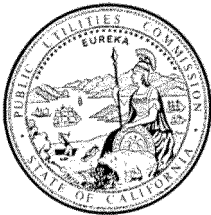


Docket: : I.11-02-016
Exhibit Number : 4
Commissioner : M Florio
Admin. Law Judge : Yip-Kikugawa
CPSD Project Mgr. : Robert Cagen
:

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**Consumer Protection and Safety Division
California Public Utilities Commission**

**Records Management within the
Gas Transmission Division of
Pacific Gas and Electric Company
prior to the Natural Gas Transmission
Pipeline Rupture and Fire,
San Bruno, California September 9, 2010**

**Supplement to March 12th Report, Exhibit 2.
PG&E Violations**

San Francisco, California
March 30, 2012

1 **I. Introduction**

2
3 In its September 2011 final report¹ on the San Bruno pipe rupture and fire, the National
4 Transportation and Safety Board (NTSB) concluded: “The multiple and recurring deficiencies in
5 PG&E operational practices indicate a systemic problem” and “PG&E’s pipeline integrity
6 management program, which should have ensured the safety of the system, was deficient and
7 ineffective because it was based on incomplete and inaccurate pipeline information.”

8
9 Our recently submitted CPSD testimony and report² is consistent with the findings and
10 conclusions of the NTSB, the Independent Review Panel, and PG&E itself, and provides
11 evidence of the record keeping failures within PG&E’s Gas Transmission Division which have
12 diminished pipeline safety. Many of these failures give rise to general records management
13 violations, records retention violations and other safety/pipeline integrity record violations. This
14 supplement to our original record keeping report documents the violations and their respective
15 time periods, and cross-references each violation with the relevant sections of our report and the
16 associated legislation.

17
18 **II. Recordkeeping Violations**

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20 **A. General Records Management Violations**

21
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.³ PG&E did not have all of the necessary processes in place to ensure that traceable, verifiable, 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.

Violation of ASME Standard B31.8	1955 to September 2010
Violation of 49 CFR, Section 192.709	Aug 1970 to September 2010
Violation of General Orders 112, 112A, and 112B Section 107	1961 to 1970
Violation of California Public Utilities Code Section 451	1955-September 2010
<i>Reference: Paul Duller and Alison North Testimony and Report Section 6 and 7.</i>	

¹National Transportation Safety Board. 2011. Pacific Gas and Electric Company Natural Gas Transmission Pipeline Rupture and Fire, San Bruno, California, September 9, 2010. Pipeline Accident Report NTSB/PAR-11/01. Washington, DC, .pp. xi and 118

² Duller, P.R. and North, A. (2012) Records Management within the Gas Transmission Division of Pacific Gas and Electric Company prior to the Natural Gas Transmission Pipeline Rupture and Fire, San Bruno, California September 9, 2010. Consumer Protection and Safety Division, California Public Utilities Commission, San Francisco, California. March 5, 2012, 172pp.

³ As defined using Generally Accepted Record-keeping Principles®" (GARP®) and the Information Maturity Model defined by ARMA International, and used in our report (citation 2 above) as the basis of an assessment and evaluation of PG&E’s records management activities.

B. Records Retention Violations

PG&E has been aware of their legal records retention requirements since the 1950's. Despite this awareness, the following records retention related violations have been identified:

1. PG&E's minimal compliance with some of its own retention policies regarding leak survey maps violates other requirements.	
Violation of 49 CFR, Section 192.709	April 2010 to September 2010
Violation of California Public Utilities Code Section 451	April 2010 to September 2010 ⁴
<i>Reference: Paul Duller and Alison North Testimony and Report Section 6.3.3, page 6-34</i>	

2. PG&E's minimal compliance with some of its own line patrol report retention policies violates other requirements.	
Violation of ASME Standard B31.8	September 1964 to September 2010
Violation of 49 CFR, Section 192.709	August 1970 to April 2010
Violation of General Orders 112A, and 112B Section 107	September 1964 to 1970
Violation of California Public Utilities Code Section 451	September 1964 to September 2010
<i>Reference: Paul Duller and Alison North Testimony and Report Section 6.3.3, page 6-35</i>	

3. PG&E's minimal compliance with some of its own line inspection report retention requirements violates other requirements.	
Violation of ASME Standard B31.8	1994 to September 2010
Violation of 49 CFR, Section 192.709	1994 to April 2010
Violation of California Public Utilities Code Section 451	1994 to September 2010
<i>Reference: Paul Duller and Alison North Testimony and Report Section 6.3.3, page 6-35</i>	

4. PG&E's minimal compliance with some of its gas high pressure test record retention policies violates other requirements.	
Violation of ASME Standard B31.8	1994 to April 2010
Violation of 49 CFR, Section 192.709	1994 to April 2010
Violation of California Public Utilities Code Section 451	1994 to April 2010

⁴ Since 1951 Cal. Pub. Util. Code §451 has required that, "Every public utility shall furnish and maintain such adequate, efficient, just, and reasonable service, instrumentalities, equipment, and facilities. . .as are necessary to promote the safety, health, comfort, and convenience of its patrons, employees, and the public." Moreover, from 1911 to 1951, Cal. Pub. Util. Act, Article II, §13(b) required that, "Every public utility shall furnish, provide and maintain such service, instrumentalities, equipment and facilities as shall promote the safety, health, comfort and convenience of its patrons, employees and the public. . ." Therefore, from 1911 until the present, these laws have consistently required PG&E to maintain instrumentalities, equipment, and facilities to promote the safety of their respective patrons, employees and the public.

Reference: Paul Duller and Alison North Testimony and Report Section 6.3.3, page 6-36

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.

Violation of ASME Standard B31.8	September 1964 to April 2010
Violation of 49 CFR, Section 192.709	August 1970 to June 1996
Violation of General Orders 112, 112A, and 112B Section 107	September 1964 to 1970
Violation of California Public Utilities Code Section 451	September 1964 to April 2010

Reference: Paul Duller and Alison North Testimony and Report Section 6.3.3, page 6-36

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.⁵

Violation of ASME Standard B31.8	1955 to September 2010
Violation of 49 CFR, Section 192.13(c)	Aug 1970 to September 2010
Violation of General Orders 112, 112A, and 112B Section 107	1961 to 1970
Violation of California Public Utilities Code Section 451	1955 to September 2010

Reference: Paul Duller and Alison North Testimony and Report Section 6.3.3, page 6-37

C. Other Safety/Pipeline Integrity Violations

1. In 2007, PG&E was informed that in 1995 it selected the wrong year as the upper limit for its Gas Pipeline Replacement Program (1947 rather than 1948) and for assessing the excavation threat to PG&E's gas transmission pipelines. As a result both line 132 and line 151 were excluded from PG&E's 1995 Gas Pipeline Replacement Program. If line 132 had been included in this program and replaced the San Bruno rupture and fire could have been avoided.

Violation of California Public Utilities Code Section 451	1995 to September 2010
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Reference: Paul Duller and Alison North Testimony and Report Section 6.

⁵ The PG&E retention practices from the 1955 to the mid-1990s revolved around a series of standard practices containing references to Federal Power Commission, and later FERC Regulations, as well as CPUC Resolutions. While PG&E documented their legal requirements within various guides to retention appended to the standard practices, the implementation of their retention standards was rather more subjective. In relation to its historical pipeline files PG&E did not comply with its own specific retention guidelines. Standard Practice 463.7, Effective 12/1/1969, Page 3 set forth requirements for establishing and maintaining pipeline history files. In particular, the standard practice required, "History records for numbered transmission lines shall be filed by line number, with all pertinent inclusions of data shown. . . indexed for ready reference, and cross-referenced to other permanent files, such as GM or Work Order files." It also required that "The complete pipeline and main history files shall be maintained up to date by the Division or department for the life of the operating facility." In spite of having this standard practice, PG&E's entire collection of pipeline history files were destroyed in the Mid 1990's.

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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 earthquakes⁶ and thereby ensure safe pipeline operation.	
Violation of ASME Standard B31.8	1992 to September 2010
Violation of California Public Utilities Code Section 451	1992 to September 2010
<i>Reference: Paul Duller and Alison North Testimony and Report Section 6.7</i>	
<i>Reference: Yokel, F.Y. and Mathey, R.G. (1992) Earthquake Resistant Construction of Gas and Liquid Fuel Pipeline Systems Serving, or Regulated by, the Federal Government. Federal Emergency Management Agency, FEMA- 233, July 1992.</i>	

2

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.⁷ The incompleteness of critical leak information has contributed to diminished PG&E pipeline safety.	
Violation of General Orders 112, 112A, and 112B Section 107	1961 to 1970
Violation of ASME Standard B31.8	1955 to September 2010
Violation of 49 CFR, Section 192.709	August 1970 to September 2010
Violation of California Public Utilities Code Section 451	1955 to September 2010
<i>Reference: Paul Duller and Alison North Testimony and Report Section 6.6.8</i>	

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⁶ In 1992 Federal Emergency Management Agency (FEMA) report on the earthquake resistant construction of gas and liquid fuel pipeline systems concluded that during earthquakes “ Older pipelines, including welded pipelines built before 1950 in accordance with quality control standards less stringent than those used currently, as well as segmented case iron pipelines, have been severely damaged” and “In California, pipeline records showing accurate dates and characteristics, such as yield strengths and types of welds, were essential in identifying the kind of gas transmission line that suffered extensive damage during the 1971 San Fernando earthquake”. This conclusion elevates the importance of having accurate, complete and accessible records for welded pipelines built before 1950, which happens to include line 132. While part of PG&E line 132, segment 180 was relocated in 1956, this pipeline is listed as being built in 1948.

⁷ PG&E's IGIS leaks database is incomplete and only contains a record of historical leak information from 1999, despite the obligation placed upon PG&E to maintain a complete record of all gas leaks over the life of the asset. As such, it is not possible to analyze the historical leak data over the full lifetime of any given pipeline, or review the correlation between the leak data and other pipeline related information (such as age of pipe, location, construction, type of weld etc.) to assess what if any underlying problems exist, and their likely cause. In addition, the accuracy of leak information that is recorded has been placed at issue by CPSD discovery of PG&E, and by PG&E itself.