

**BEFORE THE PUBLIC UTILITIES COMMISSION OF THE
STATE OF CALIFORNIA**

Order Instituting Investigation on the
Commission's Own Motion into the Operations
and Practices of Pacific Gas & Electric
Company's Natural Gas Transmission System in
Locations with Higher Population Density.

I.11-11-009
(Issued November 10, 2011)

Opening Brief of the City and County of San Francisco

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I. INTRODUCTION

This proceeding was instituted when the Commission expressed justifiable alarm that PG&E failed to comply with the “regulations concerning the protection of persons and property in areas with higher concentrations of human occupancy and activity.”¹ Indeed, PG&E has admitted many of the violations, including that it neglected its obligation to operate the maximum allowable operating pressure (MAOP) of its pipelines commensurate with population density of the neighborhood surrounding the pipeline. Not only does PG&E admit that many of these violations “occurred many years ago,”² but it also concedes that the violations are not isolated instances; in other words the violations are the result of a systemic failure to comply with safety regulations.³

In this proceeding there are very few facts in dispute. Indeed, PG&E admits that prior to June 2011, it did not know that at least:⁴

- 544 miles (2,837 segments) of its gas transmission pipelines changed in class location.⁵
- 159 miles (1,192 segments) of its gas transmission pipelines went up in class.⁶
- 140 of the 159 miles (898 segments) that went up in class were due to errors in PG&E’s GIS system.⁷
- 9.1 miles (57 segments) of its gas transmission pipelines had a MAOP inappropriate for their current class location, including 2.8 miles that did not go up in class.⁸

Each of these admissions constitutes one or more violations of PG&E’s obligation to provide safe and reliable service.

As part of its continuing review of class locations, on April 2, 2012, PG&E stated that it could not “confirm that all transmission lines were patrolled as required by PG&E procedures,” and that

¹ Order Instituting Investigation 11-11-009 at p. 5

² PG&E January 17, 2011 Response to Order Instituting Investigation at p. 2.

³ PG&E April 2, 2012 Update to Response to Order Instituting Investigation at p. 7.

⁴ There is some uncertainty as to the number of miles and omissions as PG&E made three separate filings each identifying differing amounts of pipeline.

⁵ PG&E April 2, 2012 Update to Response to Order Instituting Investigation at p. 1.

⁶ *Id.*

⁷ *Id.*

⁸ *Id.*

PG&E's review "found that the procedures had not been followed by all local offices, and, as a result, some segments of transmission pipeline may not have been patrolled."⁹ This is particularly disturbing because ineffective and unused procedures provide the illusion that safety operations and maintenance are being performed when, in fact, they are not.

There is little dispute that only after the San Bruno explosion did PG&E discover that it had not kept current its compliance with "regulations concerning the protection of persons and property in areas with higher concentrations of human occupancy and activity." Based on the record, the Commission must find PG&E in violation of state and federal laws and its obligation to provide safe and reliable service. Each and every instance in which PG&E's operations were not in compliance with the applicable safety regulations and standards constitutes a failure to provide safe and reliable service. Each day PG&E failed to correct its conduct also constitutes a continuing violation. Rather than list each violation, San Francisco provides a list of proposed Findings of Fact as attachment A. In attachment, B, San Francisco has provided proposed Conclusions of Law.

II. LEGAL STANDARD

Public Utilities Code section 451 requires utilities to provide "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."¹⁰ The Commission has noted that "a utility which provides adequate service is in compliance with laws, regulations and public policies that govern public utility facilities and operations" and "adequate service encompasses all aspects of the utility's service offering, including but not limited to safety, reliability, emergency response, public information services and customer service."¹¹ It follows that a

⁹ *Id.* at p. 7

¹⁰ Under the Public Utilities Act, the Commission's primary purpose is to "insure the public adequate service at reasonable rates without discrimination." *Pac. Tel. & Tel. v. Pub. Util. Comm'n*, (1950) 34 Cal.2d 822, 826; *Pac. Tel. & Tel. v. Pub. Util. Comm'n*, (1965) 62 Cal.2d 634, 647; *City and County of San Francisco v. Pub. Util. Comm'n*, (1971) 6 Cal.3d 119, 126.

¹¹ *Interim Order on Storm and Reliability Issues*, Decision No. 04-10-034, 2004 Cal. PUC LEXIS 506, at p. *8.

utility that does not comply with laws, regulations and public policies governing public utility facilities and operations does not provide “adequate service.”

In addition, under Public Utilities Code section 701, “[t]he commission may supervise and regulate every public utility in the State and may do all things, whether specifically designated in this part or in addition thereto, which are necessary and convenient in the exercise of such power and jurisdiction.” This means that it is the Commission’s obligation to watch over the public utilities in the state and ensure that the utilities comply with both the letter and the spirit of applicable safety regulations and standards. Further, Section 761 charges the Commission with the responsibility to correct and prevent unsafe utility practices.¹²

Public Utilities Code section 2107 states:

“Any public utility which violates or fails to comply with any provision of the Constitution of this state or this part, or which fails or neglects to comply with any part or provision of any order, decision, decree, rule, direction, demand, or requirement of the Commission, in a case in which a penalty has not otherwise been provided, is subject to a penalty. . . .”¹³

Under Public Utilities Code section 2107, the Commission has “broad authority to levy appropriate fines in the course of its business.”¹⁴ As the Commission has recognized, levying fines serves an important enforcement purpose. “If we could not penalize utilities for violating our rules and orders, utilities would have little or no incentive to comply with them.”¹⁵

¹² Pub. Util. Code § 761 states “Whenever the commission, after a hearing, finds that the rules, practices, equipment, appliances, facilities, or service of any public utility, or the methods of manufacture, distribution, transmission, storage, or supply employed by it, are unjust, unreasonable, unsafe, improper, inadequate, or insufficient, the commission shall determine and, by order or rule, fix the rules, practices, equipment, appliances, facilities, service, or methods to be observed, furnished, constructed, enforced, or employed.”

¹³ Pub. Util. Code § 2107.

¹⁴ *Strawberry Property Owners Association, Complainant, vs. Conlin-Strawberry Water Company, Inc.*, D. 00-03-023, 2000 Cal. PUC LEXIS 127, *4 (citing legislative history of Pub. Util. Code § 2107).

¹⁵ *Order Instituting Rulemaking to Establish Standards of Conduct Governing Relationships Between Energy Utilities and Their Affiliates; Order Instituting Investigation to Establish Standards of Conduct Governing Relationships* 1999 Cal. PUC LEXIS 368, *5; 85 CPUC2d 295 (Cal. P.U.C. 1999).

III. ARGUMENT

A. Class Location Requirements Have Existed Since 1955, But PG&E Failed To Keep Track of Changes In Class .

The CPSD report finds that “where PG&E had not identified a change in class location that occurred prior to the June 30, 2011, Class Location Study Report, it did not perform a class location study under Section 609 at the time of the class location change.”¹⁶ In other words, PG&E states that it was unaware of changes in class location when they occurred. This is an admission that PG&E did not perform the requirements of sections 192.609, 192.611, and 192.613. Ignorance of whether there has been a change in class locations does not mean that the operator does not have an obligation to confirm or revise the MAOP. Each and every instance where PG&E failed to identify a change in class constitutes a violation.

As the Order Instituting Investigation recognized, since 1955, the general consensus standards, “include[d] the four-tier population density-based class location system set forth in 49 CFR §§ 192.5 *et seq.*”¹⁷ The 1955 ASA B.31.1.8 standard “was the first to designate four types of construction to be based on population density.”¹⁸ PG&E has admitted that it followed the ASA B.31.1.8 standard beginning in 1955.¹⁹ Based on this admission, PG&E committed to ensuring that its maintenance and operations of its pipelines was commensurate with the surrounding population densities since as early as 1955.

Section 841 of the 1955 ASA B.31.1.8 code specifically included provisions governing how an operator should calculate class location and how the class location affected the MAOP of a pipeline. Based on the class location, section 841.1 required an operator to determine the surrounding “construction type,” and calculate the MAOP to ensure that the pressure of a pipeline was commensurate with the class location.²⁰ In 1961, the Commission adopted GO-112, which

¹⁶ CPSD Class Location Investigation Report at pp. 49-50 (*quoting* PG&E’s February 2, 2012 response to CPUC_184-Q03Supp01).

¹⁷ Order Instituting Investigation 11-11-009 at p. 3.

¹⁸ Evaluation of Pipeline Design Factors, Michalopoulos and Babka, Hartford Steam Boiler Inspection and Insurance Company, prepared for Gas Research Institute, (February 2000), at p. 19 (Exhibit 2 to Testimony of CCSF witness John Gawronski in I.11-11-009 (Ex. CCSF-1)).

¹⁹ Tr. Vol. 1 at p. 38:13-17 (Zurcher).

²⁰ ASA B 31.1.8 § 841.02.

incorporated by reference the 1958 ASA B.31.8 Code. The 1958 standard incorporated class location requirements similar to those in the 1955 standard.

In 1970, the U.S. Department of Transportation enacted federal pipeline safety regulations. As originally enacted, the code of federal regulations included a section 192.607.²¹ That section required operators to complete a study to determine the then-present class location and ensure that the MAOP was commensurate with the class locations, as required by section 192.611.²² Operators were required to complete this initial determination by January 1, 1973.²³ If there were changes in class location after April 15, 1973, those changes would be governed by sections 192.609 and 192.611.²⁴ These are continuing obligations for a pipeline operator. The Department of Transportation believed that section 192.609 and 192.611 together would be “sufficient to require that operators have up-to-date class location determinations for high-stress pipelines, and maintain the MAOPs for those lines commensurate with their class locations.”²⁵

49 CFR § 192.609 also sets forth specific requirements regarding monitoring changes in class location.²⁶ Whenever there is a change in class location, the operator must confirm or revise the MAOP pursuant to 49 CFR § 192.611.²⁷ Pursuant to 49 CFR § 192.613, an operator is required to perform “continuing surveillance of its facilities to determine and take appropriate action concerning changes in class location, failures, leakage, history, corrosion, substantial changes in cathodic protection requirements, and other unusual operating and maintenance conditions.”²⁸ This requirement applies to all transmission lines, not just those in high consequence areas.²⁹

²¹ Exhibit CCSF-1 (Testimony of John Gawronski) at p. 4.

²² *Id.* at pp. 4-5.

²³ *Id.* at p. 5.

²⁴ 35 Federal Register 13249.

²⁵ 61 Federal Register 28780.

²⁶ *Id.*

²⁷ *Id.*

²⁸ 49 CFR § 192.613(a).

²⁹ Exhibit CCSF-1 (Testimony of John Gawronski) at p. 4.

B. PG&E Is Required To Use An Assumed Specified Minimum Yield Strength Value of 24,000 psi.

One issue that remains contested is what constitutes a conservative assumption when PG&E has missing or incomplete documentation for a pipeline's Specified Minimum Yield Strength (SMYS). For used pipe, unidentified new pipe, and for pipe of unknown specification where PG&E does not know the SMYS value, the legal requirement is clear. PG&E must use an assumed SMYS of 24,000 psi. Not only is this explicit in federal law,³⁰ this requirement was part of the 1955 ASA B.31.1.8 standard,³¹ and was echoed in the 1958 standard that became law when the Commission adopted GO-112.³² Even PG&E own witness agreed that B.31.1.8 section 811.27 H was "essentially the same"³³ as section 49 CFR § 192.107(b).

The Commission should not be fooled by PG&E's attempts to obfuscate the issue by asserting a distinction based on whether the pipe segment was installed before or after the effective date of the federal regulations. If PG&E had been faithfully complying with the ASA standard in 1955, based on PG&E's admission that it has been following the ASA B.31.1.8 standard since 1955, it should have used assumed SMYS values of 24,000 psi for all pipe of unknown specifications installed after 1955.

For pipelines installed after November 1970, PG&E claims that "operators have not generally interpreted Section 192.107 as requiring them to conduct new tensile tests or assume a SMYS of 24,000 psi on all pipe segments for which they do not have complete records documenting SMYS."³⁴ PG&E makes no attempt, however, to clarify how this approach complies with the very clear legal requirements discussed above. Simply because other operators also violate the law, even assuming PG&E can prove that they do, does not excuse PG&E from compliance.

³⁰ 49 CFR § 192.107(b).

³¹ ASA B.31.1.8 § 811.27 H.

³² GO-112 § 811.27 H.

³³ Tr. Vol. 1 at p. 11:27-12:2 (Zurcher).

³⁴ Exhibit PG&E-1 (Testimony of John Zurcher at p. 2-6).

1. PG&E's Operations and Maintenance Practices Create An Unreliable Foundation To Assume A SMYS over 24,000 psi.

In light of the system-wide deficiencies noted in PG&E's record keeping, the Commission should have little faith that PG&E's use of assumed SMYS values over 24,000 psi constitutes safe practice. PG&E attempts to confuse the issue by claiming that the federal Integrity Management regulations allow "operators to substitute the year of manufacture for unknown manufacturing process data and further allows operators to reference publications such as the *History of Line Pipe Manufacturing in North America* to substitute specification based on minimum pipe grades known to have been used at a particular time." However, the degree of conservatism in any assumption is largely dependent upon the operator's maintenance and operational practices. In other words, an operator must have some foundation upon which it can make a conservative assumption. PG&E witness Zurcher agreed that in order to ensure safe operations, an operator's conservative assumptions must be based on "reasonable information," and that inaccurate data could undermine an operator's use of conservative assumptions.³⁵

As the record in Investigation 11-02-016 has made clear, PG&E has struggled mightily with its record keeping, and that PG&E has lost important pipeline inspection reports.³⁶ Indeed, the NTSB found that PG&E's GIS and related records "included many obvious errors in key pipeline parameters, including but not limited to seam type, SMYS, and depth of cover."³⁷

Further, PG&E's conduct in this investigation should give the Commission little confidence that its records are sufficiently accurate and reliable. In its January 17, 2012 Response to Order Instituting Investigation, PG&E admitted that 140 miles or 806 segments of its gas transmission pipelines changed up in class due to errors in PG&E's GIS system.³⁸ Three months later, on April 2, 2012, PG&E filed its third response to the Order Instituting Investigation 11-11-009. There, PG&E stated that it had found an additional 92 segments that had changed in class due to errors in its GIS

³⁵ Tr. Vol. 1. at p. 40:14-20 (Zurcher).

³⁶ Joint Evidentiary hearing I.11-02-016 & I.12-01-007, Tr. Vol. 4 at p. 536:14-17 (Harrison) ("We have invoices showing the report was requested and we paid Moody to do the report, but we don't actually have a copy of the report.")

³⁷ NTSB report at p. 108 (emphasis added).

³⁸ PG&E's January 17, 2012 Response to Order Instituting Investigation 11-11-009. at p. 2.

system, raising the grand total to 898 pipeline segments.³⁹ Given the above, and the fact that PG&E still did not know how many segments had changed class due to errors in GIS nearly 18 months after PG&E committed to reporting the results of changes in classification, it is unreasonable to believe that PG&E has “reasonable information” upon which it can make conservative assumptions for SMYS values above 24,000 psi.

2. Because PG&E’s GIS Database Only Tracks the Date of Installation, PG&E Lacks Sufficient Information to Make Conservative Assumptions

In order to make any assumptions about the “minimum SMYS represented in the procurement standards from the era in which the pipe in question was purchased,”⁴⁰ PG&E must be able to determine the date of manufacture. But, PG&E’s GIS system only tracks the year a pipe was installed, and not the year that a pipe was manufactured. For example, in investigation 11-02-016, PG&E witness Harrison testified that based on the date of installation pulled from PG&E’s GIS system, he was unable to determine whether PG&E Spec. pipe was actually manufactured and installed in 1948, or if the pipe was originally installed in the 1930’s, reconditioned and re-installed in 1948.⁴¹ Because PG&E’s GIS database makes no distinction between the date of manufacture, the date of installation for new pipe, or the date of installation for reconditioned pipe, trying to make any conservative assumptions regarding the procurement standards of a given era is unreliable.

Lacking the original date of manufacture also undermines the reference to historical manufacturing techniques. During cross-examination, witness Zurcher attempted to limit the scope of what should be considered unknown pipe. He asserted that if an operator was unable to find mill certification records, or determine the pipe specifications through purchase orders or as-built notes, the operator could still make an assumption regarding the SMYS of pipe by “look[ing] up through the History of Line Pipe, the Kiefner report, and actually look and see what was manufactured for a given year by a given manufacturer.”⁴² Zurcher clarified that if an operator could determine the year the

³⁹ PG&E’s February 2, 2012 Response to Order Instituting Investigation 11-11-009. at p. 1.

⁴⁰ Exhibit PG&E-1 (Testimony of John Zurcher at p. 2-6).

⁴¹ Joint Evidentiary hearing I.11-02-016 & I.12-01-007, Tr. Vol. 4 at p. 587:13-26 (Harrison).

⁴² Tr. Vol. 1 at p. 15:25-16:12 (Zurcher).

pipe was purchased and the manufacturer, then it would be able to make a conservative assumption regarding the type of pipe that was produced during those years.⁴³ However, even if PG&E knows the manufacturer, if it only knows the date the pipeline was installed, and not the date the pipe segment was originally manufactured, then such reference to the historical manufacturing techniques is speculation at best.

3. PG&E Does Not Have Any Ability to Track Where Reconditioned Pipe Has Been Placed In Its System.

PG&E has admitted that “PG&E does not in all instances know where reconditioned pipe has been placed in its transmission system.”⁴⁴ Aside from the alarming record-keeping deficiencies implicit in this statement, the Commission should be aware that some of the reconditioned pipe that PG&E is unable to locate is of poor quality and does not qualify as API 5L Line Pipe. Qualifying as API 5L pipe is important because if a pipe does not qualify as API 5L pipe, then it would be inappropriate to use the *History of Line Pipe Manufacturing in North America* as a basis to assume a SMYS value over 24,000 psi.

In the 1920s and 1930s, PG&E used A.O. Smith pipe in its transmission system.⁴⁵ This pipe is often referred to as PG&E Spec. pipe.⁴⁶ A.O. Smith made only one type of pipe in the 1920s and 1930s -- flash welded pipe.⁴⁷ As Table 8-1 of the *History of Line Pipe Manufacturing in North America* makes explicit, “although A.O. Smith made flash welded pipe as early as 1930, they did not have an API license until the 14th edition of API 5L (March, 1955).”⁴⁸ This distinction is important because:

“Often the pipeline operator knows some information such as the age of the pipe or the manufacture or both, but does not know the yield strength or the seam

⁴³ Tr. Vol. 1. at p. 39:5-20 (Zurcher).

⁴⁴ PG&E Testimony in I.11-02-016 at p. 3-32 (David Harrison).

⁴⁵ Joint Exhibit 2 (PG&E Data Response to CPUC DR 010-Q05 and attachment 6).

⁴⁶ *Id.*

⁴⁷ Joint Exhibit 1 (Excerpt from *History of Line Pipe Manufacturing in North America*) at p. 8-5 (“A.O. Smith Corporation made only flash-welded steel pipe in the period between 1930 and 1969.”).

⁴⁸ Joint Exhibit 1 at Table 8-1.

type. It is often possible to determine missing information when some information is known. One item that helps is the summary of API 5L pipe materials (not the x grades) shown in Table 8-1. This table permits one to use some information about API line pipe. *If it is suspected that the material is not API line pipe, then this table would be useless.*⁴⁹

Thus, this publication may not be relied upon where PG&E knows that it has the older A.O. Smith pipe, and PG&E should not use an assumed SMYS value of higher than 24,000 psi for those segments.

Equally troubling is the fact that PG&E's GIS does not track where its salvaged or reconditioned pipe is located. PG&E has admitted that "PG&E has not located any written policies in place prior to September 10, 2010 for tracking salvaged or reused pipe,"⁵⁰ "PG&E has not identified inventory records that specifically track the receipt and/or storage of salvaged or reconditioned pipe or pipeline material,"⁵¹ and "PG&E did not in the past capture data identifying reconditioned pipe in the gas transmission system in its databases."⁵²

If PG&E does not know where its reconditioned A.O. Smith pipe is located, a conservative assumption is to suspect that for any segments where PG&E does not know the pipe specification, that segment may contain older reconditioned A.O. Smith pipe. Further because PG&E does not track the manufacture date for its pipeline segments, it cannot be sure that pipeline segments installed at later dates are not in fact comprised of older A.O. Smith pipe. This additional degree of uncertainty in PG&E's system further supports use of a maximum assumed SMYS value of 24,000 psi.

C. PG&E Has Admitted All Other Allegations In This Proceeding

Throughout this proceeding, PG&E has not disputed that the class designations for its pipelines are in error, or that it failed to perform necessary surveillance and patrolling. Although PG&E asserts that in many instances, the population density decreased, meaning that the pipeline did not exceed the MAOP permitted under the pipeline safety regulations, in no circumstances does an operator's

⁴⁹ Joint Exhibit 1 at p. 8-4 (emphasis added).

⁵⁰ Joint Exhibit 3(PG&E Response to DR_CPUC_016-Q01 in I.11-02-016).

⁵¹ PG&E Response to DR_CPUC_0109-Q02 in I.11-02-016
ftp://ftp.cpuc.ca.gov/pipelinerecordkeeping/ExhibitsToReportTestimonyOfMargaretFelts/OII_DR_10_Q2.pdf

⁵² PG&E Testimony in I.11-02-016 at p. 3-28 (David Harrison).

ignorance of a pipelines proper MAOP constitute safe and reliable service. The happy accident that population density decreased does not excuse PG&E's ignorance of this key consideration for operating pipelines safely.

1. PG&E's Violations May Have Existed Since 1955.

The CPSD report finds 3,062 violations based on the federal register alone. Given the on-going and systemic nature of the identified violations, and the fact that PG&E has had an obligation to operate its pipelines in compliance with the ASA B.31.1.8 standard beginning in 1955, and GO-112 beginning in 1961, it is possible that many of the continuing violations could have persisted for an additional 15 years. As PG&E concedes, "PG&E had not yet determined when the class location changes actually occurred."⁵³

IV. CONCLUSION

The Commission find that PG&E has failed to meet its obligations to provide safe and reliable service under the applicable state and federal law and industry standards.

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Respectfully submitted,

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⁵³ PG&E June 30, 2011 Class Location Report at p. 5.

Appendix A

Proposed Findings of Fact:

1. By letter dated September 13, 2010, and Resolution L-403, the Commission ordered PG&E “to review the classification of its natural gas transmission pipelines and determine if those classifications have changed since the initial designation.”
2. PG&E’s response on October 4, 2010 “identified 1,057 miles of pipeline where the then-current classification is different from the initial classification.”
3. On January 3, 2011, the NTSB issued urgent recommendations to PG&E that required PG&E to have in its possession, and readily available, complete and up-to-date records of the class designations of all segments of its transmission pipeline system.
4. PG&E did not have in its possession, and readily available, complete and up-to-date records of the class designations of all segments of its transmission pipeline system.
5. In the June 30, 2011 Class Location Study, PG&E admitted that:
 - a. The class location review has indicated that some segment of pipe have had and may continue to have a Maximum Allowable Operating Pressure (MAOP) higher than appropriate for its current class location. p. 2.
 - b. Approximately 100 miles of its system may be operating at pressures above their current class level. p. 3.
 - c. Based on its system-wide verification, PG&E determined that 550 miles have changed in class designation. Of these 173 miles have gone up in class location and 378 miles have gone down in class location. p. 4.
 - d. Although a utility can take up to 24 months to confirm or revise its MAOP after there has been a change in class location, PG&E had not yet determined when the class location changes actually occurred. p. 5.
6. In its January 17, 2012 Response to the Order Instituting Investigation, PG&E admitted:

- a. 162 miles of PG&E's gas transmission pipelines (1,376 segments) went up in class. p. 2.
 - b. 140 miles of PG&E's gas transmission pipelines (806 segments), changed up in class due to errors in PG&E's GIS. p. 2.
 - c. Many of the errors occurred many years ago. p. 2.
 - d. 8.5 miles of PG&E's gas transmission pipelines (48 segments), were operating at pressures inappropriate for their current class location (including some segments that did not go up in class). p.2.
 - e. PG&E recognizes the need to maintain accurate class location designations for every one of the 26,000 segments on its natural gas transmission pipeline system. PG&E did not do that. p.2.
 - f. Although PG&E had procedures and standards in place that should have resulted in class locations being accurately and timely identified and updated where necessary, those procedures were not consistently followed and not effective. p. 5.
 - g. Based on the fact that 48 segments were not operating at pressures commensurate with their present class location, PG&E must replace or remove 26 segments, hydrotest 20 segments, and permanently reduce the pressure for 2 segments. p. 20.
 - h. Most of the segments operating at MAOPs inappropriate for their class location had been doing so for years. p. 20.
 - i. PG&E has an issue with lack of senior level accountability. Although a number of supervisors and engineers were assigned responsibility for aspects of the process, no one individual was responsible from end to end. p. 23.
 - j. PG&E's prior procedures and processes were not effective in maintaining accurate, up-to-date class location designations for all pipeline segments. p. 28
7. In its February 2, 2012 Update to its January 17, 2012 Response to the Order Instituting Investigation, PG&E admitted:

- a. PG&E has discovered that another 10 segments (1.5 miles), all of which were commensurate with their class location as of January 17th, were initially not commensurate with their class location. p. 1.
 - b. PG&E replaced and hydrotested 8 of the segments and permanently reduced pressure on two segments. p. 1.
 - c. Of these 10 segments, two did not go up in class, but were operating with MAOPs inappropriate for their class location, and had been doing so for years. p. 2.
8. In its April 2, 2012 update to its Response to the Order Instituting Investigation, PG&E admitted:
- a. 544 miles (2,837 segments) of its gas transmission pipelines changed in class location. p.1.
 - b. 159 miles (1,192 segments) of its gas transmission pipelines went up in class. p.1.
 - c. 140 of the 159 miles (898 segments) that went up in class were due to errors in PG&E's GIS. p. 1.
 - d. 9.1 miles (57 segments) of its gas transmission pipelines had a MAOP inappropriate for their current class location, including 2.8 miles that did not go up in class. p. 1.
 - e. As part of its continuing review of class locations, PG&E has now determined that it cannot confirm that all transmission lines were patrolled as required by PG&E procedures. p. 7.
 - f. PG&E's review has found that this procedure has not been followed by all local offices, and, as a result, some segments of transmission pipeline may not have been patrolled. p. 7.
9. There is little dispute that only after the San Bruno explosion did PG&E discover that it had not kept current its compliance with regulations the "regulations concerning the

protection of persons and property in areas with higher concentrations of human occupancy and activity.”

10. 1955 ASA B.31.1.8 standard “was the first to designate four types of construction to be based on population density.”
11. PG&E has admitted that it followed the ASA B.31.1.8 standard beginning in 1955. PG&E therefore committed to ensuring that its maintenance and operations of its pipelines.
12. Section 841.1 of the 1955 ASA B.31.1.8 code required an operator to determine the surrounding “construction type,” and calculate the MAOP to ensure that the pressure of a pipeline was commensurate with the class location.
13. The CPSD report finds that “where PG&E had not identified a change in class location that occurred prior to the June 30, 2011, Class Location Study Report, it did not perform a class location study under Section 609 at the time of the class location change.”
14. PG&E own witness agreed that B.31.1.8 section 811.27 H was “essentially the same” as section 49 CFR § 192.107(b).
15. PG&E’s attempts to obfuscate the issue by asserting a distinction based on whether the pipe segment was installed before or after the effective date of the federal regulations.
16. PG&E witness Zurcher agreed that in order to ensure safe operations, an operator’s conservative assumptions must be based on “reasonable information,” and that inaccurate data could undermine an operator’s use of conservative assumptions.
17. The degree of conservatism in any assumption is largely dependent upon the operator’s maintenance and operational practices. Here, the Commission has little faith in PG&E’s use of assumed SMYS values given the system-wide deficiencies noted in the public record and the infirmity of PG&E’s record keeping.
18. the NTSB found that PG&E’s GIS and related records “included many obvious errors in key pipeline parameters, including but not limited to seam type, SMYS, and depth of cover.”

19. In order to make any assumptions about the “minimum SMYS represented in the procurement standards from the era in which the pipe in question was purchased,” PG&E must be able to determine the date of manufacture.
20. But, PG&E’s GIS system only tracks the year a pipe was installed, and not the year that a pipe was manufactured.
21. PG&E has admitted that “PG&E does not in all instances know where reconditioned pipe has been placed in its transmission system.
22. In the 1920s and 1930s, PG&E used A.O. Smith pipe in its transmission system. This pipe is often referred to as PG&E Spec. pipe. A.O. Smith made only one type of pipe in the 1920s and 1930s -- flash welded pipe.
23. PG&E’s GIS does not track where its salvaged or reconditioned pipe is located. PG&E has admitted that “PG&E has not located any written policies in place prior to September 10, 2010 for tracking salvaged or reused pipe,” “PG&E has not identified inventory records that specifically track the receipt and/or storage of salvaged or reconditioned pipe or pipeline material,” and “PG&E did not in the past capture data identifying reconditioned pipe in the gas transmission system in its databases.”

Appendix B

Proposed Conclusions of Law

1. PG&E made many admissions in its filings in this proceeding. Each admissions constitutes a violation of PG&E's obligation to provide safe and reliable service.
2. PG&E concedes that the violations are not isolated instances, i.e. the violations are the result of systemic failure to comply with safety regulations.
3. Ineffective and unused procedures provide the illusion that safety operations and maintenance are being performed when, in fact, they are not.
4. Each and every instance in which PG&E's operations were not in compliance with the applicable safety regulations and standards constitutes a failure to provide safe and reliable service.
5. Each day PG&E failed to correct its conduct also constitutes a continuing violation.
6. As originally enacted, the code of federal regulations included a section 192.607. That section required operators to complete a study to determine the then-present class location and ensure that the MAOP was commensurate with the class locations, as required by section 192.611. Operators were required to complete this initial determination by January 1, 1973.
7. If there were changes in class location after April 15, 1973, those changes would be governed by sections 192.609 and 192.611. These are continuing obligations for a pipeline operator.
8. Whenever there is a change in class location, the operator must confirm or revise the MAOP pursuant to 49 CFR § 192.611.
9. Pursuant to 49 CFR § 192.613, an operator is required to perform "continuing surveillance of its facilities to determine and take appropriate action concerning changes in class location, failures, leakage, history, corrosion, substantial changes in cathodic protection requirements, and other unusual operating and maintenance conditions." This requirement applies to all transmission lines, not just those in high consequence areas.

10. PG&E admission that it was unaware of changes in class location when they occurred showed that PG&E did not perform the requirements of sections 192.609, 192.611, and 192.613.
11. Ignorance of whether there has been a change in class locations does not mean that the operator does not have an obligation to confirm or revise the MAOP. Each and every instance where PG&E failed to identify a change in class constitutes a violation.
12. when PG&E has missing or incomplete documentation for a pipeline's Specified Minimum Yield Strength (SMYS) the legal requirement is clear. PG&E must use an assumed SMYS of 24,000 psi.
13. If PG&E had been faithfully complying with the ASA standard in 1955, based on PG&E's admission that it has been following the ASA B.31.1.8 standard since 1955, it should have used assumed SMYS values of 24,000 psi for all pipe of unknown specifications installed after 1955.
14. Simply because other operators also violate the law does not excuse PG&E from compliance.
15. it is unreasonable to believe that PG&E has "reasonable information" upon which it can make conservative assumptions for SMYS values above 24,000 psi .
16. Because PG&E's GIS database makes no distinction between the date of manufacture, the date of installation for new pipe, or the date of installation for reconditioned pipe, trying to make any conservative assumptions regarding the procurement standards of a given era is unreliable.
17. The usefulness and accuracy of PG&E's records fell below the standard of safe and reliable service
18. Even if PG&E knows the manufacturer, if it only knows the date the pipeline was installed, and not the date the pipe segment was originally manufactured, then such reference to the historical manufacturing techniques is speculation at best.
19. where PG&E knows that it has the older A.O. Smith pipe, and PG&E should not use an assumed SMYS value of higher than 24,000 psi for those segments.

20. If PG&E does not know where its reconditioned A.O. Smith pipe is located, a conservative assumption is to suspect that for any segments where PG&E does not know the pipe specification, that segment may contain older reconditioned A.O. Smith pipe.
21. Because PG&E does not track the manufacture date for its pipeline segments, it cannot be sure that pipeline segments installed at later dates are not in fact comprised of older A.O. Smith pipe.
22. This additional degree of uncertainty in PG&E's system further supports use of a maximum assumed SMYS value of 24,000 psi.