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Admissions of Violations

San Bruno OII – I.12-01-007, Recordkeeping OII – I.11-02-016, and Class Location OII – I.11-11-009

Fabrication and Construction of Segment 180

1. PG&E admits that it created an unreasonably unsafe system in violation of PU Code section 451, by failing to follow industry standards contained in ASA B31.1.8-1955, API 5LX, and API Standard 1104, during the construction of Segment 180 in 1956.

2. (p.21[1]; NTSB Report p.94) PG&E admits that it violated PU Code section 451, by installing pipe sections in Segment 180 that did not meet any known industry specifications for fabrication of gas transmission pipe, thereby creating an unreasonably unsafe system.

3. PG&E admits that it violated Section 810.1 of ASA B31.1.8-1955, by installing pipeline sections that were not suitable and safe for the conditions under which they were used.

4. (p.19) PG&E admits that it violated Section 805.54 of ASA B31.1.8-1955, by installing pipe sections which did not meet the minimum yield strength prescribed by the specification under which the pipe was purchased. Pipe sections in Segment 180 were supposed to have met API 5LX Grade X42 or X52 yield strengths, which indicate a minimum yield strength of 42,000 psi and 52,000 psi, although testing revealed the sections that ruptured on Segment 180 had yield strengths below 42,000 psi and 52,000 psi.

5. (p.20) PG&E admits that it violated Section 811.27(G) of ASA B31.1.8-1955, by assigning a yield strength value for Segment 180 above 24,000 psi when the yield strength was actually unknown.

[1] Unless otherwise noted, page references are to the CPSD Incident Investigation Report, September 9, 2010 PG&E Pipeline Rupture in San Bruno, California, released January 12, 2012.

6. (p.22) PG&E admits that it violated Section 814.412(c) of ASA B31.1.8-1955, by failing to perform hydrostatic testing to 1.4 times the maximum operating pressure on pipe sections that were in Class 3 locations.

7. (p.21) PG&E admits that it violated Section 1.7 of API standard 1104 (4th edition, 1956), by welding the pups (jointers) in a deficient manner such that the girth welds contained incomplete fusion, burnthrough, slag inclusions, cracks, undercuts, excess reinforcement, porosity defects, and lack of penetration.

8. (p.21) PG&E admits that it violated Section 811.27(E) of ASA B31.1.8-1955 and API Standard 1104, by not using a qualified welder and not testing Segment 180 to the standards in API Standard 1104 "Standard of Field Welding for Pipelines".

9. (p.20, NTSB p.96) PG&E admits that it violated Section 811.27(C) of ASA B31.1.8-1955, by not completely welding the inside of the longitudinal seams on pups 1, 2, and 3 of Segment 180 and failing to measure the wall thickness to ensure compliance with the procurement orders which required 0.375-inch wall thickness.

10. (p.21) PG&E admits that it violated Section 811.27(A) of ASA B31.1.8-1955, by failing to visually inspect for and discover the defects in Segment 180 that impaired strength or fitness.

11. (p.22) PG&E admits it violated API 5LX Section VI, by installing pups in Segment 180 that were less than 5 feet in length.

12. (p.22) PG&E admits that it violated Section 841.411 of ASA B31.1.8-1955, by operating Segment 180 above 30% of the specified minimum yield strength and not conducting a field test to determine yield strength.

13. (p.23) PG&E admits that it violated Section 845.22 of ASA B31.1.8-1955, by not establishing an MAOP in accordance with the lesser of: (a) the design pressure of Segment 180, because PG&E did not have accurate information regarding the pipe sections, or (b) the test pressure, because PG&E did not strength test Segment 180 after construction.

Integrity Management Program

14. PG&E admits that it created an unreasonably unsafe system in violation of PU Code section 451, by failing to follow industry standards contained in 49 CFR Part 192 and ASME-B31.8S in the operation and maintenance of Segment 180.

15. (p.30) PG&E admits that it violated 49 CFR Part 192.917(b), by not adequately gathering and integrating required pipeline data, thereby not having an adequate understanding of the threats on Line 132 and other pipelines.

    a. PG&E's data gathering violated 49 CFR § 192.917(b) in that PG&E failed to consider the following documents (NTSB Report p. 39; CCSF Testimony I.12-01-007 at p. 5):

        i. 1948, Line 132: Multiple longitudinal seam cracks found during radiography of girth welds during construction.

        ii. 1958, Line 300B: Seam leak in DSAW pipe.

        iii. 1964, Line 132: A leak was found on a "wedding band" weld; the leak was the result of a construction defect. The defect was found on segment 200.

        iv. 1965 Weld evaluation re: Line 109 girth weld.

        v. 1974, Line 300B: Hydrostatic test failure of seam weld with lack of penetration (similar to accident pipe).

        vi. 1975 Laboratory test reports re: Line 101 girth welds.

        vii. 1988, Line 132: Longitudinal seam defect in DSAW pipe.

        viii. 1992, Line 132: Longitudinal seam defect in DSAW weld when a tie-in girth weld was radiographed.

        ix. 1996, Line 109: Cracking of the seam weld in DSAW pipe.

        x. 1996, Line 109: Seam weld with lack of penetration (similar to accident pipe) found during camera inspection of a 22-inch segment of Line 109 gas pipe along Miranda Avenue in Palo Alto.

        xi. 1996, DFM-3: Defect in forge-welded seam weld.

xii. 1999, Line 402: Leak in ERW seam weld.

xiii. 2002, Line 132: During a 2002 ECDA assessment, miter joints with construction defects were found on Segment 143.4.

xiv. 2009, Line 132: A leak was found on Segment 189 that was caused by a field girth weld defect. Segment 189 was originally fabricated by Consolidated Western using DSAW and installed in 1948.

xv. 2009, Line 132: During the ECDA process, a defective SAW repair weld was found on Segment 186. As indicated in PG&E's pipeline survey sheet, the segment was originally fabricated by Consolidated Western using DSAW and installed in 1948.

xvi. 2011, Line 300A: Longitudinal seam crack in 2-foot pup of DSAW pipe (found during camera inspection).

xvii. 2011, Line 153: Longitudinal seam defect in DSAW pipe during radiographic inspection for validation of seam type

16. PG&E failed to properly evaluate and document the significance each of these documents as part of its integrity management program when it developed its initial baseline assessment plan.

17. (p.30) PG&E admits that it violated ASME-B31.8S Sections 4.4 and 4.5, by not maintaining records that adequately identify where and how unsubstantiated data is used in the risk assessment process, and by failing to bring together data elements to adequately assess risk.

18. (p.31) PG&E admits that it violated ASME-B31.8S Appendix A, Section 4.2, by failing to use conservative assumptions where PG&E was missing important pipeline data such as pipe material, manufacturing process, and seam type.

19. (p.31) PG&E admits that it violated 49 CFR Part 192.107(b)(2), by not assigning a yield strength of 24,000 psi when the yield strength was unknown and untested.

20. (p.35) PG&E admits that it violated 49 CFR Part 192.917(a) and ASME-B31.8S Section 2.2, by failing to identify and evaluate all potential threats to Line 132 and other pipelines.

21. (p.40) PG&E admits that it violated Public Utilities Code section 451, by engaging in the practice of increasing the pressure on Line 132 and other pipelines every 5 years ("pressure spiking") to set the MAOP for the purpose of eliminating the need to deem manufacturing and construction threats unstable, thereby eliminating the need and the cost to conduct hydrostatic testing or in-line inspections on Line 132 and other pipelines.

22. PG&E's practice of intentionally spiking its lines violated the spirit and purpose of the Integrity Management rules in 49 C.F.R. Part 192 Subpart O (CCSF I.12-01-007 Testimony p. 15).

23. PG&E admits that it violated 49 CFR § 192.917 by failing to track over-pressurizations of its pipelines until September 2008, which prevented PG&E from considering the stability of manufacturing and construction defects on its pipelines, the extent of cyclic fatigue, and the effect of interactive threats on its pipelines without this information. (CCSF Testimony I.12-01-007 p. 15).

24. PG&E's interpretation that the federal regulations permitted "an allowance of MOP + 10% is suitable before the pipeline with a manufacturing seam threat must be assessed" violated 49 CFR 192.917(e). (CCSF Testimony I.11-02-016 at p[. 14)

25. (p.42) PG&E admits that it violated 49 CFR Part 192.917(e) and (e)(3)(i), by not determining the risk of failure from manufacturing and construction defects of Line 132 and other pipelines with such threats after operating pressure increased above the maximum operating pressure experienced during the preceding five years.

26. (p.49; p.59) PG&E admits that it violated 49 CFR Part 192.917(e)(3), by not conducting appropriate testing such as hydrostatic testing or in-line inspections on Line 132 and other pipelines due to the manufacturing and construction defects being unstable.

27. (p.49) PG&E admits that it violated 49 CFR Part 192.917(e)(3)(i-ii), by increasing the pressure on Line 132 above MAOP on two occasions, and failing to either: 1) assess manufacturing and construction defects; and 2) modify its MAOP to the higher pressure.

28. PG&E admits that it pressure spiked the following additional transmission pipelines (NTSB Exh: 2-AI):

    a. 101
    b. 109
    c. 50A
    d. 118A
    e. 142S
    f. 107
    g. 114
    h. 108
    i. 0805-01
    j. 138
    k. 1607-01
    l. 142S

29. (p.50, NTSB p.43) PG&E admits that it violated 49 CFR Part 192.917(e)(2), by failing to consider and test for the threat of cyclic fatigue on Segment 180 and other pipeline segments.

30. PG&E admits that it violated 49 CFR 192.917(e) by failing to evaluate or analyze the interactive nature of threats (i.e., more than one threat occurring on a section of pipeline at the same time). (CCSF Testimony p. 17).

31. (p.55) PG&E admits that it violated 49 CFR Part 192.917(c) and ASME-B31.8S Section 5.7, by 1) failing to conduct risk assessment that considers the identified threats for Line 132; 2) failing to consider the consequences of past events on Line 132; and 3) failing to account for missing or questionable data.

32. (p.55-59) PG&E admits that it violated 49 CFR Part 192.917(c) and ASME-B31.8S Section 5, by using risk ranking algorithms that did not: 1) (p.55) properly weigh the threats to Line 132, because PG&E did not include its actual operating experience; 2) (p.57) properly identify the Potential Impact Radius of a rupture, by using a value of 300 feet where the PIR is less than that; 3) (p.58) identify the proper Consequence of Failure formula, by not accounting for higher population densities; 4) (p.58) use conservative

values for electrical interference on Line 132, which created an external corrosion threat; 5) (p.58) include any consideration of one –call tickets, which indicates third party damage threats; 6) (p.59) include any consideration of historic problems with the type of pipe used on Segment 180.

33. PG&E admits that its management of change procedures violated 192.911(k) when it produced multiple documents purporting to be "RMI-06 Rev. 1" to the CPUC and the NTSB. (CCSF Testimony I.11-02-016 p. 14).

34. PG&E admits that continued use of segments of PG&E spec pipe (1930's A.O. Smith flash welded pipe), that have not been pressure tested or otherwise assessed constitutes an unsafe operating condition in violation of PU Code § 451.

35. By operating 50-70% of the grandfathered pipelines in high consequence areas using affidavits to establish the MAOP, PG&E abused the purpose and spirit of the grandfather clause, in violation of 49 CFR 192.619(c). (CCSF Testimony I. 11-02-016 at p. 4)

36. PG&E operated many of its grandfathered pipelines without any basis for knowing the operating pressure of its pipelines in violation of 49 CFR 192.619. (CCSF Testimony I. 11-02-016 at p. 4)

Records Retention

37. PG&E admits that it created an unreasonably unsafe system in violation of PU Code section 451, by failing to retain records consistent with 49 CFR Part 192, GO 28 and GO 112 or to follow industry standards contained in ASME-B31.1.8-1955 requiring retention of records.

38. (p.62) PG&E admits it violated PU Code section 451, by not maintaining records for Line 132 that are accurate, complete, and verifiable in that PG&E could not identify the manufacturer of the pipe sections that make up Segment 180, nor locate the as-built drawings, alignment sheets, design specifications, or inspection and testing records for Segment 180.

39. (p.62) PG&E admits that it violated Section 824.25 of ASA B31.1.8-1955, by not maintaining records demonstrating welder qualifications.

40. (p.22; also p.62 of CPSD report) PG&E admits that it violated Section 841.417 of ASA B31.1.8-1955, by not maintaining records during the useful life of Segment 180 that show it was pressure tested, or show the type of fluid used for tests and the recorded test pressures.

41. (p.62) PG&E admits that it violated 49 CFR Part 192.476(d), by failing to maintain records that demonstrate that PG&E mitigated the risk of internal corrosion.

42. (p.65) PG&E admits that it created an unreasonably unsafe system in violation of PU Code section 451, GO 28, GO 112, and 49 CFR Part 192, GO 28, and industry standards contained in ASME-B31.1.8-1955, by maintaining inaccurate records that mis-identified the yield strength, pipe grade, pressure test date, and seam type of the sections that made up Segment 180.

43. PG&E admits that it created an unreasonably unsafe system in violation of PU Code Section 451 by failing to retain pressure test records for pipeline segments installed after the effective date of ASME B31.1.8-1955 and before the effective date of GO 112.

44. PG&E admits that it created an unreasonably unsafe system in violation of PU Code Section 451 and violated GO 112 and its successor General Orders by failing to retain pressure test records for pipeline segments installed after the effective date of GO 112.

45. PG&E admits that it created an unreasonably unsafe system in violation of PU Code Section 451 and violated 49 C.F.R. Part 192 Subpart J by failing to retain pressure test records for pipeline segments installed after the effective date of those federal regulations.

Milpitas Terminal/SCADA

46. (p.70) PG&E admits that it violated 49 CFR Part 192.13(c), by failing to follow its internal work procedures that are required to be established under Part 192.

47. (p.70; also p.84) PG&E admits that it violated 49 CFR Part 192.605(c), by failing to establish adequate written procedures for maintenance and operations activities under abnormal conditions.

48. (p.83) PG&E admits that it violated 49 CFR Part 192.13(c) and PG&E Work Procedure (WP) 4100-10 "Gas Clearance Procedures for Facilities Operating Over 60 PSIG", by failing to include on the clearance application MIL-10-09: 1) a Clearance Supervisor; 2) an explanation why the work will affect the normal function of the Milpitas facility; 3) a Sequence of Operations, list of specific operations, and key communication steps to be reported to Gas Control; and 4) no entry as required by WP 4100-10 showing the time, date, and initials of the person completing each step in the system clearance.

49. (p.94) PG&E admits that it created an unreasonably unsafe system in violation of PU Code section 451, by poorly maintaining a local control system at Milpitas that had defective electrical connections, improperly labeled circuits, missing wire identification labels, aging and obsolete equipment, and inaccurate documentation.

50. (p.96) PG&E admits that it created an unreasonably unsafe system in violation of PU Code section 451, by poorly designing a SCADA system that gave too many unnecessary alarm messages to its Operators, thereby increasing the risk of an important alarm being mishandled.

51. (p.100) PG&E admits that it violated 49 CFR Part 199.225(a), by failing to perform alcohol tests on the employees involved within 2 hours of the incident, and failing to record the reasons for not administering the test in a timely fashion.

Emergency Response

52. (p.107) PG&E admits that it violated 49 CFR Part 192.615(a)(3)(iii), by failing to create an Emergency Plan that provided for prompt and effective response to explosions.

53. (p.113) PG&E admits that it violated 49 CFR Part 192.605(c), by failing to establish adequate written procedures for responding to emergency conditions.

54. (p.115) PG&E admits that it violated 49 CFR Part 192.615(a)(1), by failing to timely recognize that Line 132 had ruptured.

55. (p.118; NTSB p.55) PG&E admits that it violated 49 CFR Part 192.615(a)(2) and (a)(8), by failing to timely communicate with fire, police, or other agencies.

56. (p.120) PG&E admits that it created an unreasonably unsafe system in violation of PU Code section 451, by failing to timely confirm the existence and location of the rupture. PG&E failed to have sufficiently closely spaced pressure transmitters to give control room operators real-time flow conditions of the gas in Line 132.

57. (p.120) PG&E admits that it created an unreasonably unsafe system in violation of PU Code section 451, by failing to clearly designate a person responsible for dispatching crews to shut valves in the case of a rupture.

58. (p.123; NTSB report p.15) PG&E admits that it created an unreasonably unsafe system in violation of PU Code section 451, by failing to adequately train the employees who first responded to the incident.

59. (p.124) PG&E admits that it created an unreasonably unsafe system in violation of PU Code section 451 and Part 192.616(d), by failing to adequately notify first responder agencies of the location and specifications of PG&E's pipelines, and what steps should be taken in the event of a rupture.

60. (p. 167; NTSB report p. 124, paragraph 12) PG&E admits that it created an unreasonably unsafe system in violation of PU Code section 451, by taking 95 minutes to stop by the flow of gas when isolating the rupture site.

61. (p. 167; NTSB report p. 132, P-11-2) PG&E admits that it created an unreasonably unsafe system in violation of PU Code section 451, by failing to immediately and directly notify the 911 emergency call center when a possible pipeline rupture was indicated.

Safety Culture

62. (p.132) PG&E admits that it created an unreasonably unsafe system in violation of PU Code section 451, by spending less on pipeline upgrades (p.133), choosing lower cost inspection methods such as ECDA over ILI (p.134), and reducing its safety-related workforce (p.139). During the same time period, PG&E provided bonuses or "incentives" to management and employees, paid quarterly cash dividends to shareholders from retained earnings, repurchased stock from PG&E Corporation or from a PG&E subsidiary, expended funds to enhance public perception of PG&E, and expended money to affect ballot initiatives.

Class Location OII – Admissions of Violations

63. PG&E misclassified 140 miles (898 segments) by classifying these segments below their actual class location designation due to PG&E's admitted errors in its Geographical Information System (GIS). By failing to perform a class study of these miles, PG&E violated 49 CFR §§ 192.603, 192.605, and 192.709(c) in failing to retain records, particularly construction records, maps, and operating history for class location purposes and for its failure to distribute this information to its operating personnel.

64. By failing to perform a class study of these miles, PG&E failed to comply with the operator's own rules under 49 CFR § 192.13(c).

65. PG&E failed to confirm or revise MAOP for the 159 miles (1,192 segments) of the system in violation of 49 CFR § 192.611.

66. PG&E operated 224 segments of its transmission pipeline system operating at hoop stress of 40% above MAOP. By operating above federally-established MAOPs on segments operating at a hoop stress above 40%, PG&E violated 49 CFR § 192.619.

67. PG&E violated 49 CFR § 192.609 by failing to perform an immediate class study of these miles (segments).

68. PG&E's use of assumed values above the federally-established 24,000 psi violated 49 CFR § 192.107.

69. By operating at assumed values above the federally-established 24,000 psi, PG&E created an unreasonably unsafe condition in violation of Public Utilities Code § 451.

70. PG&E failed to patrol 120.6 miles of pipeline and an additional 51.5 miles of pipeline that it contends it patrolled but has no records for such patrols. PG&E's failure to patrol violated 49 CFR § 192.705.

71. By failing to patrol and thereby failing to retain patrol records for at least five years, PG&E violated 49 CFR § 192.709.

72. PG&E failed to provide "continuing surveillance" on at least 140 miles (898 segments) of transmission pipeline operating at greater than 20% SMYS that went up in class due to

PG&E's admitted GIS errors. By failing to "determine and take appropriate action concerning changes in class location," PG&E violated 49 CFR § 192.613(a).

Recordkeeping OII – Admissions of Violations

RE: REVISED TABLE OF DR. PAUL DULLER AND ALISON NORTH

The purpose of revising the violations table to Dr. Paul Duller and Alison North's March 30, 2012 testimony is to clarify that CPSD does not seek to count a single violation multiple times. CPSD does not seek multiple penalties for a single PG&E action or omission listed on the numbers 1 through 10. CPSD will not seek multiple penalties because a violation in 1962, for example, appears to violate three standards - Section 451, ASME standards of 1961, and General Order 112. In such an instance we will count the violation or the continuing violations of only one of those standards at a time, not all three. This does not preclude CPSD from counting any of the 27 violations as a continuing violation from the first day of the violation, including Section 451 violations, which occurred prior to the Commission's adoption of General Order 112. It simply means that CPSD will avoid duplicating or triplicating the violation when the substantive basis for the violation is the same.

Neither is the purpose of the clarification designed to provide a legal or witness opinion of any kind, and in particular whether one or another law pre-empts or displaces any other law or prevents its application. CPSD expects to address such matters in the briefs.

A. General Records Management Violations

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.[2] 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.	
(ASME Standard B31.8)	(1955 to September 2010)
(49 CFR, Section 192.709)	(Aug 1970 to September 2010)
(General Orders 112, 112A, and 112B Section 107)	(1961 to1970)

[2] 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.

Violation of California Public Utilities Code Section 451	1955-September 2010
Reference: Paul Duller and Alison North Testimony and Report Section 6 and 7.	

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.	
(49 CFR, Section 192.709)	(April 2010 to September 2010)
Violation of California Public Utilities Code Section 451	April 2010 to September 2010[3]
Reference: Paul Duller and Alison North Testimony and Report Section 6.3.3, page 6-34	

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

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

[3] 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.

3. PG&E's minimal compliance with some of its gas high pressure test record retention policies violates other requirements.	
(ASME Standard B31.8)	(1994 to April 2010)
(CFR, Section 192.709)	(1994 to April 2010)
Violation of California Public Utilities Code Section 451	1994 to April 2010
Reference: Paul Duller and Alison North Testimony and Report Section 6.3.3, page 6-36	

4. 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.	
(ASME Standard B31.8)	(September 1964 to April 2010)
(49 CFR, Section 192.709)	(August 1970 to June 1996)
(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	

5. 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.[4]	
(ASME Standard B31.8)	(1955 to September 2010)
(49 CFR, Section 192.13(c))	(Aug 1970 to September 2010)
(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

[4] 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.

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
Reference: Paul Duller and Alison North Testimony and Report Section 6.	

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[5] and thereby ensure safe pipeline operation.	
(ASME Standard B31.8)	(1992 to September 2010)
Violation of California Public Utilities Code Section 451	1992 to September 2010
Reference: Paul Duller and Alison North Testimony and Report Section 6.7 *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.*	

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.[6] 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)
(ASME Standard B31.8)	(1955 to September 2010)
(49 CFR, Section 192.709)	(August 1970 to September 2010)

[5] 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.

[6] 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.

Violation of California Public Utilities Code Section 451	1955 to September 2010
Reference: Paul Duller and Alison North Testimony and Report Section 6.6.8	

RE: REVISED TABLE 1 OF MARGARET FELTS

The purpose of revising Table 1 to Margaret Felt's March 30, 2012 testimony is to clarify that CPSD does not seek to count a single violation multiple times. CPSD does not seek multiple penalties for a single PG&E action or omission listed on the numbers 1 through 27. CPSD will not seek multiple penalties because a violation in 1962, for example appears to violate three standards – Section 451, ASME standards of 1961, and General Order 112. In such an instance we will count the violation or the continuing violations of only one of those standards at a time, not all three. This does not preclude CPSD from counting any of the 27 violations as a continuing violation from the first day of the violation, including Section 451 violations, which occurred prior to the Commission's adoption of General Order 112. It simply means that CPSD will avoid duplicating or triplicating the violation when the substantive basis for the violation is the same.

Neither is the purpose of the clarification designed to provide a legal or witness opinion of any kind, and in particular whether one or another law pre-empts or displaces any other law or prevents its application. CPSD expects to address such matters in the briefs.

Table 1 - Violations related to the San Bruno Incident

Records Violations relating to Line 132, Segment 180, San Bruno Incident

1. No records for salvaged pipe installed into Segment 180[7]

   Violation of Public Utilities Code Section 451[8] 1951-2010

   (Also: Potential Violation of California Public Utilities Act Article II Sec. 13(b)[9] pre 1951)

2. Failure to create/retain construction records for 1956 project GM 136471[10]

   Violation of Public Utilities Code Section 451.....1956-2010

3. Failure to retain pressure test records for L-132, Segment 180[11]

   Violation of Public Utilities Code Section 451 .....1955~~61~~-2010

   (ASME Standards Section B31.8[12] .....1955-2010)

   (General Orders 112, 112A, and 112B Section 107[13] ..1961-1970)

4. Lost underlying records to support MAOP of 390 on Segment 180[14]

   Violation of Public Utilities Code Section 451.....1977-2010

   (Violation of ASME Standards Section B31.8.....1977-2010)

5. Failure to Follow Procedures to Create Clearance Record[15]

[7] Felts Testimony, Section 2.1

[8] 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."

[9] 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, this law and Cal. Pub. Util. Code §451 have consistently required PG&E to maintain instrumentalities, equipment, and facilities to promote the safety of their respective patrons, employees and the public.

[10] Felts Testimony, Section 2.1.

[11] Felts Testimony, Section 2.1

[12] To see the rules underlying ASME standard violations in Table 1, please refer to Felts Testimony (Exhibit 1), Appendix 8.

[13] Section 107 of each of these versions of General Order 112 required compliance with ASME standard

[14] Felts Testimony, Section 2.2 (including Appendix 1)

[15] Felts Testimony , Section 2.3

Violation of Public Utilities Code Section 451.....2010

6. Out-of-date Operations and Maintenance instructions at Milpitas Terminal[16]
   Violation of Public Utilities Code Section 451.....1991-2010
7. Out-of-date Drawing and Diagrams of the Milpitas Terminal[17] .
   Violation of Public Utilities Code Section 451.....2008-2010
   (PG&E internal policies requiring retention of eng. records[18] 2008-2010)
8. No Back-up Software at the Milpitas Terminal[19]
   Violation of Public Utilities Code Section 451.....1991-2010
9. Unsafe design of Supervisory Control And Data Acquisition System[20]
   Violation of Public Utilities Code Section 451.....2008-2010
10. Emergency Response Plans too Difficult to Use[21]
    Violation of Public Utilities Code Section 451.....Apr 2010-Sept 2010
11. Operated L-132 in excess of 390 MAOP (1 day each year)[22]
    Three Violations of Public Utilities Code Section 45.....2003, 2008, 2010
12. Failure to Attempt to Preserve Video Recordings that PG&E Believed Was on Brentwood Camera 6
    Violation of Commission Resolution Number L-403.....2010-2012
    (Preservation Order from Commission Executive Director 2010-2012)
13. PG&E's Contradictory Data Responses Re Recorded Brentwood Camera 6 Video
    Violation of Commission Rules of Practice and Procedure Rule 1.1. 2011 or 2012

[16] Felts Testimony, Section 2.4

[17] Felts Testimony, Section 2.5

[18] Felts Testimony, Appendix 8 (engineering records row). In particular, PG&E internal policies shown in its documents P2-212, P2-225, and P2-227 each require that "Records pertinent to the constructed facility retain until superseded or 6 years after the facility is retired". Moreover, PG&E internal policy in its documents P2-230 mandates retaining engineering records for 6 years after the facility is retired. These policies apply from 1964 to 2010.

[19] Felts Testimony, Section 2.6

[20] Felts Testimony , Section 2.7

[21] Felts Testimony, Section 2.8

[22] Felts Testimony, Section 2.2 and Attachment 1 plus Attachment 1 Exhibits

14. PG&E's Data Responses Did Not Identify All of the People in Milpitas Handling the Pressure Problem on September 9, 2010

    Violations of Commission Rules of Practice and

    Procedure Rule 1.1.....October 10 and December 17, 2011

15. INTENTIONALLY LEFT BLANK[23] [24]

General Records Violations for all Transmission including 132

16. Job Files Missing and Disorganized[25]

    Violation of Public Utilities Code Section 451.....1987-2010

    (ASME Standards Section B31.8.....1987-2010)

    (PG&E internal policies requiring retention of eng. records...1987-2010)

17. Pipeline History Records Missing[26]

    Violation of Public Utilities Code Section 451.....1987-2010

    (ASME Standards Section B31.8..... 1987-2010)

    (PG&E internal policies requiring retention of eng. records...1987-2010)

18. Design and Pressure Test Records Missing[27]

    Violation of Public Utilities Code Section 451.....1951-2010

    Violation of California Public Utilities Act Article II Section 13(b).....1930-1951

    (ASME Standards Section B31.8.....1955-2010)

    (General Orders 112, 112A, and 112B Section 107.....1961-1970)

    (PG&E internal policies requiring retention of eng. records 1964-2010)

19. Weld Maps and Weld Inspection Records Missing or Incomplete[28]

    Violation of Public Utilities Code Section 451.....1951-2010

[23] Intentionally left blank.

[24] Intentionally left blank.

[25] Felts Testimony, Section 4.2

[26] Felts Testimony, Section 4.1.1 – 4.1.2

[27] Felts Testimony, Section 4.3

[28] Felts Testimony, Section 4.4

Violation of California Public Utilities Act Article II Section 13(b).....1930-1951

(49 CFR 192.241 and 192.243[29].....1970-2010)

(ASME Standards Section B31.8.....1955-2010)

(General Orders 112, 112A, and 112B Section 107.....1961-1970)

20. Operating Pressure Records Missing, Incomplete or Inaccessible[30]

Violation of Public Utilities Code Section 451.....1951-2010

Violation of California Public Utilities Act Article II Section 13(b).....1930-1951

(ASME Standards Section B31.8.....1955-2010)

(General Orders 112, 112A, and 112B Section 107.....1961-2010 ~~1970~~)

(PG&E internal policies requiring retention of eng. records -1964-2010)

21. Pre-1970 Leak Records missing, incomplete and inaccessible[31]

Violation of Public Utilities Code Section 451.....1951-2010

Violation of California Public Utilities Act Article II Section 13(b).....1930-1951

(ASME Standards Section B31.8.....1955-2010)

(General Orders 112, 112A, and 112B Section 107.....1961-2010~~1970~~)

22. Post 1970 Leak Records incomplete and inaccessible[32]

Violation of Public Utilities Code Section 451.....1970-2010

(ASME Standards Section B31.8.....1970~~55~~-2010)

~~(General Orders 112, 112A, and 112B Section 107.....1961-1970)~~

(PG&E internal policies requiring retention of leak repair records[33] 1994-2010)

(PG&E internal policy requiring retention of leak survey maps[34]2010)

[29] Felts Testimony, Appendix 8.

[30] Felts Testimony, Section 4.5

[31] Felts Testimony, Section 4.6

[32] Felts Testimony, Section 4.6

[33] Felts Testimony, Appendix 8 (Inspection Records-Leak Repair of Pipe Exposure Row). In particular, PG&E internal policies shown in its documents P2-212, P2-225, P2-227, and P2-230 each require that inspection records for leak repairs or pipe exposure be kept for the life of the facility. These policies apply from 1994 to 2010.

[34] Felts Testimony, Appendix 8 (Leak Survey Maps row). In particular, PG&E policy P2-220 requires

23. Records to track salvaged and reused pipe missing[35]

Violation of Public Utilities Code Section 451.....1954-2010

(PG&E internal policies requiring retention of eng. records April)[36] 1994-2010

24. Bad data in Pipeline Survey Sheets and the Geographic Information System[37]

Violation of Public Utilities Code Section 451.....1974-2010

(PG&E internal policies requiring retention of eng. records..1974-2010)

25. Use of an Integrity Management Risk Model that uses inaccurate data[38]

Violation of Public Utilities Code Section 51.....2004-2010

26. 1988 weld failure – no Failure Report [39]

Violation of Public Utilities Code Section 451.....1988-2010

27. 1963 weld failure – no Failure Report [40]

Violation of Public Utilities Code Section 451.....1963-2010

keeping leak survey maps for nine years. This policy is effective as of 2010.

[35] Felts Testimony, Section 4.7

[36] Felts Testimony, Appendix 8 (engineering records row). In particular, PG&E internal policies shown in its documents P2-212, P2-225, and P2-227 each require that "Records pertinent to the constructed facility retain until superseded or 6 years after the facility is retired". Moreover, PG&E internal policy in its documents P2-230 mandates retaining engineering records for 6 years after the facility is retired. These policies apply from 1994 to 2010.

[37] Felts Testimony, Section 5.0

[38] Felts Testimony, Sections 3.0-4.0

[39] Felts Testimony, Section 4.4

[40] Felts Testimony, Section 4.4