpitas Terminal on September 9, 2010 did not designate a clearance supervisor or fully describe the work to be performed and the seque nce of operations that would be undertaken. Ex. PG&E -61 at 4 -13 (PG&E/Slibsager and Kazimirsky). This did comply with PG&E's procedures for preparing a clearance form.

108. On September 9, 2010, the field crew and PG&E's gas system operators followed good com munication practices and took actions that focused on and furthered the safety of the work. Joint R.T. 143-44 (PG&E/Slibsager).

109. Prior to beginning work on September 9, 2010, the field crew conducted pre -work tailboard meetings to address safety issues, th e day's project, and outline the steps that were to be followed. Ex. PG&E-61 at 4-13 (PG&E/Slibsager and Kazimirsky).

110. The field crew communicated with the gas system operators throughout the process. The field crew kept the gas system operators aware of when the work was beginning, and alerted gas control prior to disconnecting electrical equipment that could potentially affect the gas system operators' ability to monitor the Milpitas Terminal. Ex. PG&E-61 at 4-13 to 4-14 (PG&E/Slibsager and Kazimirsky).

111. The field crew took precautions when the steps they were taking on the project could potentially impact Gas Control's ability to control the system at Milpitas Terminal. The field crew documented pressures and switched valve controllers into manual prior to switching power supplies. Once reconnected, the field crew rechecked pressures to confirm that the controllers were working properly and that no pressure impact had occurred. Ex. PG&E-61 at 4-14 (PG&E/Slibsager and Kazimirsky).

112. PG&E acknowledges a violation of 49 C.F.R. § 192.13(c) with respect to Felts Violation 5.

Felts Violation 6: Operations And Maintenance Instructions

113. PG&E maintained an up -to-date operations and maintenance instructions manual at the Milpitas Terminal on September 9, 2010. Ex. PG&E-61 at 4-17 (PG&E/Slibsager and Kazimirsky).

114. CPSD has failed to prove Felts Violation 6.

Felts Violation 7: Drawing And SCADA Diagrams Of The Milpitas Terminal

115. On September 9, 2010, the drawing contained the necessary information for the crew at M ilpitas Terminal to fully respond to the unplanned pressure increase. The drawing accurately reflected the regulator and monitor valves that controlled pressure on the outgoing Peninsula pipelines, which were the central focus of the gas control technician as he worked with gas system operators to address the situation. Ex. PG&E-61 at 4-19 (PG&E/Slibsager and Kazimirsky).

116. PG&E updated the drawing of Milpitas Terminal either to reflect operational changes made after September 9, 2010 or to correct informat ion unrelated to the events on September 9, 2010. The changes to the drawing are not evidence that the drawing was inaccurate on September 9, 2010 or at any other time. Ex. PG&E -61 at 4 -19 to 4-20 (PG&E/Slibsager and Kazimirsky).

117. PG&E's SCADA system accu rately displayed the bypass piping and valves used in daily operations at the Milpitas Terminal on September 9, 2010. Ex. PG&E -61 at 4 - 21 (PG&E/Slibsager and Kazimirsky).

118. The piping and valves that CPSD alleges were missing from the SCADA display on September 9, 2010 were not part of the Milpitas Terminal or used in daily operations or during the incident. The piping and valves are located outside the Terminal, across a highway. Ex. PG&E-61 at 4-21 (PG&E/Slibsager and Kazimirsky).

119. PG&E added the valves a nd piping outside the Milpitas Terminal to the SCADA display after the San Bruno accident for reasons unrelated to the accident. PG&E was considering varying pressures among the Peninsula lines, which would have required the use of the normally -unused bypass system. In anticipation that this system might come into daily use, PG&E added the piping and valves to the SCADA display to enhance gas system operators' visibility with respect to these facilities. Ex. PG&E-61 at 4-21 (PG&E/Slibsager and Kazimirsky).

120. CPSD has failed to prove that PG&E's operating diagram and SCADA display were inaccurate on September 9, 2010. CPSD has therefore failed to prove Felts Violation 7.

Felts Violation 8: Backup Software At Milpitas Terminal

121. PG&E's gas technician at Milpi tas on September 9, 2010, did not have the software or cable connection required to reprogram valve controllers at the Milpitas Terminal. Ex. PG&E-61 at 4-25 (PG&E/Slibsager and Kazimirsky).

122. Programming issues with the valve controllers were not the cause of, or related to, the unplanned pressure increase at Milpitas Terminal. Ex. PG&E -61 at 4 -23, 4 -25 (PG&E/Slibsager and Kazimirsky).

123. Prior to the rupture, power supply issues caused pressure transmitting devices to send zero- and negative-pressure readings to the valve controllers. The valve controllers, as their programming calls for, opened regulator valves to compensate for the "low" pressure readings. This demonstrates that the valve controllers were working as designed when the pressure increase beg an. Ex. PG&E -61 at 4-24 (PG&E/Slibsager and Kazimirsky).

124. The Milpitas Terminal Operating and Maintenance Instructions manual cited by CPSD does not call for a copy of the valve controller software to be maintained at the Terminal. Instead, it refers to software for separate devices known as Programmable Logic Controllers. Ex. PG&E-61 at 4-24 to 4-25 (PG&E/Slibsager and Kazimirsky).

125. The valve controllers suffered a rare malfunction that the gas technician could not have corrected with the proper software and cable. Ex. PG&E -61 at 4 -25 (PG&E/Slibsager and Kazimirsky).

126. CPSD has failed to prove that PG&E was required to maintain a copy of software for the valve controllers at the Milpitas Terminal. CPSD has therefore failed to prove Felts Violation 8.

Felts Violation 9: Supervisory Control And Data Acquisition System

127. The SCADA system is used by operators in PG&E's Gas Control to monitor and operate the transmission system in real time. Gas Control uses SCADA to continuously monitor pressures in transmi ssion lines. SCADA is equipped with alarms that are triggered to alert Gas Control that a line may be approaching above - or below -normal pressures. SCADA allows operators to control pressure in transmission lines through use of approximately 300 remotely -controlled valves and compressor stations along PG&E's transmission system. PG&E June 20, 2011 Response at 6-16 to 6-17.

128. On September 9, 2010, PG&E gas system operators were faced with analyzing a high volume of data, both reliable and unreliable, as a r esult of power issues and the pressure increase at the Milpitas Terminal. Ex. PG&E -61 at 4 -26 (PG&E/Slibsager and Kazimirsky).

129. Operators appropriately trended SCADA data at monitoring points up and downstream from the Milpitas Terminal to analyze the situ ation and determine what

responsive actions were required. Ex. PG&E-61 at 4-26 (PG&E/Slibsager and Kazimirsky).

130. Operators were aware of the pressure increase, and prior to the rupture had taken steps to reduce pressure in the Milpitas Terminal. Ex. PG&E-61 at 4-27 (PG&E/Slibsager and Kazimirsky).

131. Prior to the rupture, operators reduced pressure upstream from the Milpitas Terminal to 370 psig as an additional measure to lower pressure at Milpitas and on the Peninsula. Ex. PG&E-61 at 4-27 (PG&E/Slibsager and Kazimirsky).

132. Pressure at the Milpitas Terminal did not exceed the 400 psig MAOP on September 9, 2010. [redacted]

133. Operators concluded that there was a gas line break in San Bruno at 6:29 PM, two minutes after being notified of a fire in San Bruno by PG&E Concord Dispatch, and 14 minutes after receiving low pressure alarms at Martin Station. Ex. PG&E-61 at 4-27; Ex. PG&E-66 (Tab. 4-3) (Transcript of Gas Control Log, September 9, 2010).

134. CPSD's evidence that gas control was unaware of the presence of valves to isolate the rupture is a recording of a conversation in which the speaker is the off-duty temporary Milpitas Terminal supervisor, not a control room operator. Ex. PG&E-61 at 4-28 (PG&E/Slibsager and Kazimirsky). CPSD has failed to prove that PG&E's SCADA system was inadequate or unsafe. CPSD therefore fails to prove Felts Violation 9.

Felts Violation 10: Emergency Response Plans

135. The Commission regularly r eviews PG&E's compliance with 49 C.F.R. § 192.615. The CPSD's Utility Safety Reliability Branch regularly audits PG&E's the gas emergency plan. Ex. PG&E-61 at 4-36 (PG&E/Almario).

136. In 2009 and 2010 CPSD audited PG&E's emergency response plan pursuant to Section 192.615 and found it to be satisfactory and compliant with the applicable regulations. Ex. PG&E-61 at Ch. 4 App. A at 5- 6 (CPSD's 2009 Audit finding PG&E's emergency procedures and public awareness program procedures satisfactory), App. B at 5-6 (C PSD's 2010 Audit of PG&E's Peninsula Division finding PG&E's emergency procedures and public awareness program procedures satisfactory).

137. During CPSD's audits in 2009 and 2010 of PG&E's emergency response plan, CPSD did not identify any deficiency with PG&E 's plan, and did not find that it was "too difficult to use," "very complex," "difficult for personnel to implement," or "unwieldy." Ex. PG&E-61, Ch. 4 App. A at 5- 6 (CPSD's 2009 Audit finding PG&E's emergency procedures and public awareness program proce dures satisfactory), App. B at 5- 6 (CPSD's 2010 Audit of PG&E's Peninsula Division finding PG&E's emergency procedures and public awareness program procedures satisfactory).

138. CPSD agrees that PG&E's emergency plans were in compliance with regulatory criteria. R.T. 443 (CPSD/Felts); Ex. CPSD-4 at 15 (CPSD/Felts).

139. No one from PG&E ever told CPSD's witness, Ms. Felts, that the emergency plan was too difficult to use. R.T. 445 (CPSD/Felts).

140. The transcripts of audio recordings from the day of the accident show that operators understood Kirk Johnson was in charge as the incident commander of the Emergency Operations Center, the highest level response center. Ex. PG&E -61 at 4 -37 to 4 -38 (PG&E/Almario). Additionally, the excerpts show that the operators understood what response centers needed to be opened and what the purposes of those centers were. *Id.* While there was some interchange of the terms GRC (Gas Restoration Center) and PRC (Pipeline Restoration Center) that required explanation, the substitution was merely because the term GRC had changed to PRC; the operators and contacts understood what the GRC/PRC response center was and its purpose. *Id.*

141. The excerpts of transcripts of audio recordings from the day of the incident that Ms. Felts reviewed do not sho w confusion about how to implement the emergency response plan. Ex. PG&E-61 at 4-37 to 4-38 (PG&E/Almario), Ex. PG&E-61 at 4-54 to 4-55 (PG&E/Bull).

142. The operators understood that Kirk Johnson was in charge as the incident commander of the Emergency Operat ions Center, the highest level response center. Ex. PG&E -61 at 4 -37 to 4 -38 (PG&E/Almario); Ex. PG&E -61 at 4 -54 to 4 -55 (PG&E/Bull). The operators understood what response centers needed to be opened and what the purposes for those centers were. Ex. PG& E-61 at 4-37 to 4-38 (PG&E/Almario); Ex. PG&E-61 at 4-54 to 4-55 (PG&E/Bull).

143. The operators and contacts understood what the GRC/PRC response center was and its purpose. Ex PG&E-61 at 4-37 to 4-38 (PG&E/Almario); Ex. PG&E-61 at 4-54 to 4-55 (PG&E/Bull).

144. The excerpts show unscripted communications during a time of intense activity, communications in which Gas Control was supporting the activation of the emergency response centers required under the emergency plan. Ex. PG&E-61 at 4-37 to 4-38 (PG&E/Almario); Ex. PG&E-61 at 4-54 to 4-55 (PG&E/Bull).

Felts Violation 11: Incidents Of Operating Line 132 In Excess Of 390 Maximum Allowable Operating Pressure

145. PG&E established the MAOP of Line 132 from mile point 0.00 to mile point 46.59 (including Segment 180) at 400 psig pursuant to the grandfather clause. Ex. PG&E -42 (Milpitas Terminal operating pressure log).

146. On December 11, 2003 and December 9, 2008, PG&E operated Line 132 to 400 psig. Ex. CPSD-4 at 17 (CPSD/Felts).

147. On December 11, 2003 and December 9, 2008, pressure at Segment 180 did not exceed 390 psig. [redacted]

148. On September 9, 2010, pressure at Segment 180 did not exceed 386 psig. Ex. PG&E-61 at 4-27 (PG&E/Slibsager and Kazimirsky).

149. Pressure at Segment 180 did not exceed 390 psig during pressure increase exercises in 2003 or 2008. [redacted]

150. CPSD has failed to prove that Line 132, Segment 180 had an MAOP of 390 psig. CPSD therefore fails to prove Felts violation 11.

Felts Violation 12: Preservation Of Records Related To Brentwood Video Camera Six Video

151. PG&E maintains an alternate gas control facility in Brentwood, which became an unmanned facility in approximately May 2010. R.T. 1510-11 (PG&E/Cochran); R.T. 1402 (PG&E/Seager).

152. In May 2010, PG&E installed a camera inside the Brentwood alternate gas control facility. R.T. 1510-11 (PG&E/Cochran).

153. Because the facility was now unmanned, the camera installed inside the Brentwood alternate gas control facility was intended for physical security purposes and not any operational purpose. R.T. 1510-13, 1519 (PG&E/Cochran); R.T. 1403, 1431-32 (PG&E/Seager).

154. The view from the camera inside the Brentwood alternate gas control facility is not clear enough to view any operational information on the gas control operator's computer monitors. The camera has no zoom or panning functionality, and no audio component. R.T. 1510-13 (PG&E/Cochran); R.T. 1406, 1438 (PG&E/Seager).

155. A third-party vendor installed the security camera inside the Brentwood alternate gas control facility. R.T. 1514-15 (PG&E/Cochran).

156. Video from the security camera inside the Brentwood alternate gas control facility was intended to be recorded when motion was detected inside the facility. R.T. 1510-13, 1519 (PG&E/Cochran).

157. When installing the security camera system at the Brentwood alternate gas control facility, the vendor unintentionally neglected to activate the motion detection recording functionality of the camera inside the Brentwood facility. R.T. 1515-16 (PG&E/Cochran).

158. On September 9, 2010, the security camera system inside the Brentwood alternate gas control facility did not record any video. R.T. 1514-16 (PG&E/Cochran).

159. There was never any video from the Brentwoo d alternate gas control facility from September 9, 2010 that PG&E could have preserved. R.T. 1514 -16 (PG&E/Cochran).

160. On September 13, 2010, the Executive Director of the CPUC issued a preservation directive to PG&E. Ex. PG&E-26.

161. On September 11, 2010, tw o days before the CPUC Executive Director issued his preservation directive, PG&E's General Counsel sent a thorough and unambiguous preservation notice to the entire company. Ex. PG&E-28; R.T 244 (CPSD/Felts)

162. On September 24, 2010, the Commission issued R esolution L -403, which among other things, directed PG&E to preserve all records related to the San Bruno incident. Ex. PG&E-27.

163. CPSD's consultant, Margaret Felts, stated that she had no criticism of the PG&E internal preservation notice, and that she believed it was consistent with the Executive Director's preservation notice and Commission Resolution L -403. R.T. 243 -48 (CPSD/Felts).

Felts Violation 13: PG&E Data Responses Regarding Brentwood Camera Six Video

164. PG&E initially provided a data response to CP SD stating that the video from the security camera inside the Brentwood alternate gas control facility had been overwritten due to the passage of time. Ex. PG&E-67 (Tab 5-8); Ex. PG&E-61 at 5-3 (PG&E/Seager).

165. PG&E later discovered that its initial data re sponse to CPSD regarding the video recording from the Brentwood facility was not correct and that no video had ever been recorded. R.T. 1514-16 (PG&E/Cochran).

166. PG&E self -disclosed this error and provided to CPSD a revised data response regarding the non -existence of the video recording from the Brentwood facility immediately upon discovering that its original data response contained inaccurate information. Ex. PG&E-67 (Tab 5-9); Ex. PG&E-61 at 5-3 (PG&E/Seager).

167. PG&E's data responses regarding the video r ecording at the Brentwood alternate gas facility were correct and consistent in stating that there was no video to provide to the CPSD. R.T. 233 -34 (CPSD/Felts); Ex. PG&E -67 (Tab 5 -8, Tab 5 -9); Ex. PG&E -61 at 5-3 (PG&E/Seager).

168. CPSD was never misled with respect to the central fact involved in the data responses – that the video did not exist. R.T 233 (CPSD/Felts); Ex. PG&E -67 (Tab 5 -8, Tab 5 -9); Ex. PG&E-61 at 5-3 (PG&E/Seager).

169. PG&E's data responses regarding the video recording at the Brentwood alterna te gas facility were incorrect as to the reason that the video did not exist. R.T. 234

(CPSD/Felts); Ex. PG&E -67 (Tab 5 -8, Tab 5 -9); Ex. PG&E -61 at 5 -3 (PG&E/Seager).

170. PG&E did not intentionally or knowingly mislead the CPSD or intentionally or knowingly provide CPSD with incorrect information in response to the data requests regarding the video recording at the Brentwood alternate gas control facility. Ex. PG&E-61 at 5-3 (PG&E/Seager).

Felts Violation 14: PG&E Data Responses Regarding Personnel At Milpit as Terminal On September 9, 2010

171. CPSD asked PG&E for information in two data requests about personnel who worked at the Milpitas terminal on the day of the incident, but neither request asked PG&E to identify all personnel who were present at Milpitas Term inal after the rupture, or "after 5 PM." Ex. PG&E-61 at 5-4 (PG&E/Seager); Ex. PG&E-67 (Tabs 13-14)

172. The first data request asked "For all diagrams identified above [GIS and SCADA diagrams of Milpitas Terminal], state whether personnel at the Milpitas Terminal had access to those diagrams on September 9, 2010. Identify the personnel who had that access." Ex. PG&E-67 (Tab 5-13).

173. Consistent with the call of the question, PG&E understood CPSD to be asking PG&E to identify the personnel on the field crew who were involved in responding to the power and pressure issues at Milpitas Terminal and for whom access to the drawings and diagrams (on which the entire series of questions was focused) would be relevant. Ex. PG&E-67 (Tab 5-13).

174. The second data request on which CPSD bases this violation asked PG&E to "Provide the names of the maintenance personnel and the maintenance supervisor who were headquartered at the Milpitas Terminal on September 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." Ex. PG&E-67 (Tab 5-14).

175. PG&E understood this question to be asking about all of the personnel who were assigned to ("headquartered at") Milpitas Terminal on September 9, 2010, whether or not they were involved in the power and pressure issues, and PG&E pro vided the time cards and description of work for all five line employees who were headquartered out of Milpitas Terminal on September 9, 2010. Ex. PG&E -67 (Tab 5-14).

176. PG&E's responses to two CPSD data requests related to personnel at Milpitas Terminal on September 9, 2010 were good faith responses to what PG&E reasonably understood to be the call of the questions. Ex. PG&E -67 (Tab 5 -13, Tab 5 -14); Ex. PG&E-61 at 5-4 (PG&E/Seager).

177. PG&E did not intentionally or knowingly mislead the CPSD or intentionally o r knowingly provide CPSD with incorrect information in response to the data requests

regarding the personnel at Milpitas Terminal on September 9, 2010. Ex. PG&E -67 (Tab 5-13, Tab 5-14); Ex. PG&E-61 at 5-4 (PG&E/Seager).

Felts Violation 15: WITHDRAWN

178. CPSD withdrew Felts Violation 15.

Felts Violation 16: Job Files

179. CPSD has not identified with specificity any missing job files from PG&E's records.

180. PG&E issued job numbers across the utility; this includes jobs for Gas Distribution, Hydro, Electric Distribution and Transmission, vehicle purchases, as well as all lines of business. Ex. PG&E -61 at 3 -37 (PG&E/Harrison). Gaps between one gas transmission job number and another may reflect intervening gas distribution, electric, hydro and other projects – not missing gas transmission jobs. *Id.* Gaps in PG&E's job numbers between one gas transmission job and another do not reflect missing files. *Id.*

181. PG&E appropriately adopted a decentralized approach to records management. Ex. PG&E-62 at MD-16 to MD-22 (PG&E/Dunn).

182. Various geographically dispersed personnel have historically made use of PG&E's job files. R.T. 2222 (PG&E/Daubin).

183. CPSD has not identified PG&E personnel who indicate that PG&E's organizational system for job files is confusing or otherwise unsafe. R.T. 318 (CPSD/Felts).

184. CPSD has not sustained its burden of establishing a violation of law relating to missing job files at PG&E.

185. CPSD has not sustained its burden of establishing a violation of law relating to the organization of PG&E's job files.

Felts Violation 17: Pipeline History Records

186. PG&E's SP 463.7 specified that PG&E maintain Pipeline History Files for the life of the facility. Ex. PG&E-61 at 2-21 (PG&E/Phillips).

187. PG&E's SP 463.7 took effect in 1969. Ex. PG&E-61 at 2-21 (PG&E/Phillips).

188. PG&E's SP 463.7 was rescinded no later than October 1987. Ex. PG&E-61 at 2-21 (PG&E/Phillips).

189. When SP 463.7 was rescinded, its "life of the facility" requirement was no longer operative. Ex. PG&E-61 at 2-21 (PG&E/Phillips).

190. After SP 463.7 was rescinded, doc uments created pursuant to SP 463.7 would have been subject to disposal under the Company's records retention standards. Ex. PG&E-64 (Tab 2-3) (SP 210.4-3 (eff. 4/1/94), Retaining and Destroying Records).

191. CPSD has presented no evidentiary basis by which to conclude that PG&E was required to retain its pipeline history files after SP 463.7 was rescinded.

192. PG&E's "Pipeline Survey Sheets" – a main output of the SP 463.7 standard – contained a summary of data about the pipeline reduced to a single sheet of pa per. Ex. PG&E-61 at 2-22 (PG&E/Phillips).

193. The Pipeline Survey Sheets were retained even after SP 463.7 was rescinded. Ex. PG&E-61 at 2-22 (PG&E/Phillips).

194. CPSD has not established that PG&E's destruction of the Pipeline History Files resulted in the l oss of any data that PG&E was required to maintain by force of any applicable law or internal standard.

195. CPSD has not proven a violation of law relating to the loss or destruction of PG&E's Pipeline History Files.

Felts Violation 18: Design And Pressure Test Records

196. CPSD has not introduced evidence to support its allegation that PG&E's design and pressure test records are missing. R.T. 325 (CPSD/Felts).

197. CPSD has not substantiated the 1930 start date of any violation relating to PG&E's design and pressure test records. R.T. 514-18 (CPSD/Felts).

198. CPSD has not introduced evidence sufficient to establish that PG&E is guilty of a violation of law due to missing post -installation design and strength test pressure records.

Felts Violation 19: Weld Maps And Weld Inspection Records

199. CPSD has not introduced evidence to support its allegations regarding PG&E's failure to retain weld inspection records. R.T. 331-32 (CPSD/Felts).

200. CPSD has not identified any specific legal or regulatory requirement that operators maintain weld maps. Ex. PG&E-61 at 3-11 (PG&E/Zurcher).

201. Weld maps are not identified in 49 C.F.R. Part 192 as a record type that must be created, reviewed or retained as part of any construction, maintenance, or integrity management process. Ex. PG&E-61 at 3-12 (PG&E/Zurcher).

202. CPSD failed to show the engineering value of retaining weld maps.

203. PG&E produced several thousand weld inspection reports in response to Paragraph 7 of the Commission's OII directives. Ex. PG&E-61 at 3-56 (PG&E/Keas).

204. CPSD has not sus tained its burden of establishing a violation of law relating to PG&E's retention of weld inspection reports and weld maps.

Felts Violation 20: Operating Pressure Records

205. CPSD has not introduced evidence of a legal requirement to maintain complete historical operating pressure history.

206. CPSD has not introduced any evidence of a past industry practice to retain operating pressure records as far back as the 1930s and there was no such practice. Ex. PG&E - 61 at 3 -11 (PG&E/Zurcher). CPSD has not introduced ev idence that PG&E lacked operating pressure records that it was required to maintain under federal Integrity Management regulations.

207. Loss of operating pressure history from 1999 missing data would not have a discernible negative impact on PG&E's determinati on and assessment of a manufacturing threat under the Integrity Management rules. Ex. PG&E-61 at 3-11, 3-12 (PG&E/Zurcher).

208. CPSD has not proven a violation of law relating to PG&E's retention of operating pressure history records.

Felts Violation 21: Pre-1970 Leak Records

209. CPSD has not substantiated its allegation that PG&E is missing leak records that it is required to maintain. R.T. 346, 349 (CPSD/Felts).

210. PG&E's A -Forms are retained either in job files or in separate "leak library" files located at a pproximately 70 of the Company's local offices. PG&E's June 20, 2011 Response at 7-5 to 7-7.

211. CPSD has not introduced evidence that PG&E's leak records are inaccessible to PG&E's engineers. R.T. 345 (CPSD/Felts).

212. PG&E's A-Form has evolved to call for field employees to gather increasing amounts of data over time. Ex. PG&E-61 at 3-60 (PG&E/Cowsert-Chapman).

213. The evolution of PG&E's A -Form has been spurred by industry recognition of the need for more detailed leak information and by changes in regulatory rep orting requirements. Ex. PG&E-61 at 3-60 (PG&E/Cowsert-Chapman).

214. CPSD has not introduced evidence that the content of PG&E's leak records violates any statutory or regulatory requirement.

215. CPSD has not sustained its burden of establishing a violation of la w relating to PG&E's pre-1970 leak records.

Felts Violation 22: Leak Records From 1970 Forward

216. PG&E's decisions regarding the migration of data and functionality among PG&E's electronic leak records systems predated ASME B31.8S and related federal integri ty management regulations. Ex. PG&E-61 at 3-62 (PG&E/Cowsert-Chapman).

217. Prior to the adoption of ASME B31.8S and related federal integrity management regulations, there was no identifiable compliance -related reason for PG&E to integrate large volumes of hi storic leak data into a new database. Ex. PG&E-61 at 3-62 (PG&E/Cowsert-Chapman).

218. PG&E has recently undertaken an effort to gather and digitize all preexisting leak records in a central database. Ex PG&E-61 at 3-64 (PG&E/Cowsert-Chapman).

219. PG&E's drive to improve its existing leak record database does not constitute evidence that its post -1970 leak records were maintained in a manner inconsistent with any regulation or statute.

220. CPSD has not proven a violation of law relating to PG&E's post-1970 leak records.

Felts Violation 23: Records To Track Salvaged And Reused Pipe

221. CPSD has not introduced into the record affirmative evidence that PG&E reconditioned pipe without inspection. R.T. 461 (CPSD/Felts).

222. CPSD's assertion that reconditioned pipe i n PG&E's gas transmission system may be unsatisfactory or in an unsafe condition is not supported by the evidentiary record. R.T. 461 (CPSD/Felts); Joint R.T. 466-67 (PG&E/Harrison).

223. CPSD has not proven any requirement that operators track the age of reco nditioned pipe installed prior to 1970. Ex. PG&E-61 at 3-12(PG&E/Zurcher).

224. CPSD has not introduced evidence that PG&E has lost records pertaining to salvaged pipe.

225. PG&E's Standard 421.21-1 addresses the making and maintaining of distribution plat maps. Ex. PG&E-61 at 3-34 (PG&E/Harrison).

226. PG&E's Standard 421.21 -1 instructs PG&E personnel to remove abandoned and disused mains from distribution plat sheets to avoid confusion. Ex. PG&E-61 at 3-34 (PG&E/Harrison).

227. CPSD has not substantiated its claim that PG &E's Standard 421.21-1 instructs PG&E personnel to deliberately destroy records showing the use of reconditioned and reused pipe in active pipelines. Ex. CPSD-2 at 45 (CPSD/Felts).

228. CPSD has not established that PG&E is missing records to track salvaged an d reused pipe that it was required to maintain by force of any applicable law or internal standard.

Felts Violation 24: Data In Pipeline Survey Sheets And The Geographic Information System

229. PG&E's GIS system is generally not the company's primary source of data for most day-to-day pipeline operations. R.T. 2212 (PG&E/Keas).

230. A large portion of the data in GIS was populated from the company's preexisting pipeline survey sheets. R.T. 2234-35 (PG&E/Daubin).

231. PG&E has introduced evidence of the quality control process undertaken by PG&E during the creation of GIS. R.T. 2240-41 (PG&E/Daubin).

232. During the process of creating GIS, PG&E personnel conducted quality control checks against randomly selected pipeline survey sheets (or "plat sheets"). Each plat sheet was selected at random, after which personnel cross checked each data point in the selected plat sheet against the data entered into GIS. R.T. 2240 -41 (PG&E/Daubin).

233. CPSD has not introduced evidence supporting its allegation that PG&E's transfer of data i nto GIS lacked appropriate quality control efforts. Ex. CPSD-2 at 48 (CPSD/Felts).

234. PG&E's GIS is in some instances populated with assumed values based upon known attributes such as the pipe's year of installation and PG&E's pipe purchasing specifications from the relevant time period. Joint R.T. 1169 (PG&E/Keas).

235. CPSD has presented no evidence that the use of conservative assumed values in populating an operator's GIS system violates any law or industry standard.

236. CPSD has not proven that assumed or blank fields in PG&E's GIS relating to pipe manufacturer or cover depth constitute a violation of any law.

237. PG&E has an established process by which field personnel can identify data inaccuracies and update that information in GIS. Joint R.T 667 (PG&E/Zurcher).

238. CPSD has not sustained its burden of establishing that the nature or quality of data in PG&E's GIS system constitutes a violation of any applicable statute or regulation.

Felts Violation 25: Data Used In Integrity Management Risk Model

239. GIS data is one co mponent of PG&E's broader data gathering and integration process. Joint R.T. 1156, 1175 (PG&E/Keas).

240. During subsequent phases of PG&E's data gathering and integration process, integrity management engineers gather additional data from job files and inform ation sources. Joint R.T. 1075 (PG&E/Keas).

241. The designation in PG&E's GIS indicating that Segment 180 was seamless pipe, rather than DSAW, would not have changed PG&E's assessment of potential threats to the pipe. Joint R.T. 1893 (PG&E/Lee). Under the f ederal regulations, seamless pipe and DSAW pipe both have a joint factor of 1.0, indicating that the seam is as strong as the pipe body. 49 C.F.R § 192.113 (Table).

242. In the integrity management context, ASME B31.8S specifically provides for the use of assumed values where the operator lacks data. Joint R.T. 669 (PG&E/Zurcher).

243. CPSD has not proven that the nature or quality of data in PG&E's GIS system prevented PG&E from operating an integrity management program that meets applicable legal and regulatory standards.

Felts Violation 26: Missing Report For 1988 Weld Failure

244. CPSD has not asserted that any statute specifically required creation or maintenance of the weld failure report discussed in connection with alleged Violation 26.

245. CPSD has not proven the metallurgical weld failure report it claims PG&E lost was ever created. Ex. PG&E-61 at 3-41 to 3-48 (PG&E/Harrison).

246. A pinhole leak that has not experienced in -service growth would not constitute a threat to the integrity of a pipeline. R.T. 1495 (PG &E/Keas); Joint R.T. 870 -71 (PG&E/Zurcher); Joint R.T. 262-64, 568 (PG&E/Harrison).

247. CPSD has not sustained its burden of proving the original existence of the weld failure report discussed in connection with alleged Violation 26.

Felts Violation 27: Missing Report For 1963 Weld Failure

248. CPSD has not asserted that any statute specifically required creation or maintenance of the weld failure report discussed in connection with alleged Violation 27.

249. CPSD has not identified an industry practice that would requi re operators to maintain documents such as the weld failure report discussed in connection with alleged Violation 27.

250. CPSD has not established that any loss of the weld failure report discussed in connection with alleged Violation 27 constitutes a violatio n of any statute or regulation.

Duller/North Violation A.1: Gas Transmission Division Records Management Practices

251. CPSD failed to prove Violation A.1.

252. Dr. Duller and Mrs. North's statements of qualification do not disclose any past experience reviewing the recordkeeping practices of a large, U.S. -based gas and electric public utility company such as PG&E. Ex. CPSD -6 at 8 -151 to 8 -152. (CPSD/Duller and North)

253. Dr. Duller and Mrs. North evaluated PG&E's historic recordkeeping practices using the Generall y Accepted Recordkeeping Principles and the Information Governance Maturity Model, both of which were first published in 2009. Ex. CPSD -6 at 1 -8 (CPSD/Duller and North); *see also* Ex. CPSD-16 (Violation A.1, n.1) (CPSD/Duller and North).

254. Dr. Duller and Mrs. North also evaluated PG&E's historic recordkeeping practices using the "traceable, verifiable and complete" MAOP records verification requirement articulated in the NTSB's January 3, 2011 recommendations. Ex. CPSD-6 at 3-14 (CPSD/Duller and North).

255. CPSD has never previously used GARP as an assessment tool. Ex. PG&E-62 at MD-8 (PG&E/Dunn).

256. Dr. Duller and Mrs. North had never previously used GARP as an assessment tool.

257. James Howe, a gas industry expert, was not aware of any instance in which a utilit y had adopted GARP. Ex. PG&E-61 at 1 -9 to 1 -10 (PG&E/Howe); R.T. 1261-62 (PG&E/Howe).

258. Cesar De Leon, former head of the Federal Office of Pipeline Safety (now PHMSA), had not heard of GARP and was not aware of OPS, predecessor to PHMSA, having ever use d it or incorporated it into any regulatory standard. Ex. PG&E-61 at 1 -5 (PG&E/De Leon).

259. The GARP model is more appropriate to use for a current state records assessment than for a historical assessment. Ex. PG&E-62 at MD-7 to MD-16 (PG&E/Dunn).

260. Dr. Duller and Mrs. North's GARP assessment did not sufficiently take into account changes in technology, records management practices or changes in the legislative and regulatory environment in which PG&E operated for the period under review. Ex. PG&E-75 (PG&E Response to TURN Data Request No. 2, Question 10).

261. When undertaking their GARP assessment, Dr. Duller and Mrs. North used the same or similar facts to support substandard scores across a broad array of GARP assessment categories. This repeated restateme nt of the same fact inflates the impact that a perceived deficiency had on the overall assessment of PG&E's records management program. Ex. PG&E-62 at MD-18 to MD-19 (PG&E/Dunn).

262. Maura Dunn is a records management expert with significant experience evalua ting the records programs of U.S. -based utilities. Ex. PG&E-62 at MD -1 to MD -3 (PG&E/Dunn).

263. 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. Ex. PG&E-62 at M D-2 (PG&E/Dunn).

264. Ms. Dunn's testimony identified deficiencies in Dr. Duller and Mrs. North's assessment approach to PG&E's historic recordkeeping practices. Ex. PG&E-62 at MD-4 to MD-5 (PG&E/Dunn); R.T. 1379 (PG&E/Dunn).

265. GARP was not appropriate to assess PG&E's historic recordkeeping practices. Ex. PG&E-62 at MD-7 to MD-16 (PG&E/Dunn).

266. Dr. Duller and Mrs. North's reliance on GARP lead to subjective judgments that lacked sufficient context. Ex. PG&E-62 at MD-7 to MD-11 (PG&E/Dunn).

267. Dr. Duller and Mrs. North are not engineering experts. R.T. 673, 689 (CPSD/Duller and North). Their testimony did not provide an expert evaluation of the engineering consequences of the perceived records deficiencies they identified.

268. Dr. Duller and Mrs. North did not evaluate PG&E's records according to either a "best engineering practices" or a "good safety recordkeeping standard." R.T. 651-52 (CPSD/Duller and North).

269. Dr. Duller and Mrs. North took a records -centric approach to evaluating PG&E's records. Ex. PG&E-62 at MD-16 (PG&E/Dunn). For example, they found fault that PG&E's job files were decentralized, and that they lacked a master indexing system. Ex. PG&E-62 at MD-20 to MD-24 (PG&E/Dunn).

270. It was appropriate for PG&E to focus on operational ne eds when creating and maintaining its records, rather than on records for the sake of records. Ex. PG&E-62 at MD-19 (PG&E/Dunn).

271. PG&E's decentralized approach to records management made sense given the nature of PG&E's operations across a broad service territory and given past limitations in records management technology. Ex. PG&E-62 at MD-20 to MD-22 (PG&E/Dunn).

272. Ms. Dunn conducted a limited review of PG&E's records management program and concluded that its records management practices were sufficient. Ex. PG&E-62 at MD-4 to MD-6 (PG&E/Dunn).

273. Ms. Dunn concluded PG&E's records practices improved over time and PG&E took an increasingly sophisticated approach to creating and managing records. Ex. PG&E-62 at MD-5 to MD-6 (PG&E/Dunn).

274. Ms. Dunn benchmarked PG&E's records practices against those of other U.S. -based utilities using a recent ComEd survey conducted in late 2011/early 2012 in which PG&E participated. Ex. PG&E-62 at MD-24 to MD-26, MD-App. F (PG&E/Dunn).

275. The ComEd findings indicate that PG&E's r ecords practices were consistent with those of other operators. For example, 90% of the respondents stored records in off - site central repositories, and 80% placed records management responsibility with the individual business units or departments. Many operators, like PG&E, continued to maintain paper records, some of which were more than 50 years old. Ex. PG&E-62 at MD-25 to MD-26 (PG&E/Dunn).

276. Ms. Dunn's evaluation also took into account recent statements from other gas operators. Those statements re flect that the industry as a whole is discovering data quality problems greater than what had previously been recognized. Ex. PG&E-62 at MD-25 to MD-26 (PG&E/Dunn).

277. CPSD did not offer any testimony from U.S. natural gas industry experts about how the indu stry has addressed records and thus did not point to any evidence that PG&E's experiences deviated materially from those of other operators.

278. PG&E's witness, David Harrison, a pipeline engineer with extensive experience within PG&E and as the lead engineer over PG&E's MAOP records review project, considers PG&E's job files to have been fairly well organized. Local record methods are well established and consistent across different PG&E field offices. Joint R.T. 281-82 (PG&E/Harrison).

279. Mr. Harrison also explained why the process by which PG&E stored and retrieved job files made sense to the engineers who used them. Joint R.T. 282 (PG&E/Harrison).

280. In his time as an employee and consultant for PG&E's gas department Mr. Harrison has never observed job files being discarded and does not believe that to have occurred. Joint R.T. 261 (PG&E/Harrison).

Duller/North: B Violations

281. Dr. Duller and Mrs. North's review of PG&E's compliance with record retention requirements addressed in Violations B.1 through B .6 was based on PG&E's corporate retention schedules rather than on PG&E's Gas Transmission Standards used by the gas organization on a day -to-day basis. Ex. PG&E-62 at MD -41 (PG&E/Dunn); Ex. PG&E-61 at 2 -23 to 2 -24 (PG&E/Phillips); R.T. 1113-14, 1183-84; 1186-87; 1191-92 (PG&E/Phillips).

282. PG&E directed Dr. Duller and Mrs. North to its Gas Standards through its June 2011 report as well as through various discovery responses. R.T. 1184 -95 (PG&E/Phillips); Ex. PG&E -69 (PG&E Response to Data Request No. 5, Qu estion 3).

283. PG&E's Gas Standards contain retention periods consistent with, or in excess of, applicable record retention requirements. Ex. PG&E-62 at MD -46 to MD -55, App. D, App. E (PG&E/Dunn).

284. Inconsistencies in PG&E's pre -1976 records retention schedules related to harmonizing FPC requirements with GO 112 reflect overlapping and/or inconsistent record retention requirements that over time need to be reconciled to allow regulated entities to comply. Ex. PG&E-64 (Tab 2-19, Tab 2-20); *see also* Ex. PG&E-61 at 2-8 to 2-9.

285. CPSD has audited the gas records that are the subject of Dr. Duller and Mrs. North's Violations B.1 through B.6 since at least the mid to late 1990s. Ex. PG&E-61 at 2-12 to 2 -13 (PG&E/Phillips); Ex. PG&E-64 (Tab 2-27); *see also* Ex. PG&E -8, Ex . PG&E-11 to Ex. PG&E -17 (CPSD USRB Electric, Natural Gas & Propane Safety Records).

286. Dr. Duller and Mrs. North's written reports and testimony did not address the sufficiency of the retention provisions contained in PG&E's Gas Standards. Ex. PG&E-61 at 2 -23 to 2 -24 (PG&E/Phillips); *see also* R.T. 1113-14, 1183 -84, 1186-87, 1191-92 (PG&E/Phillips).

Duller/North Violation B.1: Leak Survey Maps

287. CPSD failed to prove Violation B.1, that PG&E's minimal compliance with some of its own retention policies regarding leak survey maps violates other requirements.

288. CPSD has not proven its allegation that PG&E's retention policies regarding Leak Survey Maps violated Section 451.

289. PG&E's nine-year retention period for Leak Survey Maps complies with 49 C.F.R. § 192.709(c)'s requirement to retain survey records for at least 5 years or until the next survey. Ex. PG&E-61 at 2-16 to 2-17 (PG&E/Phillips).

290. PG&E's interval for conducting leak surveys complies with federal regulations. Ex. PG&E-61 at 2-16 to 2-17 (PG&E/Phillips).

291. PG&E's corporate retention schedules from 1994, 2005, 2008 and 2010 require that Leak Survey Inspections and or Leak Survey Logs be retained for the life of the facility, or in some cases longer. Ex. PG&E-61 at 2 -17 (PG&E/Phillips) (citing P2 -212 at GTR0004316, P2-225 at GTR0004420, P2 -227 at GTR0004479, and P2 -3 at GTR0002478); *see also* Ex. PG&E -62 at MD -46 to MD -55, App. D, App. E (PG&E/Dunn).

292. PG&E's corporate retention schedules from 1994, 2005, 2008 and 2010 complied with 49 C.F.R. § 192.709(c). Ex. PG&E-61 at 2-16 to 2-17 (PG&E/Phillips).

293. PG&E's Gas Standards that pertain to leak surveys specify retention periods for leak survey maps that comply with 49 C.F.R. § 192.709(c). Ex. PG&E-62 at MD -48 (PG&E/Dunn).

294. PG&E's SP 460.21 -4 instructed personne l to retain records of leaks discovered, repairs made, and routine leak survey tests for as long as the section of main involved

remains in service, plus 6 years for numbered gas lines and secondary trunk mains. Ex. PG&E-62 at MD-48, App. D, App. E (PG&E/Dunn).

295. PG&E's gas engineers followed its Gas Standards, not the corporate records retentions standards and schedules. R.T. 1109, 1111-14 (PG&E/Phillips); *see also* Ex. PG&E-62 at 41 (PG&E/Dunn).

Duller/North Violation B.2: Line Patrols

296. CPSD failed to prove Violation B.2, that PG&E's minimal compliance with some of its own line patrol report retention policies violates other requirements.

297. CPSD has not proven its allegation that PG&E's retention policies regarding line patrol reports did not comply with applicable law.

298. PG&E's corporate retention guidance on line patrol reports is fully compliant with 49 C.F.R. § 192.709(c). 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).

299. PG&E's Gas Standards provided that patrol records were to be maintained for the life of the facility. Ex. PG&E-62 at MD-46 to MD-55, App. D, App. E (PG&E/Dunn).

Duller/North Violation B.3: Line Inspection Reports

300. CPSD failed to prove Violation B.3, that PG&E's minimal compliance with some of its own line inspection report retention requirements violates other requirements.

301. CPSD has not proven its claim that PG&E only minimally complied with policies regarding the retention of Line Inspection Reports.

302. The requirement that operators maintain Line Inspection Reports for the life of the facility was eliminated from the federal regulations in 1996 because it proved unnecessary. Ex. PG&E-61 at 1-7 (PG&E/De Leon).

303. 49 C.F.R. § 192.709(c) requires that Line Inspection Reports be maintained for five years or until the next patrol, whichever is longer. Ex. PG&E-61 at 1-7 (PG&E/De Leon).

304. The Gas Standards applicable to Line Inspection Reports provide retention periods that comply with 49 C.F.R. § 192.709(c). Ex. PG&E-70 (SP 460.2-2 (P2-1325)); *see also* Ex. PG&E-62 at MD-46 to MD-55, App. D, App. E (PG&E/Dunn)

Duller/North Violation B.4: High Pressure Test Records

305. CPSD failed to prove Violation B.4, that PG&E's minimal compliance with some of its gas high pressure test record retention policies violates other requirements.

306. CPSD has not proven its allegation that PG&E failed to retain high pressure test records of a kind required to be retained by Section 192.709.

307. Dr. Duller and Mrs. North did not identify any gas high pressure test record that 49 C.F.R. § 192.709 required to be maintained. R.T. 672-73 (CPSD/Duller and North)

308. Dr. Duller and Mrs. North incorrectly assume that the term "Gas High Pressure Test Record" in PG&E's corporate records retention schedule refers to a str ength test pressure (hydrotest) record. R.T. 672-73 (CPSD/Duller and North); Ex. PG&E-64 (Tab 2-11) at GTR0004314, (Tab 2-12) at GTR0004419, (Tab 2-13) at GTR0004478.

309. PG&E's Gas Standards required a "life of the facility" retention period for strength test records of the kind required to be maintained by 49 C.F.R. § 192.517. PG&E -62 at MD-46 to MD-55, App. D, App. E (PG&E/Dunn).

Duller/North Violation B.5: Patrol Maintenance Reports, Trouble Reports, And Line Logs

310. CPSD failed to prove Violation B.5, that PG&E's minimal compliance with some of its record retention policies of transmission line inspection, including patrol maintenance reports, trouble report and line logs violates other requirements.

311. PG&E's Gas Standards specified that line records of t he kind included within this alleged violation should be maintained for the life of the facility. Ex. PG&E-62 at MD-46 to MD-55, App. D, App. E (PG&E/Dunn).

Duller/North Violation B.6: Specific Record Retention Requirements

312. CPSD failed to prove Violation B.6, 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.

313. CPSD alleged PG& E failed to comply with specific record retention requirements, but it marshaled only one specific instance to support its claim: PG&E's allegedly failed to maintain Pipeline History Files as specified in Standard Practice 463.7, effective 12/1/1969. Ex. CPSD-16 at n.3 (CPSD/Duller and North); *see also* R.T. 683-85 (CPSD/Duller and North).

314. PG&E's SP 463.7 was rescinded no later than October 1987. R.T. 321 -22 (CPSD/Felts); Ex. PG&E-61 at 2-21 (PG&E/Phillips).

315. When PG&E's SP 463.7 was rescinded, the requi rement to retain Pipeline History Files for the "life of the facility" requirement was rescinded with it. Ex. PG&E-61 at 2-23 (PG&E/Phillips).

316. Pipeline History Files were secondary sources of information. R.T. 320-21 (CPSD/Felts); R.T. 1115-16 (PG&E/Phillips)

317. What distinguished Pipeline History Files was their alternative filing system. A Pipeline History File contained a duplicate set of data. It reflected a completely duplicate file maintained in the same offices as the job files. Joint R.T. 282, 2 87-89 (PG&E/Harrison)

318. PG&E was not legally required to maintain and duplicate copies of its records in both the Pipeline History File and Job File systems. Joint R.T. 286-87 (PG&E/Harrison).

Duller/North Violation C.1: Records Associated With Gas Pipeline Replacement Program

319. CPSD failed to prove Violation C.1, 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 t o PG&E's gas transmission pipelines. CPSD failed to prove that as a result, both Line 132 and Line 151 were excluded from PG&E's 1995 Gas Pipeline Replacement Program. CPSD failed to prove that if Line 132 had been included in this program and replaced t he San Bruno rupture and fire could have been avoided.

320. The purpose of the GPRP was to replace gas pipe particularly susceptive to ground - movement failure, including pipe that was welded using the oxyacetylene (Oxy -butt) technique, or was constructed using bell-bell chill ring (BBCR), or bell and spigot (BLSP) girth joint configurations. Ex. PG&E-61 at 3-52 (PG&E/Roth).

321. The girth welds on Line 132, Segment 180 were constructed using the beveled -edge configuration, and the weld was made using the shielded m etal arc welding process. Ex. PG&E-61 at 3-52 (PG&E/Roth).

322. Even if the scope of the GPRP program included pipe constructed during 1956, Line 132, Segment 180 would not have been considered for replacement because its configuration and weld type did not ex hibit the same susceptibility to ground movement-related failure as Oxy -butt, BBCR and BLSP girth welds and joint configurations. Ex. PG&E-61 at 3-52 (PG&E/Roth).

323. The 1990 GPRP report provides that the GPRP program only contemplated replacing the portion of Line 132 that contained suspect girth welds, not the entire line and Segment 180. Ex. PG&E-65 (Tab 3-19) at 23.

Duller/North Violation C.2: Records Associated With Earthquake Mitigation

324. CPSD failed to prove Violation C.2, that PG&E's lack of the necess ary 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.

325. The initial writt en report and testimony supporting this allegation consisted of conclusory statements and a lengthy block quotation from a FEMA report. It did not include evidence. Ex. CPSD-6 at 6-91 (CPSD/Duller and North).

326. Dr. Duller and Mrs. North rely exclusively on a 1992 FEMA study to support their alleged violation related to PG&E's recordkeeping practices and its practices to address earthquake damage. R.T. 687 (CPSD/Duller and North).

327. The 1992 FEMA study that Dr. Duller and Mrs. North rely on does not address in any way PG&E's recordkeeping practices associated with earthquake planning or mitigation. PG&E's June 20, 2011 filing sets forth the efforts PG&E takes to address risks from ground movement, including earthquakes. Ex. PG&E-61 at 3-49 to 3-52 (PG&E/Roth) (incorporating PG&E's June 20, 2011 Response, Chapter 6C, at 6C-22 to 24).

328. CPSD's rationale for including this violation was proven to be faulty. CPSD included the violation based on the false premise that reconditioned pipe contained older girth welds. CPSD's engineering consultant acknowledged that such was not the case. The girth welds are cut out when pipe is reconditioned for reuse. Ex. CPSD-8 at 22 (CPSD/Duller and North); R.T. 689-90 (CPSD/Duller and North).

Duller/North Violation C.3: Leak Records

329. CPSD failed to prove Violation C.3, 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. CPSD failed to prove that the incompleteness of critical leak information has contributed to diminished PG&E pipeline safety.

330. Gas Operators generally did not use leak repair data to perform trending analysis before the era of integrity management rules. Joint R.T. 731-32 (PG&E/Zurcher).

331. Leak data of all types does not have a uniformly high value to an operator. Joint R.T. 733-34 (PG&E/Zurcher); Joint R.T. 262-64, 273-74, 568 (PG&E/Harrison); R.T. 1926-31 (PG&E/Cowsert-Chapman).

332. PG&E's leak data has evolved over time due to technological changes as well as changes in regulatory reporting requirements. Ex. PG&E-61 at 3-60 to 3-62 (PG&E/Cowsert-Chapman).

333. PG&E's first database for leak data was a mainframe database that was housed centrally. Ex. PG&E-61 at 3-61 (PG&E/Cowsert-Chapman).

334. PC Leaks was the first system that allowed field personnel to input leak data from the field, and have that data centralized in the mainframe database. Ex PG&E-61 at 3-61 (PG&E/Cowsert-Chapman).

335. PG&E migrated to IGIS from PC Leaks in 1999. Ex PG&E-61 at 3-61 (PG&E/Cowsert-Chapman).

336. PG&E did not migrate closed leak data from its mainframe leak database to IGIS. Ex PG&E-61 at 3-61 (PG&E/Cowsert-Chapman).

337. PG&E has a process through which engineers may access data in its legacy mainframe database. R.T. 1959 (PG&E/Cowsert-Chapman).

338. Dr. Duller and Mrs. North do not offer views about the value of PG&E's leak information from an engineering standpoint. Ex. CPSD-6 at 6 -88 to 6 -89 (CPSD/Duller and North).

APPENDIX B

PROPOSED CONCLUSIONS OF LAW

The Commission Should Apply A Clear And Convincing Evidentiary Standard

1. CPSD bears the burden of proving each of its allegations by clear and convincing evidence. That is, CPSD must establish each asserted violation by evidence so clear as to leave no substantial doubt and sufficiently strong to command the unhesitating assent of every reasonable mind.

Section 451 Is Not A Source Of Pipeline Safety Requirements

2. Section 451 is a ratemaking provision, not a source of pipeline safety requirements.

3. Interpreting Section 451 as imposing a general safety obligation on utilities would be contrary to the statutory text and structure.

4. Section 451 requires a balancing of rates against the proper level of service.

5. In determining the proper level of service, the Commission must generally balance four factors: adequate, just, reasonable and efficient.

6. Under the Public Utilities Code statutory scheme, safety is an important consideration that the Commission must weigh in determining the proper level of service. The Commission must weigh other considerations as well.

7. In setting just and reasonable rates, the Commission has broad latitude to adopt the safety standards that are consistent with the rates.

8. Even assuming Section 451 provides a basis for finding violations, CPSD did not undertake the balancing that Section 451 requires. It failed to produce any evidence about whether PG&E furnished a level of service commensurate with the rates it received during the time period under investigation.

9. To interpret Section 451 as imposing a "best engineering practices available" standard would impermissibly render superfluous entire provisions of the Public Utilities Code and every Commission regulation that requires any safety measure of any kind.

10. The Legislature would have spoken with a great deal more clarity had it intended Section 451 to impose a "best engineering practices" standard – essentially a strict liability s tandard – on every public utility in the state, distinct from the Commission's explicit safety rulemaking authority and the rules promulgated thereunder.

11. The reasoning of *Carey v. Pac. Gas & Elec., Co.* , D.99-04-029, 1999 Cal. PUC LEXIS 215, is inconsistent with CPSD's proposed "best engineering practices" standard.

12. *Carey v. Pac. Gas & Elec., Co.* , 1999 Cal. PUC LEXIS 215, states Section 451's reasonable service clause is not void for vagueness because reasonableness can be ascertained by reference to an exis ting "definition, standard or common understanding among utilities."

13. If they are to be enforced at all, vague and open -ended safety regulations must be enforced with reference to objective and shared industry understandings.

Any Attempt To Use Section 451 As A Free-Floating Pipeline Safety Law Violates Due Process/Fair Notice Principles

14. The Due Process Clause of the California Constitution precludes the Commission from applying CPSD's proposed "best engineering practices" standard in this proceeding because PG&E did not have prior notice of that standard.

15. Due process requires that laws that regulate persons or entities give fair notice of conduct that is forbidden or required.

16. Nothing in the Commission's 1960 decision adopting GO 112 gave notice of CPSD's pr oposed "best engineering practices" standard or gave notice that Section 451 serves as an open -ended source of pipeline safety rules. The GO 112 decision never referenced Section 451.

17. Fair notice concerns are especially weighty in this proceeding given t he Commission's indication that it may impose significant penalties and other remedial relief.

Section 451 Did Not Incorporate The ASME B31.8 Standard Prior To 1961

18. Section 451 did not incorporate ASA B31.8 prior to GO 112 taking effect in July 1961.

19. As th e Commission recognized in its decision adopting GO 112, ASA B31.8 (1958) was a voluntary industry standard prior to GO 112.

20. In issuing GO 112, the Commission adopted mandatory gas pipeline safety regulations for the first time in California.

21. Section 451 c annot have mandated adherence to ASA B31.8 prior to 1961 because if it did GO 112 would have been a needless exercise in Section 768 rulemaking.

CPSD Does Not Allege Proper "Continuing" Offenses

22. CPSD has not alleged any proper "continuing" offenses.

23. Public Utilities Code Section 2108 applies only to violative conduct that continues over time, not to specific instances of violations.

24. The continued absence of a record does not make a violation continuing because under Section 2108, it is the violative conduct that must be ongoing, not its natural consequences.

25. CPSD's continuing violation theory transgresses the narrow construction rule that applies to statutes that permit the aggregation of daily penalties.

26. CPSD's proposed application of Section 2108 would produce absurd results.

27. Section 2108 applies only to violations that are curable.

28. The Commission's enforcement policy considers notice and an opportunity to cure.

29. CPSD's "continuing violation" theory would impermissibly expose PG&E to fines grossly disproportional to the gravity of the alleged offense in violation of the California Constitution's Excessive Fines Clause.

30. CPSD's "continuing violation" theory would impermissibly expose PG&E to excessive and unreasonable penalties in violation of the California Constitution's Due Process Clause.

31. CPSD's "continuing violation" theory may not be applied to PG&E in this proceeding because PG&E did not have notice of CPSD's view of what qualifies as a continuing violation under Section 2108 prior to this investigation.

CPSD's Delay In Raising 80 Years Of Alleged Continuing Violations Constitutes Laches

32. Laches bars all of CPSD's general records violations (Felts violations 16-27 and all Duller/North violations).

33. A respondent in an enforcement proceeding may demonstrate laches by showing that the agency unreasonably delayed and the respondent suffered prejudice.

34. Laches is presumed where an agency's delay would violate an analogous statute of limitations, and the burden shifts to the agency to show that its delay was excusable and that the respondent did not suffer prejudice.

35. Like statutes of limitations, laches promotes justice by preventing surprises through the revival of claims that have been allowed to slumber until evidence has been lost, memories have faded and witnesses have disappeared.

36. The analogous statute of limitations in this proceeding is the one -year limitations period set forth in Code of Civil Procedure Section 340(b).

37. Alternatively, the analogous statute of limitations in this proceeding is the three -year limitations period set forth in Code of Civil Procedure Section 338(a) or the four-year limitations period set forth in Code of Civil Procedure Section 343.

38. CPSD delayed unreasonably in alleging its pre-September 9, 2010 general records violations (Felts violations 16-27 and all Duller/North violations).

39. CPSD's unreasonable delay prejudiced PG&E.

CPSD's Case Assumes Facts Rather Than Attempting To Carry Its Burden To Prove Violations

40. CPSD has failed to carry its burden of proving the start date of any "cont inuing" violation for which it assumed the earliest possible start date.

41. There is no record evidence that supports the end dates for any of CPSD's alleged "continuing" violations.

Dr. Duller And Mrs. North Used Improper Assessment Methods

42. Dr. Duller and Mr s. North's testimony does not establish any violation even assuming that Section 451 has the meaning CPSD claims. They did not link any of their perceived records deficiencies to CPSD's articulated standard for finding a Section 451 violation.

43. Dr. Duller and Mrs. North's destruction of their notes taken in the course of their engagement as contemplated expert witnesses was improper.

44. Dr. Duller and Mrs. North's destruction of their notes potentially prejudiced PG&E.

45. Occam's Razor cannot stand as a substitut e for proof in a legal proceeding. As used by Dr. Duller and Mrs. North, the principle leads to both a failure of proof and an impermissible attempt to shift the burden of proof to PG&E to rebut the presumption.

46. PG&E was given no prior notice prior to th is enforcement proceeding that its record management practices would be judged by a standard defined by the 2009 GARP principles and the Information Governance Maturity Model.

47. Applying GARP principles and the Information Governance Maturity Model in this enforcement proceeding violates due process.

Margaret Felts Did Not Ground Her Opinions In Relevant Expertise Or Objective Criteria

48. Ms. Felts' testimony does not establish any violation even assuming that Section 451 has the meaning CPSD claims. Ms. Felts did not claim violations of Section 451 based on a "best engineering practices" standard.

49. A person is qualified to testify as an expert only if he or she has sufficient knowledge, skill, experience, training or education to qualify as an expert on the subject matter of his or her testimony. Evid. Code § 720.

50. In considering whether a person qualifies as an expert, the field of the witness' expertise must be carefully distinguished and limited.

51. Ms. Felts lacks the expertise necessary to support her conclusions.

52. Expert opinions are worth no more than the reasons and factual data upon which they are based.

53. If an expert's opinion is not based upon facts otherwise proved it cannot constitute substantial evidence.

54. Ms. Felts failed to ground her conclusion s in objective criteria, such as industry standards or practices.

55. The Commission does not credit Ms. Felts' testimony.

The NTSB's "Traceable, Verifiable, and Complete" MAOP Records Verification Requirement Creates New Expectations

56. PG&E had no notice prior to January 3, 2011 that it should maintain MAOP records that are "traceable, verifiable, and complete."

57. It would violate due process to find violations based on a gas utility's failure to maintain traceable, verifiable, and complete" records prior to January 3, 2011.

Felts Violation 1: Records Of Salvage Pipe In Segment 180

58. CPSD has not presented evidence that salvaged pipe was used in the construction of Segment 180.

59. In 1956, when Segment 180 was installed, neither regulations (including Section 451) nor industry practice required documenting and tracking each piece of pipe installed.

60. CPSD has failed to prove that PG&E violated Section 451 for failing to maintain records of salvaged pipe in Segment 180.

Felts Violation 2: Failure To Create/Retain C onstruction Records For 1956 Project GM 136471

61. Public Utilities Code Section 451 contains no standard related to recordkeeping.

62. At the time of the 1956 construction, industry standards (ASA B31.1.8) did not require an operator to document pipeline construc tion jobs on a joint -by-joint basis.

63. At the time of the 1956 construction, industry practice did not include creating construction drawings or other documentation that detailed the entire pipeline installation at the joint-by-joint level.

64. The absence of de tailed drawings of the pups in Segment 180 suggests that the pups were delivered to the job site as part of a longer section of pipe, and were not welded together in the field.

65. CPSD failed to prove that PG&E violated Section 451 for failing to create or retain construction records for 1956 GM 136471.

Felts Violation 3: Failure To Retain Pressure Test Records For L-132, Segment 180

66. The recommended practices in ASA B31.1.8, including post -installation strength testing, were not mandatory at the time of the 1956 construction of Segment 180.

67. The Commission first regulated natural gas safety in 1961 by implementing General Order 112.

68. General Order 112 required newly -installed natural gas pipelines to be subjected to pre-service strength tests, and that records o f such tests were to be maintained. However, General Order 112 expressly exempted existing pipeline from these testing requirements.

69. PG&E was not required to test Segment 180 at the time of construction, nor was it required to maintain records of any such test that may have occurred.

70. CPSD has failed to prove that PG&E violated Section 451, ASME B31.8, or General Order 112 for failing to retain pressure test records for Line 132, Segment 180.

Felts Violation 4: Underlying Records Related To Maximum Allowab le Operating Pressure On Segment 180

71. PG&E validly established the MAOP of Line 132 from Milpitas Terminal to Martin Station (mile points 0.00 to 46.59, including Segment 180) at 400 psig pursuant to the grandfather clause (49 C.F.R. §192.619).

72. PG&E did not establish a lower MAOP on Line 132 from mile point 35.84 to 46.59 in 1978. The operating pressure log identified by CPSD does not conflict with the operating pressure chart used by PG&E to establish the 400 psig MAOP.

73. PG&E did not establish a new, higher MAOP on Line 132 in 2003 when it corrected the MAOP in 2003.

74. CPSD failed to prove that PG&E violated Section 451 or ASME B31.8 for failing to have adequate records to support a 390 psig MAOP for Line 132, Segment 180.

Felts Violation 5: Clearance Procedures

75. PG&E violated 49 C.F.R. §192.13(c) by failing to follow its clearance procedure in full.

76. Even though PG&E did not designate a clearance supervisor or fully describe the work to be performed and the sequence of operations to be undertaken, PG&E field crew took affirmative steps to communicate their actions with Gas Control operators, and proactively safeguarded against their actions causing an unintended change in pressure at the Milpitas Terminal.

Felts Violation 6: Operations And Maintenance Instructions

77. CPSD did not produce credible evidence that PG&E's Operations and Maintenance Instructions manual for the Milpitas Terminal was not up to date as of September 9, 2010.

78. PG&E's Operations and Maintenance Instructions manual for the Milpitas Terminal was up to date as of September 9, 2010.

79. CPSD failed to prove that PG&E violated Section 451 for failing to have updated Operations and Maintenance Instructions at the Milpitas Terminal on September 9, 2010.

Felts Violation 7: Drawing And SCADA Diagrams Of The Milpitas Terminal

80. PG&E's operating drawing of the Milpitas Terminal contained the necessary information for the crew at Milpitas Terminal to fully respond to the unplanned pressure increase.

81. The changes made to the operating drawing after the San Bru no accident are unrelated to the cause of the rupture.

82. PG&E's SCADA display of the Milpitas Terminal was accurate on September 9, 2010.

83. CPSD failed to prove that PG&E violated Section 451 for failing to maintain up - to-date drawings and diagrams of the Milpitas Terminal.

Felts Violation 8: Backup Software At Milpitas Terminal

84. PG&E did not maintain copies of the software or the cable connection required to connect to valve controllers at the Milpitas Terminal.

85. Programming issues with the Milpitas Terminal valve controllers were unrelated to the pressure increase.

86. PG&E's Operations and Maintenance Instructions manual for the Milpitas Terminal requires PG&E to maintain copies of software for the programmable logic controllers, not the valve controllers.

87. CPSD failed to prove that PG&E violated Section 451 or its own policies for failing to maintain backup copies of valve controller programming at the Milpitas Terminal.

Felts Violation 9: Supervisory Control And Data Acquisition System

88. PG&E's control room operators were aware of the unplanned pressure increase at Milpitas Terminal prior to the rupture, and used SCADA data from points up - and downstream from the terminal to analyze the situation.

89. Operators were aware of a line break in San Bruno as of 6:29 PM on September 9, 2010.

90. CPSD has not produced evidence that operators were unaware of the location of valves that could isolate the line break.

91. CPSD failed to prove that PG&E's SCADA system was designed unsafely in violation of Section 451.

Felts Violation 10: Emergency Response Plans

92. PG&E's emergency response plan meets all the required elements for a written emergency plan as defined in § 192.615(a) and required actions listed in § 192.615(b) and (c). It complies with the items listed in the PHMSA Enforcem ent Guidance and follows the compliance guidelines in the GPTC Guide for Emergency Plans. Ex. PG&E-61 at 4-45 to 4-46 (PG&E/Bull).

93. The Peninsula Division Emergency Plan and the GT&D Manual work in conjunction with the Company plan support compliance. The Plan is organized in a functional manner such that trained employees are able to implement it. Ex. PG&E-61 at 4-45 to 4-46 (PG&E/Bull).

94. PG&E's emergency response plans were not too difficult to use. Ex. PG&E-61 at 4-51 to 4-54 (PG&E/Bull); *see also* R.T. 445 (CPSD/Felts).

Felts Violation 11: Incidents Of Operating Line 132 In Excess of 390 Maximum Allowable Operating Pressure

95. PG&E properly established and documented a 400 psig MAOP for Line 132 from Milpitas Terminal to Martin Station.

96. CPSD has not prese nted evidence that PG&E operated above 390 psig for Line 132, mileposts 35.84 to 46.59 (including Segment 180) on any of the three days identified in this violation.

97. General Order 112-E does not prohibit accidental pressure excursions.

98. Under General Order 112-E, pressure excursions are not reportable unless they reach 110% of pipeline MAOP.

99. Section 451 does not make permissible pressure excursions violations of law.

100. CPSD has failed to prove that PG&E violated Section 451 for over -pressuring Line 132 on three separate days.

Felts Violation 12: Preservation Of Records Related To Brentwood Video Camera Six

101. PG&E did not violate the Executive Director's preservation directive or Commission Resolution L -403 in connection with the Brentwood alternate gas control facility video because there was never any video from September 9, 2010 to be preserved.

102. CPSD failed to prove that PG&E violated either Resolution L -403 or the Executive Director's September 13, 2010 preservation directive.

103. CPSD's allegation of a contin uing violation related to the video from the Brentwood alternate gas control facility is not appropriate because there is no video that can ever be produced. Accordingly, the alleged violation would continue in perpetuity.

Felts Violation 13: PG&E Data Responses Regarding Brentwood Camera Six Video

104. A Rule 1.1 violation under the Commission's Rules of Practice and Procedure requires proof that the alleged violator acted with purposeful intent, recklessness, or gross negligence in regard to communications w ith the Commission. *In re S. Cal. Edison Co.*, D.04-04-065, 2004 Cal. PUC LEXIS 207.

105. CPSD has not established that PG&E violated Rule 1.1 based on its data responses related to the video recording from the Brentwood alternate gas control facility.

Felts Violation 14: PG&E's Data Responses Regarding Personnel At Milpitas Terminal On September 9, 2010

106. A Rule 1.1 violation under the Commission's Rules of Practice and Procedure requires proof that the alleged violator acted with purposeful intent, recklessness, or gross negligence in regard to communications with the Commission. *In re S. Cal. Edison Co.*, D.04-04-065, 2004 Cal. PUC. LEXIS 207.

107. CPSD has not established that PG&E violated Rule 1.1 based on its data responses related to the personnel at Milpitas Terminal on September 9, 2010.

Felts Violation 15: WITHDRAWN

108. CPSD withdrew Felts Violation 15.

Felts Violation 16: Job Files

109. CPSD has not sustained its burden of establishing a violation of law relating to missing job files.

110. CPSD has not sustained its burden of establishing a violation of law relating to the organization of PG&E's job files.

Felts Violation 17: Pipeline History Records

111. CPSD has not established 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 any applicable law or internal standard.

112. CPSD has not proven a violation of law relating to the loss or discarding of PG&E's Pipeline History Files.

Felts Violation 18: Design And Pressure Test Records

113. CPSD has not introduced evidence sufficient to establish that PG&E is guilty of a violation of law due to missing post -installation design and strength test pressure records.

Felts Violation 19: Weld Maps And Weld Inspection Records

114. CPSD has introduced no evidentiary basis for its allegations relating to weld inspection reports and no legal basis for its allegation that PG&E was required to maintain weld maps.

115. CPSD has not sustained its burden of establishing a violation of law relating to PG&E's retention of weld inspection reports and weld maps.

Felts Violation 20: Operating Pressure Records

116. CPSD has not introduced evidence of a factual or statutory basis for its claim that PG&E lacks operating pressure data that it was required to maintain.

117. CPSD has not proven a violation of law relating to PG&E's retention of operating pressure history.

Felts Violation 21: Pre-1970 Leak Records

118. CPSD has not substantiated its allegation that PG&E is missing pre -1970 leak records that it is required to maintain.

119. CPSD has not introduced evidence that the accessibility of PG&E's pre-1970 leak records violates any statutory or regulatory requirement.

120. CPSD has not introduced evidence that PG&E's pre -1970 leak records violates any statutory or regulatory requirement.

121. CPSD has not sustained its burd en of establishing a violation of law relating to PG&E's pre-1970 leak records.

Felts Violation 22: Leak Records From 1970 Forward

122. CPSD has not introduced evidence that the accessibility of PG&E's post -1970 leak records violates any statutory or regulatory requirement.

123. CPSD has not introduced evidence that the content of PG&E's post -1970 leak records violates any statutory or regulatory requirement.

124. CPSD has not proven a violation of law relating to PG&E's post -1970 leak records.

Felts Violation 23: Records To Track Salvaged And Reused Pipe

125. CPSD has not established that PG&E is missing records to track salvaged and reused pipe that it was required to maintain by force of any applicable law or internal standard.

Felts Violation 24: Data In Pipeline Surve y Sheets And The Geographic Information System

126. CPSD has not sustained its burden of establishing that the nature or quality of data in PG&E's GIS system constitutes a violation of any applicable statute or regulation.

Felts Violation 25: Data Used In Integrity Management Risk Model

127. CPSD has not proven that the nature or quality of data in PG&E's GIS system prevent PG&E from operating an integrity management program that meets applicable legal and regulatory standards.

Felts Violation 26: Missing Report For 1988 Weld Failure

128. CPSD has not sustained its burden of proving the original existence of the weld failure report discussed in connection with alleged Violation 26.

129. CPSD has not established that loss of the weld failure report (if one existed) would constitute a violation of any statute or regulation.

Felts Violation 27: Missing Report For 1963 Weld Failure

130. CPSD has not established that loss of the weld failure report for the 1963 weld failure constitutes a violation of any statute or regulation.

Duller/North Violation A.1: Gas Transmission Division Records Management Practices

131. CPSD failed to prove Violation A.1.

132. Federal pipeline regulators have in the past declined to adopt general standards regarding the sufficiency of recordkeeping procedures. Ex. PG& E-6 at 1 -8 (PG&E/De Leon); Ex. PG&E-63 (Tab 1-21).

133. GARP and the Information Governance Maturity Model, first published in 2009, are not legal standards, and are not appropriate standards for judging the legal sufficiency of PG&E's historic recordkeeping practices.

134. The NTSB's January 3, 2011 "traceable, verifiable, and complete" requirement for verifying MAOP records is not appropriate to apply retrospectively in judging the legal sufficiency of PG&E's historic gas transmission recordkeeping practices.

135. The principle of parsimony (Occam's Razor) is not a methodology that an expert uses in forming ultimate conclusions.

136. In reaching their conclusions with respect to Violation A -1, CPSD's consultants primarily relied on Section 451 of the Public Utilities Code. Section 451 does not impose any record -keeping obligations. In relying on Section 451, CPSD's consultants did not apply any recordkeeping law, regulation or rule of which PG&E had notice sufficient to meet the requirements of California's guarantee of due process and fair notice. The consultants' written reports and testimony supporting Violation A.1 are devoid of any reference to Section 451, or any standard CPSD contends was imposed by it.

137. As a secondary basis for Violation A.1, an d for conduct occurring prior to July 1, 1961, CPSD maintains that PG&E violated recordkeeping provisions contained in the ASA B31.8 voluntary industry standard. That industry standard, however, did not create enforceable pipeline safety obligations until the Commission General Order 112 took effect in July 1961.

138. As a secondary basis for Violation A.1, and for conduct occurring between 1961 and 1970, CPSD maintains that PG&E violated General Orders 112, 112A and 112-B, Section 107. Among other things, Section 107 (Compliance with ASA Code) incorporates specific records provisions contained within the ASA (later ASME) B31.8 Code. It does not, however, reference or incorporate the unique records provisions that appeared in General Orders 112, 112 -A and 112-B at Sections 301 through 303 In support of Violation A.1, CPSD has not alleged violations of Section 301 through 303 and has not specified what records provision incorporated by Section 107 PG&E violated.

139. As a secondary basis for Violation A.1, and for conduct occurring between August 1970 and September 2010, CPSD alleged that PG&E violated 49 C.F.R. § 192.709. Section 192.709 addresses certain repair records and records of patrol, survey and tests required by subparts L (Operations) & M (Maintenan ce). It does not address records pertaining to the design, installation or construction of natural gas pipelines and it does not address records of a kind required to be maintained by integrity management rules. In the case of Violation A.1, CPSD has not alleged violations of any of 49 C.F.R. Part 192's records provisions except for violations of Section 192.709.

140. To the extent Violation A.1 rests on the allegation that PG&E failed to maintain records required by Section 192.709(c) for the "life of the fac ility" the allegation fails as a matter of law. In 1996, the life of the facility requirement formerly contained in Section 192.709 was eliminated because it was unnecessary. Even for conduct occurring prior to 1996, there is no sound reason in law or po licy to continue enforcing Section 192.709(c)'s former "life of the facility" requirement given that it was determined in 1996 to be unnecessary.

141. Prior to July 1961 and after, the Federal Power Commission (later FERC) promulgated recordkeeping regulatio ns for utilities that the Commission periodically adopted and made applicable to California gas utilities. However, Violation A.1 does not rest on any provision of these FPC regulations or the Commission resolutions adopting them.

142. Prior to July 1, 1 961, California did not regulate gas pipeline safety, and thus there were no records requirements to maintain gas safety records.

143. CPSD has failed to meet its burden of proving Violation A.1.

144. If it could be sustained at all, an attempt to use Section 4 51 as a basis to impose liability for general recordkeeping deficiencies of the kind alleged in Violation

A.1 must rely on a legal standard that was objective and ascertainable at the time of the violative conduct. CPSD has not alleged or proven a violati on of any objective and ascertainable generally applicable standards governing recordkeeping that existed in the period in which the alleged violative conduct occurred.

Duller/North Violations B.1-B.6

145. In reaching their conclusions with respect to Vio lations B.1 through B.6, CPSD's consultants primarily relied on Section 451 of the Public Utilities Code. Section 451 does not impose any recordkeeping obligations. In relying on Section 451, CPSD's consultants did not apply any recordkeeping law, regula tion or rule of which PG&E had notice sufficient to meet the requirements of California's guarantee of due process and fair notice. The consultants' written reports and testimony supporting Violations B.1 through B.6 are devoid of any reference to Section 451, or any standard CPSD contends was imposed by it.

146. CPSD failed to prove Violation B.1, that PG&E's minimal compliance with some of its own retention policies regarding leak survey maps violates other requirements.

147. As a secondary basis for Violation B.1, CPSD alleged that a nine -year retention policy for leak survey maps violated 49 C.F.R. § 192.709. Section 192.709(c) addresses leak survey records and generally requires that such records be retained for five years or until the next survey, whichever period is greater. The required interval for conducting leak surveys on transmission pipe is significantly less than five years, making the five -year period the applicable retention period. 49 C.F.R. § 192.706. Accord ingly, CPSD's secondary contention that a nine -year retention period for leak survey maps violates Section 192.709 fails as a matter of law.

148. CPSD failed to prove Violation B.2, that PG&E's minimal compliance with some of its own line patrol report retention policies violates other requirements.

149. As a secondary basis for Violation B.2, and for conduct occurring from 1964 to 2010, CPSD maintains that PG&E violated the ASME B31.8 voluntary industry standard. That industry standard, however, did not create en forceable pipeline safety obligations. Moreover, applying ASME B31.8 violation after General Order 112 -C took effect contradicts CPSD's policy witness's testimony that CPSD would not seek to apply ASME after GO 112 -C's adoption. Logically, CPSD would not seek to enforce ASME B31.8 after GO 112 took effect in July 1961 for the same reason.

150. As a secondary basis for violation B.2, and for conduct occurring between 1961 and 1970, CPSD maintains that PG&E violated General Orders 112 -A and 112-B, Section 107. Among other things, Section 107 (Compliance with ASA Code) incorporates specific records provisions contained within the ASA (later ASME) B31.8 Code. It does not, however, reference or incorporate the unique records

provisions that appeared in General Ord ers 112, 112A and 112B at Sections 301 through 303. In support of Violation B -2, CPSD has not alleged violations of Section 301 through 303 and has not specified what records provision incorporated by Section 107 PG&E violated.

151. As a secondary basis for V iolation B.2, and for conduct occurring between August 1970 and April 2010, CPSD alleged that PG&E violated 49 C.F.R. § 192.709 by failing to retain line patrol reports. Section 192.709(c) addresses line patrol reports. To the extent Violation B.2 rests on the allegation that PG&E failed to maintain line patrol records required by Section 192.709(c) for the "life of the facility" the allegation fails as a matter of law. In 1996, the life of the facility requirement formerly contained in Section 192.709(c) was eliminated because it was unnecessary. Even for conduct occurring prior to 1996, there is no sound reason in law or policy to continue enforcing Section 192.709(c)'s former "life of the facility" requirement given that it was determined in 1996 to b e unnecessary.

152. For the period from April 2010 through September 2010 Violation B.2 makes no internal or legal sense. The alleged violation of Section 192.709 is said to end on April 2010, yet the violations of Section 451 and ASME B31.8 are said to continue until September 2010. A Company cannot be found to have complied with a specifically applicable standard as of April 2010, and yet remain in violation of an open -ended standard or a voluntary industry standard after that date.

153. CPSD failed to prove Violation B.3, that PG&E's minimal compliance with some of its own line inspection report retention requirements violates other requirements.

154. As a secondary basis for Violation B.3, and for conduct occurring from 1994 to 2010, CPSD maintains that PG& E violated the ASME B31.8 voluntary industry standard. That industry standard, however, did not create enforceable pipeline safety obligations. Moreover, the assertion of an ASME B31.8 violation after General Order 112 -C took effect in 1971contradicts CP SD's policy testimony in which it stated it would not seek to apply ASME after GO 112-C's adoption.

155. As a secondary basis for Violation B.3, and for conduct occurring between August 1970 and April 2010, CPSD alleged that PG&E violated 49 C.F.R. § 192.709 by failing to retain line inspection reports. Section 192.709(c) addresses line inspection reports. To the extent Violation B.3 rests on the allegation that PG&E failed to maintain line patrol records required by Section 192.709(c) for the "life of the fac ility" the allegation fails as a matter of law. In 1996, the life of the facility requirement formerly contained in Section 192.709(c) was eliminated because it was unnecessary. Even for conduct occurring prior to 1996, there is no sound reason in law or policy to continue enforcing Section 192.709(c)'s former "life of the facility" requirement given that it was determined in 1996 to be unnecessary.

156. For the period from April 2010 through September 2010 Violation B.3 makes no legal sense. The alleged vi olation of Section 192.709 is said to end on April 2010, yet the violations of Section 451 and ASME B31.8 continue until September 2010. PG&E cannot have complied with a specifically applicable standard as of April 2010, and yet be deemed in violation of an open -ended standard or a voluntary industry standard after that date.

157. CPSD failed to prove Violation B.4, that PG&E's minimal compliance with some of its gas high pressure test record retention policies violates other requirements.

158. As a secondary b asis for Violation B.4, and for conduct occurring from 1994 to April 2010, CPSD maintains that PG&E violated the ASME B31.8 voluntary industry standard. That industry standard, however, did not create enforceable pipeline safety obligations. Moreover, ap plying ASME B31.8 after General Order 112-C took effect in 1971 contradicts CPSD's policy testimony, stating it would not seek to apply ASME after GO 112-C's adoption.

159. As a secondary basis for Violation B.4, and for conduct occurring between 1994 and April 2010, CPSD alleged that PG&E violated 49 C.F.R. § 192.709 by failing to retain "gas high pressure test records" – a term CPSD equates with a post - construction pressure test record. Section 192.709 addresses certain repair records and records of patrol, survey and tests required by subparts L (Operations) & M (Maintenance). It does not address records pertaining to the design, installation or construction of natural gas pipelines. The requirement to maintain post-construction pressure test records appear s in a section of Part 192 (192.517) that PG&E is not alleged to have violated.

160. CPSD failed to prove Violation B.5, that PG&E's minimal compliance with some of its record retention policies of transmission line inspection, including patrol maintenance reports, trouble report and line logs violates other requirements.

161. As a secondary basis for Violation B.5, and for conduct occurring from 1994 to 2010, CPSD maintains that PG&E violated the ASME B31.8 voluntary industry standard. That industry standard, however, did not create enforceable pipeline safety obligations. Moreover, the assertion of an ASME B31.8 violation after General Order 112-C took effect in 1971 contradicts CPSD's policy testimony in which it stated it would not seek to apply ASME after GO 112-C's adoption.

162. As a secondary basis for Violation B.5, and for conduct occurring between August 1970 and April 2010, CPSD alleged that PG&E violated 49 C.F.R. § 192.709 by failing to retain patrol maintenance reports, trouble reports and line logs. Section 192.709(c) addresses line records. To the extent Violation B.5 rests on the allegation that PG&E failed to maintain line records required by Section 192.709(c) for the "life of the facility" the allegation fails as a matter of law. In 1996, the life of the facility requirement formerly contained in Section 192.709(c) was eliminated because it was unnecessary. Even for conduct occurring prior to 1996, there is no sound reason in law or policy to continue enforcing Section

192.709(c)'s former "life of the facility" requirement given that it was determined in 1996 to be unnecessary.

163. CPSD failed to prove Violation B.6, 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.

164. There was no regulatory requirement to retain Pipeline History Files and no internal PG&E standard mandated their retention after 1987.

Duller/North Violations C.1-C.3

165. CPSD failed to prove Viola tion C.1, 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. CPSD failed to prove that as a result, both Line 132 and Line 151 were excluded from PG&E's 1995 Gas Pipeline Replacement Program. CPSD failed to prove that if Line 132 had been included in this program and replaced the San Bruno rupture and fire could have been avoided.

166. CPSD failed to prove Violation C.2, 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.

167. CPSD failed to prove Violation C.3, 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 historica l leak information from system to system. CPSD failed to prove that the incompleteness of critical leak information has contributed to diminished PG&E pipeline safety.

168. CPSD has not proven a violation of law relating to the migration of historical data into PG&E's leak database.

169. CPSD has not sustained its burden of establishing a violation of law relating to the incompleteness of PG&E's leak information.

APPENDIX C

PACIFIC GAS AND ELECTRIC COMPANY
ALLEGED VIOLATIONS AND PG&E'S RESPONSE

Violation Number[977]	Summary Description of Alleged Violation	Primary Basis for Violation (Secondary Basis for Violation)	Alleged Time Span of CPSD's Primary Violation[978]	PG&E's June 2012 Response
Felts 1	No records for salvaged pipe installed into Segment 180	Pub. Util. Code § 451; Pub. Util. Act art. II, § 13(b)	Pre-1951-?[979]	Ch. 4.A
Felts 2	Failure to create/retain construction records for 1956 project GM 136471	Pub. Util. Code § 451	1956-?	Ch. 4.A
Felts 3	Failure to retain pressure test records for L-132, Segment 180	Pub. Util. Code § 451 (ASME B31.8; GO 112, 112-A, 112-B (Section 107))	1955-?	Ch. 4.B
Felts 4	Lost underlying records to support MAOP of 390 on Segment 180	Pub. Util. Code § 451 (ASME B31.8)	1977-?	Ch. 4.C
Felts 5	Failure to follow procedures to create clearance record	Pub. Util. Code § 451	2010	Ch. 4.D
Felts 6	Out-of-date operations and maintenance instructions at Milpitas Terminal	Pub. Util. Code § 451	1991-?	Ch. 4.D
Felts 7	Out-of-date drawing and diagrams of the Milpitas Terminal	Pub. Util. Code § 451 (PG&E internal policies)	2008-?	Ch. 4.D
Felts 8	No back-up software at the Milpitas Terminal	Pub. Util. Code § 451	1991-?	Ch. 4.D
Felts 9	Unsafe design of Supervisory Control and Data Acquisition System	Pub. Util. Code § 451	2008-?	Ch. 4.D, 4.E
Felts 10	Emergency response plans too difficult to use	Pub. Util. Code § 451	4/2010-9/2010	Ch. 4.F
Felts 11	Operated L-132 in excess of 390 MAOP (1 day each year)	Pub. Util. Code § 451	2003, 2008, 2010	Ch. 4.C
Felts 12	Failure to attempt to preserve video recordings that PG&E believed was on Brentwood Camera 6	Executive Director Preservation Directive; Commission	2010-2012	Ch. 5

[977] The violation numbers relate to the identified violations in the Felts Supplement, numbered 1 -27, and the Duller/North Supplement, numbered A.1, B.1-6 and C.1-3.

[978] For those alleged violations that contain various time periods depending on the cited regulation, the table includes the longest time period.

[979] Ms. Felts' revised table of violations included an end date for all of her alleged "continuing" violations of 2010. When it turned out on cross -examination that the date was filled in by CPSD's lawyers, and not Ms. Felts, the ALJ struck the end dates. R.T. 270-77 (CPSD/Felts).

Violation Number[977]	Summary Description of Alleged Violation	Primary Basis for Violation (Secondary Basis for Violation)	Alleged Time Span of CPSD's Primary Violation[978]	PG&E's June 2012 Response
		Resolution L-403		
Felts 13	PG&E's contradictory data responses regarding recorded Brentwood Camera 6 video	Rules of Practice and Procedure 1.1	2011 and 2012	Ch. 5
Felts 14	PG&E's data responses did not identify all of the people in Milpitas handling the pressure problem on September 9, 2010	Rules of Practice and Procedure 1.1	10/10/2011 and 12/17/2011	Ch. 5
Felts 15	***Withdrawn***			
Felts 16	Job files missing and disorganized	Pub. Util. Code § 451 (ASME B31.8; PG&E internal policies)	1987-?	Ch. 3.C
Felts 17	Pipeline history records missing	Pub. Util. Code § 451 (ASME B31.8; PG&E internal policies)	1987-?	Ch. 2.A
Felts 18	Design and pressure test records missing	Pub. Util. Code § 451; Pub. Util. Act art. II, § 13(b) (ASME B31.8; GO 112, 112-A, 112-B (Section 107); PG&E internal policies)	1930-?	Ch. 3.A, 3.C
Felts 19	Weld maps and weld inspection records missing or incomplete	Pub. Util. Code § 451; Pub. Util. Act art. II, § 13(b) (49 C.F.R. §§ 192.241, 192.243; ASME B31.8; GO 112, 112-A, 112-B (Section 107))	1930-?	Ch. 3.A, 3.C
Felts 20	Operating pressure records missing, incomplete or inaccessible	Pub. Util. Code § 451; Pub. Util. Act art. II, § 13(b) (ASME B31.8; GO 112, 112-A, 112-B, 112-C, 112-E (Section 107); PG&E internal policies)	1930-?	Ch. 3.A, 3.E
Felts 21	Pre-1970 leak records missing, incomplete and inaccessible	Pub. Util. Code § 451; Pub. Util. Act art. II, § 13(b) (ASME B31.8; GO 112, 112-A, 112-B, 112-C, 112-E	1930-?	Ch. 3.F

Violation Number[977]	Summary Description of Alleged Violation	Primary Basis for Violation (Secondary Basis for Violation)	Alleged Time Span of CPSD's Primary Violation[978]	PG&E's June 2012 Response
		(Section 107))		
Felts 22	Post-1970 leak records incomplete and inaccessible	Pub. Util. Code § 451 (ASME B31.8; PG&E internal policies)	1970-?	Ch. 3.F
Felts 23	Records to track salvaged and reused pipe missing	Pub. Util. Code § 451 (PG&E internal policies)	1954-?	Ch. 3.C
Felts 24	Bad data in pipeline survey sheets and the Geographic Information System	Pub. Util. Code § 451 (PG&E internal policies)	1974-?	Ch. 3.G
Felts 25	Use of an integrity management risk model that uses inaccurate data	Pub. Util. Code § 451	2004-?	Ch. 3.E
Felts 26	1988 weld failure – no failure report	Pub. Util. Code § 451	1988-?	Ch. 3.C
Felts 27	1963 weld failure – no failure report	Pub. Util. Code § 451	1963-?	Ch. 3.C
Duller/North A.1	PG&E's Gas Transmission Division lacked the necessary accurate and locatable records essential for safe pipeline operation, due to sub-standard records management practices…	Pub. Util. Code § 451 (ASME B31.8; Part 192.709; GO 112, 112-A, 112-B (Section 107))	1955-2010	Expert Report of Maura Dunn; Ch. 1.C, 2.A, 3.A, 3.C
Duller/North B.1	PG&E's minimal compliance with some of its own retention policies regarding leak survey maps violates other requirements	Pub. Util. Code § 451 (49 C.F.R. § 192.709)	4/2010-9/2010	Expert Report of Maura Dunn; Ch. 2.A
Duller/North B.2	PG&E's minimal compliance with some of its own line patrol retention policies violates other requirements	Pub. Util. Code § 451 (ASME B31.8; 49 C.F.R. § 192.709; GO 112-A, 112-B (Section 107))	9/1964-9/2010	Expert Report of Maura Dunn; Ch. 2.A
Duller/North B.3	PG&E's minimal compliance with some of its own line inspection report retention requirements violates other requirements	Pub. Util. Code § 451 (ASME B31.8; 49 C.F.R. § 192.709)	1994-9/2010	Expert Report of Maura Dunn; Ch. 2.A
Duller/North B.4	PG&E's minimal compliance with some of its gas high pressure test record retention policies violates other requirements	Pub. Util. Code § 451 (ASME B31.8; 49 C.F.R. § 192.709)	1994-4/2010	Expert Report of Maura Dunn; Ch. 2.A
Duller/North B.5	PG&E's minimal compliance with some of its record retention policies of	Pub. Util. Code § 451 (ASME B31.8; 49 C.F.R. § 192.709;	9/1964-4/2010	Expert Report of Maura Dunn; Ch. 2.A

Violation Number[977]	Summary Description of Alleged Violation	Primary Basis for Violation (Secondary Basis for Violation)	Alleged Time Span of CPSD's Primary Violation[978]	PG&E's June 2012 Response
	transmission line inspections, including patrol maintenance reports, trouble reports and line logs violates other requirements	GO 112, 112-A, 112-B (Section 107))		
Duller/North B.6	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	Pub. Util. Code § 451 (ASME B31.8; 49 C.F.R. § 192.13(c); GO 112, 112-A, 112-B (Section 107))	1955-9/2010	Expert Report of Maura Dunn; Ch. 2.A
Duller/North C.1	In 2007, PG&E was informed that in 1995 it selected the wrong year as the upper limit for its GPRP (1947 rather than 1948) and for assessing the excavation threat to PG&E's gas transmission pipelines…	Pub. Util. Code § 451	1995-9/2010	Ch. 3.D
Duller/North C.2	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	Pub. Util. Code § 451 (ASME B31.8)	1992-9/2010	Ch. 3.D
Duller/North C.3	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…	Pub. Util. Code § 451 (ASME B31.8; 49 C.F.R. § 192.709; GO 112, 112-A, 112-B (Section 107))	1955-9/2010	Ch. 3.F

APPENDIX D

EXHIBIT INDEX

Proceeding No.	ALJ
I.11-02-016 & I.12-01-007	Yip-Kikugawa & Wetzell

Exh. No.	Date		Description
	Ident.	Recd.	
PG&E-1	9/5/12	1/22/13	Rebuttal Testimony of Julie Halligan August 20, 2012
PG&E-2	9/5/12	1/22/13	Redline Comparison of Original and Revised Rebuttal Testimony of Julie Halligan
PG&E-3	9/5/12	1/22/13	Development of the B31.8 Code and Federal Pipeline Safety Regulations: Implications for Today's Natural Gas Pipeline System
PG&E-4	9/5/12	1/22/13	Decision No. 61269, with GO 112 attached
PG&E-5	9/5/12	1/22/13	Decision No. 78513, with GO 112-C attached
PG&E-6	9/5/12	1/22/13	CPSD's Response to PG&E's Data Request No. 12
PG&E-7	9/5/12	1/22/13	Decision No. 95-08-053, with GO 112-E attached
PG&E-8	9/5/12	1/22/13	Consumer Protection & Safety Division Utility Safety and Reliability Branch Electric, Natural Gas & Propane Safety Report 2009
PG&E-9	9/5/12	1/22/13	Decision 03-04-029 Order Instituting Rulemaking to Establish Policies and Cost Recovery Mechanisms for Generation Procurement and Renewable Resource Development
PG&E-10	9/5/12	1/22/13	Consumer Protection & Safety Division Utility Safety and Reliability Branch Electric, Natural Gas & Propane Safety Report 2008
PG&E-11	9/5/12	1/22/13	Consumer Protection & Safety Division Utility Safety and Reliability Branch Electric, Natural Gas & Propane Safety Report 2007
PG&E-12	9/5/12	1/22/13	Consumer Protection & Safety Division Utility Safety and Reliability Branch Electric, Natural Gas & Propane Safety Report 2006
PG&E-13	9/5/12	1/22/13	Consumer Protection & Safety Division Utility Safety and Reliability Branch Electric, Natural Gas & Propane Safety Report 2004 and 2005
PG&E-14	9/5/12	1/22/13	Consumer Protection & Safety Division Utility Safety and Reliability Branch Natural Gas & Propane Safety

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Proceeding No.	ALJ
I.11-02-016 & I.12-01-007	Yip-Kikugawa & Wetzell

Exh. No.	Date		Description
	Ident.	Recd.	
			Report for 2000-2003
PG&E-15	9/5/12	1/22/13	Utilities Safety Branch Natural Gas & Propane Safety Report for 1999
PG&E-16	9/5/12	1/22/13	Utilities Safety Branch Natural Gas & Propane Safety Report for 1998
PG&E-17	9/5/12	1/22/13	Utilities Safety Branch Natural Gas & Propane Safety Report for 1997
PG&E-18	9/5/12	1/22/13	May 3, 2011 Letter from CPSD to Southern California Gas Company
PG&E-19	9/5/12	1/22/13	Joint Meeting of the Technical Pipeline Safety Standards Committee and the Technical Hazardous Liquid Pipeline Safety Standards Committee July 12, 2012
PG&E-20	9/5/12	1/22/13	California Public Utilities Code 958
PG&E-21	9/5/12	1/22/13	Verification of Records July 12, 2012 PHMSA Presentation
PG&E-22	9/5/12	1/22/13	MCFELTS.com Consulting Services
PG&E-23	9/6/12	1/22/13	The State Bar of California Attorney Search Results for Name FELTS
PG&E-24	9/6/12	1/22/13	Documents and Materials Underlying Ms. Felts Rebuttal Testimony (CPSD Response to Records OII PG&E Data Request 013 Question1)
PG&E-25	9/6/12	1/22/13	Brentwood Terminal Video Recordings (PG&E Data Response to Records OII CPUC 008-Q16Rev01)
PG&E-26	9/6/12	1/22/13	CPUC letter dated September 13, 2010, Re: Safety Response to the San Bruno Pipeline Explosion
PG&E-27	9/6/12	1/22/13	Public Utilities Commission of the State Bar of California Resolution No. L-403 Date of Issuance: September 24, 2010

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Proceeding No.	ALJ
I.11-02-016 & I.12-01-007	Yip-Kikugawa & Wetzell

Exh. No.	Date		Description
	Ident.	Recd.	
PG&E-28	9/6/12	1/22/13	Email dated September 11, 2010, URGENT: Document Retention Relating to 9/9/10 San Bruno Incident
PG&E-29	9/6/12	1/22/13	Milpitas Terminal Full Inventory (PG&E Data Response to Records OII Legal Division 001-Q07)
PG&E-30	9/6/12	1/22/13	Operating and Maintenance Procedures (PG&E Data Response to Records OII Legal Division 001-Q01b-supp02)
PG&E-31	9/6/12	1/22/13	Operating and Maintenance Instructions Milpitas Terminal Drawing Number 089773—Rev. 7
PG&E-32	9/6/12	1/22/13	Operating and Maintenance Instructions Milpitas Terminal Drawing Number 089773—Rev. 6
PG&E-33	9/6/12	1/22/13	CPSD Response to Records OII PG&E Data Request 4 Question 21; Supplemental Response to PG&E Data Request 4 Question 21; and referenced Weld Radiograph Log (MAOP05268942)
PG&E-34	9/7/12	1/22/13	Notes, Memoranda, and Work Papers Prepared by Ms. Felts During ECTS Searches and Site Visits (CPSD Response to Records OII PG&E Data Request 007 Question 1)
PG&E-35	9/7/12	1/22/13	Bechtel's Review of the Transmission Priority Analysis (1994 Rev.) for the Gas Pipeline Replacement & Rehabilitation Program May 1995
PG&E-36	9/7/12	1/22/13	PODS (Pipeline Open Data Standard) Website
PG&E-37		1/22/13	PODS (Pipeline Open Data Standard) Presentation by Bill Byrd—Regulatory Developments for Pipeline Recordkeeping
PG&E-38	9/7/12	1/22/13	Welds on GM 98015
PG&E-39	9/7/12	1/22/13	API 1104—Standard for Field Welding of Pipe Lines 3rd Edition—March 1955
PG&E-40	9/7/12	1/22/13	API 1104—Standard for Field Welding of Pipe Lines 4th Edition—May 1956

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Exh. No.	Date		Description
	Ident.	Recd.	
PG&E-41	9/7/12	1/22/13	Tensile Test of Gas Pipe Welds from Crystal Springs Lake dated October 21, 1948
PG&E-42	9/7/12	1/22/13	Milpitas Terminal Maximum Operating Pressure Logs October 16 and 28, 1968 (PG&E's Response and Attachment to CPUC Data Request 3, Question 20)
PG&E-43	9/7/12	1/22/13	August 15, 1978, R.H. Jones letter re Line 132 MAOP
PG&E-44	9/7/12	1/22/13	Email dated December 9, 2003, Re: Peninsula Mains Testing (Line 132 MAOP error)
PG&E-45	9/7/12	1/22/13	Email dated December 10, 2003, Re: MAOP of Line 132 (Line 132 MAOP error)
PG&E-46	9/7/12	1/22/13	49 C.F.R. 192.615—Emergency Plans
PG&E-47	9/7/12	1/22/13	Reconditioned Pipe Practices in ASA B31.1.8 - 1955 (full copy of ASA standard) (PG&E Data Response to Records OII CPUC 003-Q10)
PG&E-48	9/7/12	1/22/13	PG&E Policies Relating to Reconditioned Pipe (PG&E Data Response to Records OII CPUC 010-Q05 Attachments 4 and 6)
PG&E-49	9/7/12	1/22/13	PG&E's Response to CPUC Data Request 215, Question 6 (QA/QC Process for GIS and Pipeline Survey Sheets)
PG&E-50	9/10/12	1/22/13	April 20, 2000 Letter from Mahendra Jhala, Utilities Safety Branch, to PG&E Vice President of Distribution and Engineering
PG&E-51	9/10/12	1/22/13	1956 Relocation Source of Pipe Material (National Transportation Safety Board Exhibit No. 2-DV)
PG&E-52	9/10/12	1/22/13	PG&E 1956 Journal Voucher, Material Codes and Pipeline Survey Sheet (National Transportation Safety Board Exhibit No. 2-AZ)
PG&E-53	9/10/12	1/22/13	Material Codes
PG&E-54	9/10/12	1/22/13	March 19, 1957, PG&E Combined Shipping Notice and Transfer General Construction Department—Job GM

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	Ident.	Recd.	
			136471
PG&E-55	9/10/12	1/22/13	Drawing-Video Log Re: 98015-span Abandoned on 136471
PG&E-56	9/10/12	1/22/13	Mapping Standards re Salvaged and Abandoned Mains Effective: December 1, 1979
PG&E-57	9/10/12	1/22/13	Dr. Duller's Notes
PG&E-58	9/11/12	1/22/13	PG&E's Response to CPSD's Data Request 66, Questions 4 through 9
PG&E-59	9/11/12	1/22/13	PG&E's Response to CPSD's Data Request 75, Question 1
PG&E-60	9/11/12	1/22/13	PG&E's Response to CPSD's Data Request 75, Question 3
PG&E-61	9/11/12	1/22/13	PG&E's Response to the CPSD's Reports: Records Management Within the Gas Transmission Division of PG&E Prior to the Natural Gas Transmission Pipeline Rupture and Fire, San Bruno, California, September 9, 2010; Report and Testimony of Margaret Felts; and Testimony of Witnesses
PG&E-62	9/11/12	1/22/13	Expert Report of Maura L. Dunn, MLS, CRM, PMP
PG&E-63[980]	9/11/12	1/22/13	Exhibits for Chapter 1
PG&E-63 (Tab Intro-1)	"	"	CPSD Response to PG&E-CPSD_004-Q29
PG&E-63 (Tab 1-1)	"	"	PHMSA Advisory Bulletin, 77 Fed. Reg. 26822 (May 7, 2012)

[980] Exhibits 63-67 contain the exhibits submitted with PG&E's written testimony, Ex. PG&E -61. The hardbound volumes of the exhibits, and the DVD submitted on June 26, 2012, include tabs that identify each exhibit accompanying written testimony. When citing to Exhibits 63 -67 in this brief, PG&E has referenced the exhibits accompanying the written testimony as, e.g., "(Tab 3 -4)." For instance, Ex -PG&E-63 (Tab 1 -6), refers to hearing Exhibit 63, exhibit 1-6 (CPUC Decision 78513 adopting GO 112-C (1970)).

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PG&E-63 (Tab 1-2)	"	"	Development of the B31.8 Code and Federal Pipeline Safety Regulations: Implications for Today's Natural Gas Pipeline Systems
PG&E-63 (Tab 1-3)	"	"	Clinton's Regulatory Reinvention Initiative-Memorandum for heads of Departments and Agencies
PG&E-63 (Tab 1-4)	"	"	Final Rule, Pipeline Integrity Management in High Consequence Areas, 68 Fed. Reg. 69778 (December 15, 2003)
PG&E-63 (Tab 1-5)	"	"	CPUC Decision No. 61269 (December 28, 1960)
PG&E-63 (Tab 1-6)	"	"	CPUC Decision 78513 adopting GO 112-C (1970)
PG&E-63 (Tab 1-7)	"	"	Senate Report No. 733 (1967)
PG&E-63 (Tab 1-8)	"	"	House Report No. 90-1390 (1968)
PG&E-63 (Tab 1-9)	"	"	S. 1166 House Subcommittee Print (1968)
PG&E-63 (Tab 1-10)	"	"	DOT Transportation Safety Institute Guidance on Retroactivity of Part 192 (2010)
PG&E-63 (Tab 1-11)	"	"	PHMSA Interp. 192.13(8)(1973)
PG&E-63	"	"	PHMSA Interp. 192.13(15) (1979)

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(Tab 1-12)			
PG&E-63 (Tab 1-13)	"	"	PHMSA Interp. 192.13(19) (1982)
PG&E-63 (Tab 1-14)	"	"	PHMSA Interp. 192.13(22) (1984)
PG&E-63 (Tab 1-15)	"	"	AGA White Paper on Verification of MAOPs (April 2011)
PG&E-63 (Tab 1-16)	"	"	DIMP Guidance, "Elements of a Distribution Integrity Management Plan"
PG&E-63 (Tab 1-17)	"	"	PHMSA Integrity Management FAQ-205 (Dec. 6, 2004)
PG&E-63 (Tab 1-18)	"	"	PHMSA Interp. PI-86-005 (Aug. 4, 1986)
PG&E-63 (Tab 1-19)	"	"	PHMSA, Determination of Maximum Allowable Operating Pressure in Natural Gas Pipelines (1998)
PG&E-63 (Tab 1-20)	"	"	PHMSA, PI-75-01 (1975)
PG&E-63 (Tab 1-21)	"	"	PHMSA, PI-93-047 (1993)
PG&E-63 (Tab 1-22)	"	"	PHMSA, PI-72-031 (1972)

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PG&E-63 (Tab 1-23)	"	"	PHMSA Interp. PI-09-0021 (Aug. 11, 2010)
PG&E-63 (Tab 1-24)	"	"	PHMSA Advance Notice of Proposed Rulemaking, 76 Fed. Reg. 53086 (August 25, 2011)
PG&E-63 (Tab 1-25)	"	"	PHMSA, Preliminary Comments of the American Gas Association (December 2, 2011)
PG&E-63 (Tab 1-26)	"	"	Letter from CPSD to Southern California Gas Company (May 3, 2011)
PG&E-63 (Tab 1-27)	"	"	W.R. (Bill) Byrd, P.E., "Regulatory Developments for Pipeline Recordkeeping"
PG&E-63 (Tab 1-28)	"	"	Gas Technology Institute, "Intelligent Utility Workshop - Report Out" (September 15-16, 2011)
PG&E-63 (Tab 1-29)	"	"	INGAA Letter to Linda Daugherty, (July 13, 2011)
PG&E-63 (Tab 1-30)	"	"	Olenchuk, Curry and Leesman, "Potential Impact of New Pipeline Safety Laws on PHMSA's Regulatory Initiatives," Pipeline & Gas Journal, Volume 239 (April, 2012)
PG&E-63 (Tab 1-31)	"	"	James Howe and Julie Porcaro, "Transmission Pipeline Validation: The Changing Industry Landscape and Transmission Records Implications" (December 1, 2011)
PG&E-63 (Tab 1-32)	"	"	Wesley B. McGehee, "Report on the Maximum Allowable Operating Pressure (MAOP) Background & History" (March 5, 1998)

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	Ident.	Recd.	
PG&E-63 (Tab 1-33)	"	"	AGA Industry Guidance on Records Review for Re-affirming Transmission Pipeline MAOPs (October 2011)
PG&E-64	9/11/12	1/22/13	Exhibits for Chapter 2
PG&E-64 (Tab 2-1)	"	"	December 8, 1938 PG&E Letter re FPC Regulations
PG&E-64 (Tab 2-2)	"	"	Circular Letter Ex. #642 (May 17, 1951)
PG&E-64 (Tab 2-3)	"	"	Standard Practice (SP) 210.4-3: Retention of Records - General Office Departments (3/1/59)
PG&E-64 (Tab 2-4)	"	"	Utility Standard Practice (USP) 4: Record Retention and Disposal (10/22/98)
PG&E-64 (Tab 2-5)	"	"	GOV-7001S: Record Retention and Disposal Standard (10/01/10)
PG&E-64 (Tab 2-6)	"	"	Corporate Standard Practice (CSP) 4: Records Retention (7/1/96)
PG&E-64 (Tab 2-7)	"	"	Commonwealth of Massachusetts Department of Public Utilities, "Regulations to Govern the Destruction of Records of Gas, Electric and Water Companies and of Municipal Lighting Plants" (Jan. 1, 1924.)
PG&E-64 (Tab 2-8)	"	"	SP 210.4-4: Retention of Records - Divisions (8/1/59)
PG&E-64 (Tab 2-9)	"	"	SP 210.4-4: Retaining and Destroying Records- Operating Regions (6/1/86)

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	Ident.	Recd.	
PG&E-64 (Tab 2-10)	"	"	SP 410.4-3: Retaining and Destroying Records - All PG&E Departments and Subsidiaries (4/1/94)
PG&E-64 (Tab 2-11)	"	"	Guide to Retention of Company Documents (April 6, 1994)
PG&E-64 (Tab 2-12)	"	"	Guide to Record Retention (March 14, 2005)
PG&E-64 (Tab 2-13)	"	"	Guide to Record Retention (May 22, 2008)
PG&E-64 (Tab 2-14)	"	"	Retention Schedule for Records in the Divisions (September 1, 1964)
PG&E-64 (Tab 2-15)	"	"	CPUC Res. No. 157, issued July 22, 1952
PG&E-64 (Tab 2-16)	"	"	CPUC Res. No. 216, issued January 16, 1956
PG&E-64 (Tab 2-17)	"	"	CPUC Res. No. 387 issued October 22, 1963
PG&E-64 (Tab 2-18)	"	"	November 4, 1974 CPUC Letter re CPUC Resolution No. FA-554
PG&E-64 (Tab 2-19)	"	"	June 16, 1975 PG&E Letter to Commission re CPUC Resolution No. FA-554
PG&E-64	"	"	Dec. 5, 1975 PG&E Letter re Proposed Revisions to CPUC Resolution No. FA-554

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(Tab 2-20)			
PG&E-64 (Tab 2-21)	"	"	CPUC Resolution No. FA 570 (1976)
PG&E-64 (Tab 2-22)	"	"	SP 210.4-3: Retention and Destruction of Records - General Office Departments (11/1/76)
PG&E-64 (Tab 2-23)	"	"	SP 210.4-4: Retention and Destruction of Records - Divisions (11/1/76)
PG&E-64 (Tab 2-24)	"	"	NARUC, Regulations to Govern the Preservation of Records of Electronic, Gas and Water Utilities (Rev. October 2007)
PG&E-64 (Tab 2-25)	"	"	Corporate Records Policy (6/13/89)
PG&E-64 (Tab 2-26)	"	"	April 4, 1950 PG&E Letter re Auditing Compliance with Records Retention Regulations
PG&E-64 (Tab 2-27)	"	"	CPUC Website, Natural Gas Safety Program Homepage
PG&E-64 (Tab 2-28)	"	"	PG&E's Response to Legal Division Data Request 25 Q 8(b)
PG&E-64 (Tab 2-29)	"	"	PG&E's Response to Legal Division Data Request 23 Q 35
PG&E-64 (Tab 2-30)	"	"	SP 210.4-3: Retention of Records - General Office Departments (3/1/61)

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	Ident.	Recd.	
PG&E-64 (Tab 2-31)	"	"	SP 210.4-4: Retaining and Destroying Records- Operating Regions (1/2/93)
PG&E-64 (Tab 2-32)	"	"	CPSD's Response to PG&E-CPSD_008-Q04
PG&E-64 (Tab 2-33)	"	"	USP4 Records Retention and Disposal Guidance for Transmissions and Distribution Systems (4/16/10)
PG&E-64 (Tab 2-34)	"	"	UO Standard S4110: Leak Survey and Repair of Gas Transmission and Distribution Facilities - Attachment 1
PG&E-64 (Tab 2-35)	"	"	Pacific Gas and Electric Company Records Center History
PG&E-64 (Tab 2-36)	"	"	Evaluation of Feasibility: Microfilming Vital Records Housed in the Records Center
PG&E-64 (Tab 2-37)	"	"	PG&E's Response to GasTransmissionSystemRecordsOII_DR_CPUC_034-Q1
PG&E-64 (Tab 2-38)	"	"	SP 463.7: Pipeline History File, Establishing and Maintaining
PG&E-64 (Tab 2-39)	"	"	PG&E Letter re Cancellation of Standard Practices (October 9, 1987)
PG&E-64 (Tab 2-40)	"	"	May 3, 1984 Memorandum from San Joaquin Gas Superintendent to San Joaquin Division District Managers
PG&E-65	9/11/12	1/22/13	Exhibits for Chapter 3

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	Ident.	Recd.	
PG&E-65 (Tab 3-1)	"	"	PHMSA Advisory Bulletin, 77 Fed. Reg. 26822 (May 7, 2012)
PG&E-65 (Tab 3-2)	"	"	Standard Practice (SP) 520.6-11, Materials and Supplies - Handling and Storage of Scrap (April 15, 1964)
PG&E-65 (Tab 3-3)	"	"	Standard Practice (SP) 522.1-1, Reconditioning of Reusable Pipe Removed from Service (Plant Account) (October 1, 1960)
PG&E-65 (Tab 3-4)	"	"	Reconditioned Pipe A.O. Smith Pipe Analysis and Policy Gas Operations (1988)
PG&E-65 (Tab 3-5)	"	"	Letter from Minneapolis Gas Company to OPS Re Reconditioned Pipe (March 19, 1971)
PG&E-65 (Tab 3-6)	"	"	Letter from John C. Morrissey, PG&E, to Public Utilities Commission (June 25, 1964)
PG&E-65 (Tab 3-7)	"	"	Letter from Public Utilities Commission to John C. Morrissey, PG&E (July 3, 1964)
PG&E-65 (Tab 3-8)	"	"	Letter from John C. Morrissey, PG&E, to Public Utilities Commission (June 29, 1965)
PG&E-65 (Tab 3-9)	"	"	Letter from William W. Dunlop, Public Utilities Commission, to John C. Morrissey (PG&E) (July 22, 1965)
PG&E-65 (Tab 3-10)	"	"	Letter from John E. Johnson, Public Utilities Commission, to Daniel E. Gibson, PG&E, Regarding Reconditioned, Lower and Anchor 10,400 feet of 16-inch Transmission Line 114 (August 6, 1982)

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	Ident.	Recd.	
PG&E-65 (Tab 3-11)	"	"	Letter from California Public Utilities Commission to Natural Gas Utilities and Interested Parties, with the enclosed Proposed Rules Governing Design, Construction, Testing, Maintenance and Operation of Gas Transmission Pipeline, Section 221 (February 21, 1957)
PG&E-65 (Tab 3-12)	"	"	Letter from John C. Morrissey, PG&E, to Public Utilities Commission, enclosed with Comments on Staff's Draft of Proposed Gas Transmission Line General Order, at 3-4 (April 29, 1957)
PG&E-65 (Tab 3-13)	"	"	Standard Practice (SP) 420.21-1: Mapping Standards, Gas Department 1"= 100 Plat Sheets
PG&E-65 (Tab 3-14)	"	"	Development of the B31.8 Code and Federal Pipeline Safety Regulations: Implications for Today's Natural Gas Pipeline Systems, Appendix E
PG&E-65 (Tab 3-15)	"	"	PG&E Response to Records OII Data Request 25-Q3
PG&E-65 (Tab 3-16)	"	"	March 13, 1963 Letter from PG&E to the Commission Re 1963 Incident
PG&E-65 (Tab 3-17)	"	"	Correspondence Regarding 1988 Weld Inspection Report
PG&E-65 (Tab 3-18)	"	"	Golden Gate Region Gas Department, Seismic Study of Gas Transmission Lines (October 13, 1989)
PG&E-65 (Tab 3-19)	"	"	PG&E, Program for Reducing Earthquake Vulnerability of Gas and Electric Systems by the Year 2000 (1990)
PG&E-65	"	"	Letter from William Lettis & Associates, Inc. Regarding Transmittal and Documentation of Revised

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Exh. No.	Date		Description
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(Tab 3-20)			GIS Hazard Layers (November 9, 2005)
PG&E-65 (Tab 3-21)	"	"	Donald Ballantyne, The Shakeout Scenario, Supplemental Study (May 2008)
PG&E-66	9/11/12	1/22/13	Exhibits for Chapter 4
PG&E-66 (Tab 4-1)	"	"	NTSB Data Response NTSB_036-015A Docket No. SA- 534, Ex. 2-AF (January 13, 2011)
PG&E-66 (Tab 4-2)	"	"	PG&E Response to GasTransmissionSystemRecordsOII_DR_CPUC_003-Q011
PG&E-66 (Tab 4-3)	"	"	Transcript of Gas Control Log, September 9, 2010, pp. 17, 65, 68-72, 82, 86, 87, 240
PG&E-66 (Tab 4-4)	"	"	PG&E's Response to DR1 Q lb, Attachment 42, Milpitas Terminal Operations and Maintenance Manual, Rev. 6, p. 77-78, 2009
PG&E-67	9/11/12	1/22/13	Exhibits for Chapter 5
PG&E-67 (Tab 5-1)	"	"	PG&E Response to GasTransmissionSystemRecordsOII_DR_CPUC_003-Q02
PG&E-67 (Tab 5-2)	"	"	PG&E Response to GasTransmissionSystemRecordsOII_DR_CPUC_003-Q02 Supplement01
PG&E-67 (Tab 5-3)	"	"	PG&E Response to GasTransmissionSystemRecordsOII_DR_CPUC_003-Q02 Supplement02
PG&E-67	"	"	PG&E Response to

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(Tab 5-4)			GasTransmissionSystemRecordsOII_DR_CPUC_043-Q01
PG&E-67 (Tab 5-5)	"	"	CPUC Response to PGE-CPUC_005-Q04
PG&E-67 (Tab 5-6)	"	"	PG&E Response to GasTransmissionSystemRecordsOII_DR_CPUC_007-Q01
PG&E-67 (Tab 5-7)	"	"	List of calls recorded by Verint Call Logger on September 9, 2010
PG&E-67 (Tab 5-8)	"	"	PG&E Response to GasTransmissionSystemRecordsOII_DR_CPUC_008-Q16
PG&E-67 (Tab 5-9)	"	"	PG&E Response to GasTransmissionSystemRecordsOII_DR_CPUC_008-Q16Revision
PG&E-67 (Tab 5-10)	"	"	PG&E Response to GasTransmissionSystemRecordsOII_DR_CPUC_043-Q05
PG&E-67 (Tab 5-11)	"	"	PG&E Response to GasTransmissionSystemRecordsOII_DR_CPUC_043-Q05Revision
PG&E-67 (Tab 5-12)	"	"	PG&E Response to CPSD_DR_210-Q11
PG&E-67 (Tab 5-13)	"	"	PG&E Response to GasTransmissionSystemRecordsOII_DR_CPUC_008-

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Exh. No.	Date		Description
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			Q08
PG&E-67 (Tab 5-14)	"	"	PG&E Response to GasTransmissionSystemRecordsOII_DR_CPUC_030-Q02
PG&E-67 (Tab 5-15)	"	"	PG&E Response to GasTransmissionSystemRecordsOII_DR_CPUC_039-Q10 Supplement
PG&E-68	9/11/12	1/22/13	PG&E's Supplemental Documents in Support of Its Response—August 22, 2012
PG&E-69	9/13/12	1/22/13	PG&E's Response to Data Request No. 5-3
PG&E-70	9/13/12	1/22/13	Standard Practice No. 460.2-2 (eff. Oct. 1, 1982)
PG&E-71	9/14/12	1/22/13	Follow-up Exhibit Re: Duller/North Report
PG&E-72	9/14/12	1/22/13	July 31, 2012 Letter from PHMSA to American Gas Association
PG&E-73	9/14/12	1/22/13	CPSD's Response to PG&E's Data Request 6, Question 4
PG&E-74	9/14/12	1/22/13	CPSD's Supplemental Data Response to PG&E's Data Request 6, Question 4
PG&E-75	9/14/12	1/22/13	PG&E's Data Response to TURN_002-Q10
PG&E-76	9/18/12	1/22/13	Brentwood Gas Control Security Camera Screengrab
PG&E-77	9/18/12	Denied	2012 INGAA Survey – Pipeline Miles by Seam Type and Leaks by Cause
PG&E-78	9/18/12	1/22/13	CPSD Staff Report on Gas Transmission Pipeline Welding Practices
PG&E-79	9/18/12	1/22/13	PG&E's 5th Supplemental Response to CPSD OII Data Request 25, Question 2(i)

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	Ident.	Recd.	
PG&E-80	1/17/13	1/22/13	Deposition of Mary Muse regarding her 2004 Professional Paper titled "Migrate Mapping of Transmission Pipeline Data from ArcView to ArcGIS"
PG&E-81	1/17/13	1/22/13	Brian Daubin Statement of Qualifications
PG&E-82	1/18/13	1/22/13	PG&E's Second Supplemental Response to Joint CPSD-TURN Data Request Set 1, Question 2
PG&E-83	1/22/13	1/22/13	Full Audit Change Log – Redacted
CPSD-1	9/5/12	1/22/13	CPSD's Revised Rebuttal Testimony of Julie Halligan
CPSD-2	9/5/12	1/22/13	CPSD's Revised Report and Testimony of Margaret Felts (March 16, 2012)
CPSD-3	9/5/12	1/22/13	CPSD's Report and Testimony of Margaret Felts - Supplemental to March 16th Report, Exhibit 1, PG&E Violations
CPSD-4	9/5/12	1/22/13	CPSD's Rebuttal Testimony of Margaret Felts
CPSD-5	9/5/12	1/22/13	CPUC's Legal Division Errata - March 16, 2012 Revised Testimony of Margaret Felts
CPSD-6	9/5/12	1/22/13	CPSD's Testimony of Paul Duller and Alison North - Records Management within the Gas Transmission Division of PG&E Prior to the Natural Gas Transmission Pipeline Rupture and Fire, San Bruno, California, September 9, 2010
CPSD-7	9/5/12	1/22/13	CPSD's Testimony of Paul Duller and Alison North - Records Management within the Gas Transmission Division of PG&E Prior to Natural Gas Transmission Pipeline Rupture and Fire, San Bruno, CA, September 9, 2010 - Supplement to March 12th Report, Exhibit 2, PG&E Violations
CPSD-8	9/5/12	1/22/13	CPSD's Rebuttal Testimony of Paul Duller and Alison North to PG&E's Response to CPSD's Report - Records Management within the Gas Transmission Division of PG&E Prior to Natural Gas Transmission Pipeline

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Proceeding No.	ALJ
I.11-02-016 & I.12-01-007	Yip-Kikugawa & Wetzell

Exh. No.	Date		Description
	Ident.	Recd.	
			Rupture and Fire, San Bruno, CA, September 9, 2010
CPSD-9	9/5/12	1/22/13	CPSD's Errata Testimony of Paul Duller and Alison North, Supplement to March 12th Report, Exhibit 2, PG&E's Violations
CPSD-10	9/5/12	1/22/13	10/21/2011 Data Response from PG&E, CPUC_015, Q6
CPSD-11	9/10/12	1/22/13	Log of Radiographs X-Ray Detail Sheet GM 123902
CPSD-12	9/10/12	1/22/13	Margaret Felts' Notes
CPSD-13	9/10/12	1/22/13	PG&E Estimate for Appropriation Work Order Gas Department Dated May 17, 1929 (GM 5350)
CPSD-14	9/10/12	1/22/13	Re-route of Portion of Mountain View—Potrero Gas Line Through Crestmoor Park No.7, San Bruno Line 132
CPSD-15	9/10/12	1/22/13	Revised Table 1 of Supplemental Testimony of Margaret Felts
CPSD-16	9/10/12	1/22/13	Revised Table of Violations From Dr. Paul Duller and Alison North Supplement to March 12th Report, PG&E Violations
CPSD-17	9/10/12	1/22/13	Errata to the Rebuttal Testimony of Dr. Paul Duller and Mrs. Alison North
CPSD-18-30		1/22/13	Per ALJ, reserved for DVD containing Exhibits supporting CPSD's testimony and PG&E Data Request Responses 1-86
CPSD-31	9/11/12	1/22/13	49 CFR 192.619—MAOP
CPSD-32	9/11/12	1/22/13	49 CFR 192.517—Pressure Test Records
CPSD-33	9/12/12	1/22/13	Transcript Excerpts from 9/11/2012 Hearings I.11-02-016
CPSD-34	9/12/12	1/22/13	Technical Specifications of FileMaker

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Exh. No.	Date		Description
	Ident.	Recd.	
CPSD-35	9/12/12	1/22/13	PG&E Response to CPSD Data Request 71 Question 07
CPSD-36	9/12/12	1/22/13	PG&E Response to CPSD Data Request 25 Question 01
CPSD-36A	9/13/12	1/22/13	Decision No. 66399 General Order 112-A
CPSD-37	9/13/12	1/22/13	PG&E's Document Retention and Destroying Records Policy—S.P. 210.4-4 1/1/93
CPSD-38	9/13/12	1/22/13	P2-980-Redacted
CPSD-39	9/13/12	1/22/13	P2-963-Redacted
CPSD-40	9/13/12	1/22/13	P2-984-Redacted
CPSD-41	9/13/12	1/22/13	P2-1006-Redacted
CPSD-42	9/13/12	1/22/13	PG&E Response to CPSD Data Request 23 Question 26
CPSD-43	9/13/12	1/22/13	PG&E Response to CPSD Data Request 46 Question 04
CPSD-44	9/13/12	1/22/13	PG&E Response to CPSD Data Request 46 Question 04 Attachment 01
CPSD-45	9/13/12	1/22/13	PG&E Response Chapter 2 page 2-24 line 13 Document P2-1172, P2-1173, P2-1174, P2-1175, P2-1179, P2-1180
CPSD-46	9/14/12	1/22/13	PHMSA May 7, 2012 Advisory Bulletin (Attached to PG&E's Testimony as Ex.1-1)
CPSD-47	9/17/12	1/22/13	P2-984-Unredacted (MAOP S.P 463-8)
CPSD-48	9/17/12	1/22/13	NTSB Safety Recommendations Update on PG&E's Actions May 16, 2012
CPSD-49	9/17/12	1/22/13	Analysis of PG&E's Records
CPSD-50	9/17/12	1/22/13	July 26, 2012 PG&E Correspondence from Internal Auditing (GasTransmissionSystemRecordsOII_DR_CPUC_025-Q02(i)Supp05Atch04)

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Exh. No.	Date		Description
	Ident.	Recd.	
CPSD-51	9/17/12	1/22/13	2009 Risk and Threat Spreadsheet – Key tab – P3-20060_1
CPSD-52	9/19/12	1/22/13	Note: Exhibit to be revised by CPSD – Exhibit to Deposition of Todd Arnett
CPSD-53	9/19/12	1/22/13	Note: Exhibit to be revised by CPSD – Exhibit to Deposition of Chih-Hung Lee
CPSD-54	9/19/12	1/22/13	Note: Exhibit to be revised by CPSD – Exhibit to Deposition of Chih-Hung Lee
CPSD-55	10/5/12	1/22/13	Bechtel Petroleum, Inc., January 1984, Job 16253
CPSD-56	10/5/12	1/22/13	June 12, 2009 letter to Raffy Stepanian & April 9, 2008 letter to Edward Salas and Geisha Williams
CPSD-57	1/17/13	1/22/13	The Commission's Annual Report for Fiscal Year 1960-1961
CPSD-58	1/17/13	1/22/13	The Commission's Annual Report for Fiscal Year 1970-1971
CPSD-59	1/17/13	1/22/13	The Commission's Annual Report for Fiscal Year 1976-1977
CPSD-60	1/17/13	1/22/13	Decision No. 73223, General Order No. 112-B
CPSD-61	1/17/13	1/22/13	49 CFR 192.105 – Design formula for steel pipe
CPSD-62	1/17/13	1/22/13	PG&E Response to CPSD Data Request 95 Question 01-30
CPSD-63	1/17/13	1/22/13	September 18 Transcripts Testimony of Ms. Kris Keas
CPSD-64	1/18/13	1/22/13	PG&E Response to CPSD-TURN Joint Data Request 01 Question 02 Supp.01
CPSD-65	1/18/13	1/22/13	PG&E Response to CPSD Oral Request September 16, 2011
CPSD-66	1/18/13	1/22/13	PG&E Response to CPSD Data Request 91

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Exh. No.	Date		Description
	Ident.	Recd.	
CPSD-67	1/18/13	1/22/13	PG&E Response to CPSD Data Request 89 Questions 01-07
CPSD-68	1/18/13	1/22/13	PG&E Response to CPSD Data Request 90 Question 01
CPSD-69	1/18/13	1/22/13	PG&E Response to CPSD-TURN Joint Data Request 01 Question 02 Supp 01 Atch. 01 Extract from Spreadsheet
CPSD-70	1/18/13	1/22/13	PG&E Response to CPSD Data Request 91 Question 16: Report Attachments
CPSD-71	1/18/13	1/22/13	PG&E Response to CPSD Data Request 93 Question 01
CPSD-72	1/18/13	Denied	PG&E Response to CPSD Data Request 88 Question 01 and Question 01 Atch. 01
CPSD-73	1/18/13	1/22/13	Pipeline Drawings
CPSD-74	1/18/13	Denied	GO112E CPUC Notices of Violations to PG&E 1994-2004
CPSD-75	1/22/13	1/22/13	PG&E's Complete Responses to CPSD's Data Requests 89, 90, 91, & 95
TURN-1	9/11/12	1/22/13	Response to TURN Data Request 2-4
TURN-2	9/11/12	1/22/13	Response to TURN Data Request 2-6
TURN-3	9/12/12	1/22/13	Response to TURN Data Request 2-2
TURN-4	9/12/12	1/22/13	Response to CPSD-TURN Joint Data Request 1-1
TURN-5	9/18/12	1/22/13	Response to TURN Data Request 002-07 (Revised Exhibit)
TURN-6	9/14/12	1/22/13	Response to TURN Data Request 2-8
TURN-7	9/14/12	1/22/13	Response to TURN Data Request 2-12

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Exh. No.	Date		Description
	Ident.	Recd.	
TURN-8	9/14/12	1/22/13	Response to TURN Data Request 2-13
TURN-9	9/14/12	1/22/13	Response to TURN Data Request 2-14
TURN-10	9/18/12	1/22/13	PG&E Response to CPSD/TURN Joint DR 1-2
TURN-11	9/18/12	1/22/13	PG&E Response to TURN Data Request 2-15
TURN-12	10/5/12	1/22/13	Response to TURN Data Request 2-19
TURN-13	10/5/12	1/22/13	Supplemental Response to TURN Data Request 2-19 (redacted)
TURN-14	10/5/12	1/22/13	"PG&E's computer system faulted for pipeline errors" by Eric Nalder, *San Francisco Chronicle*, February 12, 2011
TURN-15	10/5/12	1/22/13	"Migrate Mapping of Transmission Pipeline Data from ArcView to ArcGIS," Professional Paper by Mary Muse, PG&E, 2004
TURN-16	1/22/13	1/22/13	TURN's Prepared Testimony of Thomas J. Long
CSB-1	1/7/13	1/22/13	Prepared Direct Testimony of Mayor Jim Ruane on Behalf of the City of San Bruno
CCSF-1	9/11/12	1/22/13	Integrated General Order 112 With ASA B.31.8—1958 (Filed by PG&E in April 2011 as RH-3)
CCSF-2	9/11/12	1/22/13	Black's Law Dictionary, Second Pocket Edition "Exemption"
CCSF-3	9/13/12	1/22/13	March 15, 2011 Declaration of Steven H. Phillips in R.11-02-019
CCSF-4	9/13/12	1/22/13	9/5/12 Revised Testimony of John Gawronski
CCSF-5	9/13/12	1/22/13	Transcript from Rulemaking 11-02-019, Vol.12 pages

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Exh. No.	Date		Description
	Ident.	Recd.	
			1611-1613
CCSF-6	9/14/12	1/22/13	American Gas Association Membership Page
CCSF-7	9/14/12	1/22/13	Report on Maximum Allowable Operating Pressure Background and History (Attached to PG&E's Testimony as Ex. 1-32)
CCSF-8	9/18/12	1/22/13	RMP-01 Rev 5
CCSF-9	9/18/12	1/22/13	PG&E Response to CPUC DR 215 Q6
CCSF-10	9/18/12	1/22/13	PHMSA TIMP Inspection Protocol C.02
CCSF-11	10/5/12	1/22/13	2011 Risk Assessment Audit
Joint-01 (CCSF)	9/24/12	9/25/12	Excerpt from History of Line Pipe Manufacturing J.F. Keifner & E.B. Clark
Joint-02 (CCSF)	9/24/12	9/25/12	PG&E Response to CPUC Data Request 010-Q05 and Attachment 6
Joint-03 (CCSF)	9/24/12	9/25/12	PG&E Response to CPUC Data Request 016-01
Joint-04 (TURN)	10/2/12	10/5/12	PG&E Response to TURN Data Request 2-28
Joint-05 (TURN)	10/2/12	10/5/12	PG&E Response to TURN Data Request 2-29
Joint-06 (TURN)	10/2/12	10/5/12	PG&E Response to TURN Data Request 24-14 in R.11-02-019
Joint-07 (TURN)	10/2/12	10/5/12	PG&E Response to TURN Data Request 2-30
Joint-08 (CPSD)	10/3/12	10/5/12	PG&E Response Documents P3-24152 in I.11-02-016
Joint-09 (CPSD)	10/3/12	10/5/12	PG&E Response to CPSD Data Request 015 Question 001 attachment 692 in I.11-02-016
Joint-10 (CPSD)	10/3/12	10/5/12	Line Segment 180 Job File

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Exh. No.	Date		Description
	Ident.	Recd.	
Joint-11 (CPSD)	10/3/12	10/5/12	Drawing Number L.E. 12073
Joint-12 (CPSD)	10/3/12	10/5/12	Drawing Number 282764
Joint-13 (CPSD)	10/3/12	10/5/12	API Study 1104, 4th Edition, May, 1956, "Standard for Field Welding of Pipe Lines"
Joint-14 (CPSD)	10/3/12	10/5/12	MAOP Calculations
Joint-15 (PGE)	10/4/12	10/5/12	Drawing of Pipeline Tie-in – David Harrison (October 3, 2012)
Joint-16 (TURN)	10/4/12	10/5/12	SanBrunoExplosion-FireOII_DR_TURN_ORAL_REQUEST_Q01
Joint-17 (TURN)	10/4/12	10/5/12	Response to TURN Data Request 2-20
Joint-18 (TURN)	10/4/12	10/5/12	Response to TURN Data Request 2-21
Joint-19 (TURN)	10/4/12	10/5/12	Response to TURN Data Request 2-22
Joint-20 (TURN)	10/4/12	10/5/12	Excerpt from NTSB Pipeline Accident Report Adopted August 30, 2011
Joint-21 (TURN)	10/4/12	10/5/12	Excerpt from Independent Review Panel Report dated June 24, 2011 (Aerial Photograph of San Bruno in 1956)
Joint-22 (TURN)	10/4/12	10/5/12	PG&E Response to TURN Data Request 2-1
Joint-23 (TURN)	10/4/12	10/5/12	PG&E Response to TURN Data Request 4-1
Joint-24 (CCSF)	10/4/12	Denied	San Francisco Chronicle April 22, 2012 Article: PG&E '89 Memo Noted Pipe's History of Weld Failure
Joint-25 (CCSF)	10/4/12	Denied	California Department of Toxic Substances Control, Draft Feasibility Study and Remedial Action Plan PG&E Decoto Pipeyard, August 2002
Joint-26 (CCSF)	10/4/12	10/5/12	PG&E Response to Data Request CCSF_002-Q01-10 and Attachment (Pressure Test Spreadsheet)

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Exh. No.	Date		Description
	Ident.	Recd.	
Joint-27 (TURN)	1/9/13	1/17/13	Excerpt from ASME B31.8S - 2004
Joint-28 (PGE)	1/9/13	1/17/13	ASME B31.8S - 2004
Joint-29 (TURN)	1/9/13	1/17/13	PG&E Response to TURN Data Request 2-21
Joint-30 (CCSF)	1/9/13	1/17/13	Process Performance Improvement Consultants: Services
Joint-31 (CCSF)	1/9/13	1/17/13	PG&E Response to CCSF Data Request 002-Q2 and 002-Q4 in I.12-01-007
Joint-32 (CCSF)	1/10/13		PG&E's 1984 Gas Pipeline Replacement Program
Joint-33 (CCSF)	1/10/13	1/17/13	Letter to Jane Yura Re: 2011 Risk Assessment Audit
Joint-34 (CCSF)	1/10/13	1/17/13	PG&E Response to CCSF Data Request 001-Q05 in I.12-01-007
Joint-35 (CCSF)	1/10/13	1/17/13	Determination of Available Capacity and A Review of Maintenance on the El Paso Natural Gas Co. System for the Period November 1, 2000 through March 31, 2001
Joint-36 (PGE)	1/10/13	1/17/13	Compendium of State Pipeline Safety Requirements & Initiatives Providing Increased Public Safety Levels Compared to Code of Federal Regulations, 1st Edition, 2011
Joint-37	1/10/13	1/17/13	1983 Part 195 Final Rule Re: Radiography

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Exh. No.	Date		Description
	Ident.	Recd.	
(PGE)			
Joint-38 (PGE)	1/10/13	Denied	2012 INGAA Study – Pipeline Miles by Longitudinal Seam Type and Leaks by Cause and Decades of Pipe Construction
Joint-39 (PGE)	1/10/13	1/17/13	PG&E's Response to General Order 112-E Audit of the PG&E's Integrity Management Program, October 17th, 2012
Joint-40 (CPSD)	1/15/13	1/17/13	Year 2004 Line 132 ECDA Survey
Joint-41 (CPSD)	1/16/13	1/17/13	Excerpt from the transcripts from the NTSB hearings held in 2011
Joint-42 (CPSD)	1/16/13	1/17/13	Excerpt from the INGAA report, pgs. E-6 to E-7
Joint-43 (CSB)	1/16/13	1/17/13	News Release: PG&E Statement on Final NTSB Report on San Bruno Accident
Joint-44 (CSB)	1/16/13	1/17/13	NTSB Safety Recommendation Letter, Dated September 26, 2011
Joint-45 (CCSF)	1/16/13	1/17/13	PG&E Response to CCSF DR 003-Q03 R.11-02-019
Joint-46 (CCSF)	1/16/13	1/17/13	Cover sheet and summary page of PG&E 2004 Baseline Assessment Plan
Joint-47 (CCSF)	1/16/13	1/17/13	Cover Sheet and summary pages of PG&E 2010 Baseline Assessment Plan, Employee names redacted
Joint-48	1/16/13	1/17/13	October 20, 2009 WKMC Review of Pipeline IMP Documents

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Exh. No.	Date		Description
	Ident.	Recd.	
(CCSF)			
Joint-49 (PGE)	1/17/13	1/17/13	Integrity Characteristics of Vintage Pipelines
Joint-50 (PGE)	1/17/13	1/17/13	Cover Letter to May 2010 CPUC USRB Integrity Management Program Audit of PG&E
San Bruno – CPSD-1	9/25/12	1/15/13	CPSD Incident Investigation Report, September 9, 2012
[redacted]	[redacted]		[redacted]
San Bruno – CPSD-9	9/25/12	1/15/13	NTSB Report on PG&E Natural Gas Transmission Pipeline Rupture and Fire San Bruno, CA September 9, 2010
[redacted]	[redacted]	[redacted]	[redacted]
[redacted]	[redacted]	[redacted]	[redacted]
[redacted]			[redacted]
[redacted]			[redacted]

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Proceeding No.	ALJ
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Exh. No.	Date		Description
	Ident.	Recd.	
San Bruno - Opening Brief of The Utility Reform Network			Opening Brief of The Utility Reform Network
[redacted]			[redacted]
[redacted]			[redacted]
Grubb v. Dep't of Real Estate, No. RG08 364823 (Cal. Super. May 29, 2009).			*Grubb v. Dep't of Real Estate*, No. RG08 364823 (Cal. Super. May 29, 2009).
NTSB January 3, 2011 Safety Recommendations			NTSB January 3, 2011 Safety Recommendations
Letter from NTSB to Christopher P. Johns, President of Pacific Gas and Electric Company (March 14, 2013).			Letter from NTSB to Christopher P. Johns, President of Pacific Gas and Electric Company (March 14, 2013).

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Transcript Corrections

Proceeding No.	ALJ
I.12-01-007 & I.11-02-016	Wetzell & Yip-Kikugawa

Witness	Date	Page:Line	What was recorded	What should have been recorded
GIS Panel (Kris Keas; Brian Daubin; Christine Cowsert-Chapman)	01/17/2013	2114:6	For clarification, when	For clarification, where
GIS Panel (Kris Keas; Brian Daubin; Christine Cowsert-Chapman)	01/17/2013	2114:7	Mr. Gruen see a change	Mr. Gruen sees a change
GIS Panel (Kris Keas; Brian Daubin; Christine Cowsert-Chapman)	01/17/2013	2150:2	Your Honor, I just say I	Your Honor, I must say I
GIS Panel (Kris Keas; Brian Daubin; Christine Cowsert-Chapman)	01/17/2013	2161:23	but that would be one probably reason	but that would be one probable reason
GIS Panel (Kris Keas; Brian Daubin; Christine Cowsert-Chapman)	01/18/2013	2235:19	So we didn't go back and recreated	So we didn't go back and recreate
GIS Panel (Kris Keas; Brian Daubin; Christine Cowsert-Chapman)	01/18/2013	2261:16	being flagged by the changed tool	being flagged by the change tool
John Zurcher	09/18/2012	1743:3	are an expert on General Order 112	aren't an expert on General Order 112
Sumeet Singh	09/11/2012	841:4	Mr. Morris	Mr. Singh
Sumeet Singh	09/11/2012	845:25	GIS 2,5,	GIS 2.0
Sumeet Singh	09/11/2012	846:11-12	GO Separable	Geospatial

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Witness	Date	Page:Line	What was recorded	What should have been recorded
Sumeet Singh	09/11/2012	847:9	recommended in systems	recommended systems
Sumeet Singh	09/11/2012	848:10	will we	we will
Sumeet Singh	09/12/2012	859:9	transcript	testimony
Sumeet Singh	09/12/2012	862:10	we talked distribution	we talked about distribution
Sumeet Singh	09/12/2012	869:21	and engineer	an engineer
Sumeet Singh	09/12/2012	875:13	It was not	I was not
Sumeet Singh	09/12/2012	906:22	referring the	referring to the
Sumeet Singh	09/12/2012	911:25	as well outside	as well as outside
Sumeet Singh	09/12/2012	912:1	plat maps	plat map
Sumeet Singh	09/12/2012	940:20	context, more	context, I'm more
Sumeet Singh	09/12/2012	948:27	testimony. Doesn't	testimony. It doesn't
Sumeet Singh	09/12/2012	975:4	outlined month before	outlined months before
Sumeet Singh	09/12/2012	983:21	associated a section	associated with a section
Sumeet Singh	09/12/2012	988:13	it is much	it is a much
Steve Phillips	09/13/2012	1073:5	operate	uprate
Steve Phillips	09/13/2012	1119:27	40	340

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Witness	Date	Page:Line	What was recorded	What should have been recorded
Cesar De Leon	09/09/2012	823:2	amendments thereafter did not extent to existing facilities.	amendments thereafter did not extend to existing facilities.
James Howe	09/14/2012	1310:14	is to go pack to the effort that was made in 1973	is to go back to the effort that was made in 1973
James Howe	09/14/2012	1335:10	of verifiability provided in CPS's data	of verifiability provided in CPSD's data
James Howe	09/14/2012	1348:20	you talked about ASME B31.8 F	you talked about ASME B31.8-S
Maura Dunn	09/14/2012	1370:5	only conducted one his historic review, is that right?	only conducted one historic review, is that right?
Maura Dunn	09/14/2012	1372:12	much an art as an science	much an art as a science
Maura Dunn	09/14/2012	1375:2	Footnote 4 references above that "I contacted ARMA	Footnote 4 references above that I contacted ARMA
Todd Arnett	09/19/2012	1846:14	1991 to 19 4 did some electrical construction work.	1991 to 1994 did some electrical construction work.
Todd Arnett	09/19/2012	1866:26	Did the company tried to make any investigation	Did the company try to make any investigation
David Harrison	10/2/2012	248: 21-23	And so old pipe that's reconditioned is equivalent to that fine pipe.	And so old pipe that's reconditioned is equivalent to fine pipe.

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I.12-01-007 & I.11-02-016	Wetzell & Yip-Kikugawa

Witness	Date	Page:Line	What was recorded	What should have been recorded
David Harrison	10/03/2012	401:4	be none.	be known.
David Harrison	10/04/2012	515:3	I'm not staring to say anything more.	I'm not trying to say anything more.
David Harrison	10/04/2012	602:25	But usually you can tell the same	but usually you can tell the seam
David Harrison	10/04/2012	526:25	design station was the method	design basis was the method
Keith Slibsager	10/02/2012	116:23	Milpitas wasn't on monitor control	Milpitas was on monitor control
Kris Keas	01/15/2013	911:23	through ENM	through P&M
Kris Keas	01/15/2013	931:5	20048	2004
Kris Keas	01/16/2013	963:4	online	potential
Kris Keas	01/16/2013	964:24	pipeline settings,	pipeline segments,
Kris Keas	01/16/2013	974:10	ASME-B31.82	ASME B31.8S
Kris Keas	01/16/2013	992:17	our DIS had	our GIS had
Kris Keas	01/16/2013	1004:15	Louie,	Lui
Kris Keas	01/16/2013	1004:23	Louie,	Lui
Kris Keas	01/16/2013	1005:9	Louie,	Lui
Kris Keas	01/16/2013	1024:2	non-HVA	non-HCA
Kris Keas	01/16/2013	1028:24	seamless and say classified	seamless and say it's not correct
Kris Keas	01/16/2013	1031:9	manufacturing that hadn't in the	manufacturing that

APPENDIX E

Transcript Corrections

Proceeding No.	ALJ
I.12-01-007 & I.11-02-016	Wetzell & Yip-Kikugawa

Witness	Date	Page:Line	What was recorded	What should have been recorded
			1950 that we	hadn't been in use in the 1950 that we
Kris Keas	01/17/2013	1148:17	RMI-04B	RMI-04
Kris Keas	01/17/2013	1154:21	differences of	different
Kris Keas	01/17/2013	1155:14	understanding what how our record	understanding how our record
Kris Keas	01/17/2013	1159:19	And Four	Class 4
Kris Keas	01/17/2013	1159:25	excessive	extensive
Kris Keas	01/17/2013	1170:17	Hairston's testimony,	Harrison's testimony,
Kris Keas	01/17/2013	1190:3	how they correct	how they correlate
Kris Keas	01/17/2013	1197:28	I'm all aware	I'm also aware
Kris Keas	01/17/2013	1202:10	our data sets we were	our data sets were
Kris Keas	01/17/2013	1202:13	have the algorithm	have the algorithm be
Kris Keas	01/17/2013	1204:21	Mobauer	Muhlbauer