BEFORE THE PUBLIC UTILITIES COMMISSION

OF THE STATE OF CALIFORNIA

Order Instituting Rulemaking on the Commission's Own Motion to Adopt New Safety and Reliability Regulations for Natural Gas Transmission and Distribution Pipelines and Related Ratemaking Mechanisms.	Rulemaking 11-02-019 (Filed February 24, 2011)

OPENING BRIEF OF THE UTILITY REFORM NETWORK IN RESPONSE TO THE 'SUBSTANTIVE' ORDER TO SHOW CAUSE CONCERNING THE RELIABILITY OF THE RECORDS OF PACIFIC GAS AND ELECTRIC COMPANY

Thomas J. Long, Legal Director

THE UTILITY REFORM NETWORK
785 Market Street, Suite 1400
San Francisco, CA 94103
(415) 929-8876 (office)
(415) 929-1132 (fax)
TLong@turn.org
Marcel@turn.org

January 17, 2014

TABLE OF CONTENTS

TABLE OF AUTHORITIES

California Public Utilities Code

California Public Utilities Commission Decisions

California Public Utilities Commission General Orders

Federal Regulations

SUMMARY OF RECOMMENDATIONS

1. The Commission should find that PG&E has not made a competent demonstration that the pipeline features that were supposedly validated in PG&E's MAOP Validation process are reliable.
2. The Commission should order PG&E's shareholders to fund a thorough and independent third-party review of the reliability of PG&E's documented pipeline specifications. The review should include a top-to-bottom assessment of where errors or unduly aggressive assumptions could have entered into PG&E's MAOP Validation process and should recommend measures to ferret out, at a minimum, all consequential errors, *i.e.,* "Type 5" and "Type 4" errors.
3. A particular focus of this review should be the problems caused by PG&E's inadequate information about the use of reconditioned pipe in its system and PG&E's practice of recording the date of installation, rather than the date of manufacture when using reconditioned pipe. In light of this issue, the review should recommend whether PG&E needs to be more conservative in the assumptions it makes when traceable, verifiable and complete records are unavailable.
4. At this time, the Commission should not suspend its Fall 2011 orders authorizing increased operating pressures, in light of PG&E's implementation of reductions to its maximum allowable operating pressures (MAOP) to the lower of the properly calculated Design MAOP (using corrected pipeline feature specifications and the corrected interpretation of the "one-class out" rule) and Test MAOP. However, the Commission should modify Ordering Paragraph 1 of Decision 11-12-048 to reduce the allowed MAOP for Line 101 to 330 pounds per square inch gauge.

I. INTRODUCTION

In accordance with the direction of Administrative Law Judge ("ALJ") Bushey at the conclusion of the December 16, 2013 hearing on this matter,[1] The Utility Reform Network ("TURN") submits this opening brief regarding the August 19, 2013 Order to Show Cause of the Assigned Commissioner and Assigned Administrative Law Judge to Pacific Gas and Electric Company ("PG&E") ("Substantive OSC" or "OSC").[2]

Based on the revelation that PG&E's supposedly validated pipeline features documentation for several segments of Line 147 reflected incorrect and overly aggressive assumptions, the Substantive OSC appropriately asks whether PG&E's records are reliable. Contrary to PG&E's September 6, 2014 testimony claiming that the Commission has no reason to be concerned about the reliability of PG&E's pipeline features list, the record of this proceeding shows that: (1) PG&E discovered all of the Line 147 errors by happenstance, not as a result of PG&E quality control or quality assurance efforts; (2) errors of the type that PG&E discovered undermine safety by allowing excessive operating pressures and preventing the correct targeting of risk mitigation efforts in Integrity Management and the Pipeline Safety Enhancement Program ("PSEP"); and (3) PG&E's own analysis shows that many more similarly consequential errors may be lurking undetected in PG&E's pipeline features list. Thus, PG&E has failed to demonstrate that its pipeline features records are sufficiently reliable to promote the safe operation of PG&E's gas transmission system.

---

[1] Vol. 20, Reporter's Transcript ("RT"), p. 3259.

[2] The full title of the August 19, 2013 Ruling is *Ruling of Assigned Commissioner and Assigned Administrative Law Judge Directing Pacific Gas and Electric Company to Appear and Show Cause Why All Commission Decisions Authorizing Increased Operating Pressure Should Not Be Stayed Pending Demonstration That Records Are Reliable*. This Order has been referred to as the "Substantive OSC" to distinguish it from another Order to Show Cause issued the same day relating to Rule 1.1 violations and that was the subject of Decision (D.) 13-12-053.

To address the ongoing reliability problems with PG&E's records, TURN recommends that the Commission order PG&E's shareholders to fund a thorough and independent third-party review of the reliability of PG&E's documented pipeline specifications. At this time, TURN does not request any further reductions to the reduced operating pressures that PG&E has already implemented for Lines 101, 147 and 132A.

II. BACKGROUND

A. Summary of the Order to Show Cause

The Substantive OSC was issued in response to PG&E's July 3, 2013 "errata" submission, in which PG&E acknowledged for the first time in the record of this case that, because of records errors and a change in legal interpretation, the Commission's previously adopted maximum allowable operating pressure ("MAOP") for Lines 147 and 101 of 365 pounds per square inch gauge ("psig") in D.11-12-048 was excessive and should be reduced to 330 psig.

The heart of the Substantive OSC was a lengthy discussion beginning at page 4 regarding the "continuing inaccuracy of PG&E's natural gas transmission system records." The Substantive OSC explained that D.11-12-048 adopted PG&E's recommended MAOP of 365 psig, which relied on an erroneous pipeline features analysis in PG&E's MAOP Validation effort. The incorrect analysis showed certain segments of those lines as being seamless or double-arc welded, when in fact the seam welds were of lower quality. Revising the joint efficiency factor in the design MAOP formula to reflect the inferior seam welds produced a lower MAOP of 330 psig, which is the new MAOP that PG&E has implemented. The Substantive OSC found it particularly troubling that PG&E came to discover its pipeline feature errors for Line 147 in connection with a "fortuitous" leak repair, noting that "but for the happenstance of a leak and astute observations by repair technicians, this error would not have

come to light."[3] The OSC concluded this discussion by stating that, nearly three years after the San Bruno tragedy "and the expenditure of hundreds of millions of dollars for record review and validation," the facts set forth in the July 3, 2013 submission regarding the continuing inaccuracy of PG&E's records is "profoundly troubling."[4]

In its final section, the Substantive OSC ordered PG&E to show cause why "all orders issued by this Commission authorizing increased operating pressures should not [be] immediately suspended pending competent demonstration that PG&E's natural gas system records are reliable."[5] The orders referenced apparently included D.11-12-048, which authorized PG&E to increase MAOP on Lines 101, 132A and 147 from 300 psig to 365 psig and D.11-10-010, which allowed PG&E to increase the MAOP on the suction side of the Topock Compressor Station from 528 psig to 660 psig. If this proposed suspension order were carried out, the MAOPs for Lines 147 and 101 would be reduced to 300 psig, further below the reduced operating pressure (330 psig) that PG&E announced it had implemented in the July 3, 2013 "errata" submission.

The OSC's proposed suspension order seemed at odds with another section of the OSC entitled "Public Safety of Lines 147 and 101," in which the OSC stated that the Commission's Safety and Enforcement Division ("SED") had "confirmed" that it would be safe to operate Lines 147 and 101 at the reduced operating pressures indicated in PG&E's July 3, 2013 "errata," *i.e.,* 330 psig. This section of the OSC went so far to state that SED "agreed that all public safety issues have been addressed by PG&E's operational actions" and that the "public safety issue"

[3] Substantive OSC, pp. 5-6.
[4] *Id.*, p. 6.
[5] *Id.*

had thus been addressed.[6] Thus, the proposed order to suspend the Commission's previous pressure restoration decisions seemed in tension, if not outright conflict, with the OSC's apparent conclusion that there were no safety issues as long as PG&E operated its pipelines commensurate with the reduced MAOPs warranted by the records errors it had discovered, a step PG&E had already agreed to implement.

In sum, the Substantive OSC raised important and disconcerting issues about the continuing inaccuracy of PG&E's records. However, the OSC proposed a puzzling remedy that seemed out of synch with the identified, "profoundly troubling" records concerns and, in fact, at odds with the conclusions of the Commission's Safety Division.

B. Summary of PG&E's Testimony at the September 6, 2013 Order to Show Cause Hearing

PG&E opposed the proposed suspension order in the OSC on three main grounds. First, PG&E stated that reducing operating pressures as proposed could have adverse impacts on gas and electric users on unusually cold winter days, when there would be a potentially high risk of curtailing supply to noncore customers such as schools, hospitals and power plants.[7] Second, PG&E asserted that recent pressure tests provided assurance that it is safe to operate Lines 147 and 101 at 330 psig.[8]

Third, PG&E's witnesses defiantly took the position that the OSC had no basis for concern regarding the quality of PG&E's pipeline records and its MAOP Validation efforts, going so far as to claim that PG&E has "some of the strongest records . . . in the business."[9] Rather than admit that the incorrect MAOP validation information for Segments 109, 103, 103.1,

---

[6] *Id.*, pp. 3-4.
[7] 16B RT 2435-2438 (Johnson/PG&E); Ex. OSC-4, Slide 5.
[8] 16B RT 2433 (Johnson/PG&E).
[9] 16B RT 2438 (Johnson/PG&E).

and 106 in Line 147 indicated a breakdown in the process or any type of problem, PG&E brazenly claimed that the discovery of the errors showed that its MAOP Validation process was working properly and was in fact a "model of find it and fix it."[10] Further, PG&E directly denied the OSC's finding that PG&E's discovery of the several MAOP Validation errors for Line 147 was fortuitous. PG&E's witness Mr. Singh argued that PG&E discovered the errors as a result of a leak survey process that was part of "our normal ongoing process for operations and maintenance."[11] As will be shown below, there was nothing routine or ongoing about the happenstance series of events that led to the discovery of the MAOP Validation errors that caused PG&E to understate the correct MAOP for Line 147.

As we will discuss further in the next Section, PG&E's steadfast refusal to admit any problems with its MAOP Validation effort at the September 6, 2014 hearing should only intensify the Commission's "profound" concerns about the quality of PG&E's records. Although PG&E claims to have created an "open and transparent" safety culture,[12] it chose to deny and obfuscate obvious failures in its MAOP Validation efforts, raising the deeper concern that there are even more serious reliability problems that PG&E is unwilling to publicly acknowledge.

[10] 16B RT 2448 (Singh/PG&E). Mr. Singh repeated the refrain "find it and fix it" many times in his testimony; in fact, Mr. Singh's testimony was replete with clichés and slogans ("because when it comes to safety, our work is never done" (16B RT 2446)) that smacked of public relations spin, rather than genuine introspection about the reliability of PG&E's records.
[11] 16B RT 2447 (Singh/PG&E).
[12] 16B RT 2469 (Singh/PG&E).

III. PG&E'S OSC TESTIMONY FAILED TO DISPEL CONCERNS RAISED BY THE TROUBLING REVELATIONS OF ITS ONGOING RECORDS PROBLEMS

A. The Line 147 Records Errors Were the Worst Kind of Error In That They Caused the MAOP to Be Excessive

PG&E's September 6, 2014 testimony downplayed a critical fact – that, because of the failure of PG&E's MAOP Validation process to use appropriately conservative values for several segments, the resulting errors caused the MAOP for those segments – and hence for all of Line 147 – to be excessive. These failures prevented MAOP Validation from serving a key purpose of providing a safety check on PG&E's MAOPs and allowed PG&E's Line 147 MAOP to be significantly higher than PG&E now acknowledges it should have been.

The MAOP impact of PG&E's Line 147 errors is neatly summarized in the table in Attachment 1 to Exhibit I, PG&E's response to SED's data request 003-Q6. The table compares the pipeline features specifications that PG&E used in its October 2011 submission to the Commission with the corrected ("updated" is the spin PG&E prefers) specifications that PG&E is now using. There is no dispute that the October 2011 specifications were the result of MAOP Validation, a process that was supposed to double-check and confirm all specifications against traceable, verifiable and complete records, and, where such records were unavailable, to use conservative assumptions. The "Long Seam" and "Joint Efficiency Factor" columns in the table shows that, for four segments (103, 103.1 103.6 and 109), the October 2011 specifications were aggressive, not conservative, in that they assumed a stronger seam weld with a 1.0 joint efficiency factor, rather than the weaker welds with a 0.8 factor that PG&E now knows to be appropriate. Correcting the joint efficiency factors for these segments resulted in significantly reduced Design MAOPs, calculated using the formula in 49 C.F.R. Section 192.105.[13] With

[13] 16B RT 2455 (Singh/PG&E), 20 RT 3098-3099 (Singh and Johnson/PG&E).

respect to Segments 109, 103.1 and 103.6, the reduced Design MAOP was well below the 365 psig MAOP that the Commission adopted, at PG&E's behest, in D.11-12-048.[14] In other words, for these three segments, PG&E's MAOP Validation errors were highly consequential in that, had PG&E used appropriately conservative specifications, the resulting Design MAOPs would have dictated a lower overall MAOP. These were precisely the types of errors that MAOP Validation was supposed to avoid.

PG&E concedes that, based on this corrected information, the MAOP for Line 147 should be reduced to 330 psig, the Design MAOP for Segment 109. This is because PG&E uses the lowest of Design MAOP, Test MAOP (*i.e.*, based on a strength test), and the MAOP of Record to establish the overall MAOP for a pipeline.[15]

Although PG&E did not volunteer such information, TURN's cross examination showed that the MAOP Validation errors for Segments 109, 103.1 and 103.1 were the most serious type of MAOP Validation errors PG&E could make. Internally, PG&E calls these "Type 5" errors (with Type 1 being the least consequential and Type 5 being the most consequential) to refer to errors that caused PG&E to establish an excessive MAOP.[16]

---

[14] Ex. I, Att. 1. The corrected Design MAOP for Segment 109 is 330 psig and for Segments 103.1 and 103.6 is 343 psig.

[15] 16B RT 2455-2457 (Singh/PG&E); Ex. OSC-7 ("PG&E uses the lowest value of MAOP of Test, MAOP of Design and the MAOP of record, to establish the MAOP of the section of pipeline").

[16] 20 RT 3127-3128 (Singh/PG&E) (referencing Mr. Singh's October 29, 2013 Prepared Testimony in A.13-10-007, PSEP Update Application, p. 3-12). PG&E's witnesses suggested that the company will argue that it is not *legally required* to use the lowest of Design and Test MAOP for pipe installed prior to the effective date of the federal rules in 1970. This argument ignores the fact that using the lesser of Design MAOP and Test MAOP has been the industry standard since at least 1955 in accordance with ASME B31.8 (1955), Section 845.22. This industry standard became a California requirement in General Order 112 in 1961. Consequently, beginning at least since 1955 and continuing to the present, PG&E's obligations under Public Utilities Code Section 451, GO 112, and the federal rules have required PG&E to use the lesser of Design and Test MAOP.

Internal e-mails also show that PG&E viewed the Segment 109 error as exactly the type of mistake that MAOP Validation was supposed to prevent. In a November 17, 2013 e-mail to fellow engineers, David Harrison, PG&E's chief engineer for MAOP Validation,[17] characterized the surprise discovery of the inferior seam weld on Segment 109 as a cause for high concern in the ranks of upper management: "At the executive level this situation is considered a 'near hit' from a safety perspective that could have severely damaged the company's credibility."[18] In cross-examination, Mr. Harrison acknowledged that, at the time of that e-mail, PG&E relied on an interpretation of the "one-class out" rule that did not require reducing the MAOP, which is why he used the term "near hit." However, PG&E has since changed its interpretation of that rule, necessitating reducing the MAOP for Line 147 to 330 psig. With this changed interpretation, Mr. Harrison now agrees that the mistake was an actual "hit" from a safety perspective.[19] On this point, Mr. Harrison concluded his testimony as follows:

> Q. So from your perspective, this is exactly what you don't want to happen in an MAOP validation. You don't want to find out that a supposedly validated MAOP needs to be corrected to a lower MAOP, isn't that right?
>
> A. That's right. Absolutely.[20]

B. All of the Consequential Pipeline Feature Errors Were Discovered As a Result of the Happenstance Discovery of the Leak on Segment 109

As noted above, PG&E claimed at the September 6, 2013 evidentiary hearing that the Substantive OSC was wrong to characterize PG&E's discovery of its MAOP Validation errors as fortuitous. Instead, PG&E asserted that it learned about the errors through a "normal ongoing

[17] 18 RT 2931 (Harrison/PG&E).
[18] Ex. M.
[19] 18 RT 2942-2943 (Harrison/PG&E).
[20] 18 RT 2944 (Harrison/PG&E).

process for operations and maintenance."[21] The record shows that the OSC is correct and PG&E is wrong. In fact, had a water main near Segment 109 in October 2012 not been in need of repair, it is entirely possible that PG&E would still be unaware of the consequential MAOP Validation errors that caused the Line 147 MAOP to be excessive.

A PG&E data request response shows that the single event that led to the discovery of the pipeline features errors for several Line 147 segments was *a water main repair by a water utility* in the vicinity of Segment 109. Because of that work near a PG&E gas line, a PG&E gas crew leader was stationed near the pipeline ("performing a standby" in PG&E parlance). The PG&E employee noticed bubble formations in the pooled water (one small bubble every 30 seconds) resulting from the water leak and smelled a faint odor of gas, which caused him to report a leak that PG&E ultimately confirmed and investigated.[22]

Thus, the gas leak was not detected as a result of a scheduled leak survey initiated by PG&E, but rather because of a happenstance (from PG&E's perspective) water main leak.[23] Despite the great pains PG&E's witnesses took to try to suggest that the discovery of the MAOP Validation errors would have happened in the normal course of events, the fact remains that, absent the water main repairs, PG&E might not have sent someone out who would have discovered the Segment 109 leak.[24]

The discovery of the gas leak in Segment 109 set in motion the following chain of events: (1) PG&E exposed Segment 109 and discovered that its long-seam weld was not double

---

[21] 16B RT 2447 (Singh/PG&E). Similarly, the August 30, 2013 Verified Statement of Mr. Johnson ("Verified Statement"), paragraph 25, claimed that a "routine PG&E leak survey" started the chain of events.
[22] Ex. D (response to ORA Data Request 086-Q40).
[23] 17 RT 2641 (Johnson/PG&E).
[24] 17 RT 2641 (Johnson/PG&E) ("If [the water utility] hadn't called us . . ., it's hard to know whether or not we would have sent somebody out there.")

submerged arc weld ("DSAW") as shown in PG&E's documented specifications, but an inferior A.O. Smith vintage that required using a lower joint efficiency factor in the Design MAOP formula;[25] (2) PG&E performed a "root cause" analysis to see why its MAOP Validation process had failed to use an appropriate conservative assumption for the Segment 109 long-seam weld and discovered that, despite quality control ("QC") and quality assurance ("QA") elements built into the process, PG&E's engineer had still reached an incorrect conclusion;[26] (3) when PG&E realized that the MAOP Validation process had yielded incorrect and overly aggressive documented specifications for Line 109, PG&E decided it needed to re-examine the accuracy of the supposedly validated pipeline specifications for the entirety of Line 147;[27] and (4) in that re-examination, PG&E learned about more seam weld errors for Segments 103, 103.1 and 103.6, resulting in re-calculated Design MAOPs for Segments 103.1 and 103.6 that were below PG&E's Commission-approved MAOP of 365 psig.[28]

In sum, the discovery of all of the pipeline specification errors in Line 147 flowed solely and directly from the happenstance October 2012 water main leak near Segment 109. Those errors happened in a process that was supposed to use conservative values when documentation to support a definitive specification was unavailable and that was supposed to have built-in QC/QA measures to prevent such mistakes.[29] The record shows that the Substantive OSC was fully justified in finding that PG&E's discovery of the Line 147 errors was entirely fortuitous

[25] Verified Statement, pars. 27-29.
[26] Verified Statement, pars. 31, 35-36; 20 RT 3105-3106 (Singh/PG&E).
[27] 20 RT 3105 (Singh/PG&E).
[28] Verified Statement, pars. 39-42.
[29] Verified Statement, par. 37; 16B RT 2444 (Singh/PG&E). Although PG&E claims to have added more and better QC/QA processes after December 2011, PG&E's track record should lead the Commission to not trust that these processes will work in all, or even most instances.

and "profoundly troubling" in light of all the time and money that PG&E has poured into record review and validation.

C. PG&E's Own Analysis Shows There May Be Many More Undetected, Consequential Errors in PG&E's Pipeline Features List

At the September 6, 2014 evidentiary hearing, PG&E's witness Mr. Singh briefly mentioned a post-December 2011 QA statistical sampling analysis that PG&E performed to assess the accuracy of the pipeline features determinations made in the MAOP Validation process. Mr. Singh stated that this analysis showed "an overall error rate" of 0.9 percent,[30] a result that he seemed to believe should comfort the Commission and parties that PG&E's MAOP Validation work should not pose any concerns. For a variety of reasons discussed below, the Commission should not find these results comforting and, instead, should consider this analysis a further reason for continued skepticism regarding the reliability of PG&E's supposedly validated pipeline features.

First, PG&E's September 6, 2013 testimony did not mention that the 0.9% error rate only applied to the so-called Type 5 errors (discussed above). While Type 5 errors are the most serious in that they lead to excessive MAOPs, other type of errors can also be harmful. For example, Type 4 errors reflect the failure to make the required conservative assumption for a feature, but the aggressive assumption does not lead to a reduced MAOP. While such errors do not cause excessive MAOPs, as discussed further in Section III.D below, they can undermine safety by leading to dangerously incorrect outcomes for other PG&E work that depends on reliable pipeline specifications, such as Integrity Management, and Pipeline Safety Enhancement

[30] 16B RT 2466 (Singh/PG&E).

Plan ("PSEP") projects. Mr. Singh did not know the rate for Type 4 errors.[31] Even Type 3 errors, in which an overly conservative value was determined, can be problematic, in that they may cause wasteful spending on unnecessary Integrity Management or PSEP work. Thus, PG&E's testimony failed to give an accurate and complete account of the full scope of MAOP Validation errors that can compromise safety or other Commission objectives.

Second, although Mr. Singh's September 6, 2014 testimony mentioned that a statistical sample was used for this analysis, he did not report the associated probability range and confidence interval. The full results were a 99 percent confidence that the full range of pipeline features would contain a Type 5 error rate, plus or minus 0.6%.[32] Applying this error range to the full population of 12,309 features[33] yields a 99% probability that the full population of pipeline features has somewhere between 37 and 185 of the most serious Type 5 errors.[34] While PG&E says it has corrected the 13 or 14 Type 5 errors found through the QA sample analysis,[35] that still leaves as many as 172 additional Type 5 errors that PG&E's own QA analysis identified as potentially present in PG&E's pipeline features list that PG&E may not even know about. Because each Type 5 error represents a pipeline (or section thereof) that is being operated with an excessive MAOP, the possibility of so many uncorrected errors is not comforting in the least.

Third, PG&E's witnesses tried to underestimate the importance of even Type 5 errors. When confronted with the results of PG&E's own analysis showing as many as 185 pipeline feature errors, Mr. Singh and Mr. Johnson attempted to minimize the unsafe consequences that

[31] 20 RT 3132 (Singh/PG&E).
[32] 20 RT 3130 (Singh/PG&E).
[33] 20 RT 3125-3126 (Singh/PG&E).
[34] 20 RT 3131 (Singh/PG&E).
[35] 20 RT 3129 (Singh/PG&E).

could flow from inaccurate records.[36] Such an attitude does not give confidence that PG&E has developed an appropriate regard for the need for accurate records.

The possibility of many undetected errors in the supposedly validated pipeline features list comes through loud and clear in the e-mails of PG&E's engineers in the field. For example, on November 18, 2012, in the course of preparing the root cause analysis for the Segment 109 MAOP Validation error, one of them wrote to Mr. Harrison:

> From time to time, I have looked at supposedly completed PFL's to gather certain data, and have found blatant errors in assumptions employed during the PFL process. This suggests to me that if management's expectations are a zero error rate for PFL's, the entire database needs a new QC review by people who are better trained than those who performed the QC which failed to catch errors I've subsequently found.[37]

Such e-mails suggest that PG&E failed to adequately train people who played a key role in MAOP Validation, causing errors to be rampant. PG&E has failed to demonstrate in these OSC hearings that the company has taken the necessary steps to root out the consequential errors in its pipeline features list.

D. Pipeline Features Errors Undermine Safety Not Only When They Lead to Excessive MAOPs, But Also By Leading to Incorrect Outcomes in PSEP and Integrity Management

The safety risks posed by incorrect values for pipeline features are not just limited to excessive MAOPs. At a minimum, accurate pipeline features information is integral to effective Integrity Management and to the proper identification of PSEP projects.

---

[36] 20 RT 3131-3132 (Singh and Johnson/PG&E). Mr. Singh contended that pressure tests are what really matters in establishing MAOP, effectively ignoring the role of Design MAOP as a means to validate safe operating pressure. Mr. Johnson argued, with respect to PSEP, that incorrect records could only affect the timing of when work is performed, which, even if true (which is not the case as shown in the next section), ignores the fact that PG&E does not intend to complete its PSEP work for over a decade and that an incorrect pipeline feature could prevent a segment that needs priority attention from getting it for a long time.

[37] Ex. OSC-18, 4th page (second numbered page).

The Integrity Management regulations show the importance of accurate pipeline features information. 49 C.F.R. Section 192.917 outlines the key stages of the program: identifying threats, assessing the threats for the risks they pose, and taking appropriate steps to remediate risks. If the recorded specifications used at any of these stages are not accurate, then threats may not be identified and assessed and safety risks may not be timely addressed.

In addition, ASME B31.8S, incorporated by reference into the Subpart O Integrity Management regulations, expressly highlights the importance of accurate data. Section 4 of that document contains a lengthy discussion of the importance of gathering, reviewing and integrating data in the Integrity Management Analysis. As a specific example, Appendix A to ASME B31.8S, Section A4.2 lists the data sets necessary for assessing manufacturing threats, including seam type and joint factor. Section A4.2 specifically states: "Where the operator is missing data, conservative assumptions shall be used when performing the risk assessment or, alternatively, the segment shall be prioritized higher." Similarly, Section 5.7(e) of ASME B31.8S mandates: "Any data applied in a risk assessment process shall be verified and checked for accuracy . . .. Inaccurate data will produce a less accurate risk result." In sum, the Integrity Management rules emphasize the importance of using accurate pipeline specifications information and conservative assumptions in order to make correct determinations about the threats that need to be addressed and how they should be mitigated. Errors or aggressive assumptions could prevent dangerous threats from being identified, assessed and mitigated.

PG&E's PSEP program also needs accurate information to determine the appropriate safety measures and the timing of those measures. The decision trees in Appendix C to D.12-12-030 show that key determinations turn on PG&E's information about pipeline features. For example, the outcome of boxes ID, 1E, 1F and 1G all depend on accurate information about

seam welds. Incorrect information that a weld is seamless or DSAW could cause a pipe segment that warrants priority replacement to not be addressed until the latter years of "Phase 2", which could last a decade or longer.[38] Similarly, Boxes 2B and 2E also depend on accurate information about girth welds and other pipeline characteristics; wrong information could again cause a pipeline segment that should be replaced right away to be deferred to Phase 2 hydrotesting. Similar adverse safety consequences could flow from incorrect records regarding the date of manufacture of the pipe, which is a key decision point in Boxes 2A and 1C. Mr. Harrison acknowledged that PG&E's records focus on date of installation rather than date of manufacture, which can be a problem when previously used pipe is reconditioned and re-installed 20 or 30 years after its original manufacture.[39]

In light of the important Integrity Management- or PSEP-driven work that will not get done when PG&E's pipeline features list has undetected Type 4 and 5 errors of the type fortuitously discovered on Line 147, PG&E's suggestion that strength tests obviate concerns about poor records is disconcertingly myopic.

E. PG&E Continues to Show More Concern for Its Company Image Than For Demonstrating in a Transparent Manner That It Is Proactively Fixing Its Mistakes

At the September 6, 2014 afternoon hearing, PG&E seemed intent on convincing the Commission that the Line 147 MAOP Validation errors were: (1) inconsequential to safety, and (2) a routine and expected occurrence. Both responses are troubling.

---

[38] A segment, like Segment 109, that is incorrectly identified as having a DSAW weld could be mistakenly deferred to strength testing late in Phase 2 under Box F3, when accurate weld information could compel Phase 1 replacement under Box M2.

[39] 20 RT 3250-3251 (Harrison/PG&E).

First, the foregoing has shown that Type 5 errors cause MAOP to be higher than it should be under PG&E's own policies. Unless PG&E wants to argue that its practice of basing MAOP on the lowest of Design and Test MAOPs serves no safety purpose, then it is obvious that an excessive MAOP poses a safety concern. Moreover, the foregoing has also shown that excessive MAOPs are not the only safety problem resulting from MAOP Validation errors.

Second, it does not help to restore confidence in PG&E's safety commitment when PG&E tries to excuse its own mediocre (at best) performance in MAOP Validation, an important program that is part of a package of mandates from the Commission and NTSB to rectify PG&E's recordkeeping deficiencies. PG&E's defense that records errors are inevitable and that, eventually, the company will find them, smacks of a disturbingly passive attitude.

Internal e-mails and Mr. Harrison's oral testimony suggest that PG&E's upper management knows better than it chose to initially acknowledge in this case that Type 5 MAOP Validation errors should not be acceptable. Unfortunately, as shown by Mr. Harrison's November 17, 2012 e-mail – "At the executive level this situation is considered a 'near hit' from a safety perspective that could have severely damaged the company's credibility"[40] – upper management still appears to place excessive focus on its corporate image. If the company really wants to show that it has adopted the necessary safety culture, it should forthrightly admit its consequential mistakes and explain how it is mitigating the attendant safety risks, rather than denying that the errors undermine safety. TURN expects that, in the long run, such an approach would be far more beneficial to the company's credibility than the current focus on short-term damage control.

[40] Ex. M.

IV. AT THIS TIME, TURN DOES NOT RECOMMEND FURTHER REDUCTIONS TO THE OPERATING PRESSURES OF THE PRESSURE RESTORATION LINES

Although TURN has ongoing concerns about the reliability of PG&E's supposedly validated pipeline features list, TURN does not recommend any further reductions to the MAOPs for the "pressure restoration" lines at this time.[41] PG&E has agreed to reduce the MAOP for Lines 101 and 147 to the MAOPs determined by the lower of the corrected Design MAOP and Test MAOP, Moreover, PG&E has appropriately (albeit belatedly) recognized that its previous interpretation of the "one-class out" rules in 49 C.F.R. Section 192.611 was incorrect, requiring reduction to its Design MAOPs. As long as Design MAOPs are calculated using validated specifications and, when necessary, appropriately conservative assumptions, TURN believes that PG&E's practice of basing MAOP on the lower of Design and Test MAOPs is sufficient to ensure safe MAOPs. TURN has seen no evidence that there are Type 5 MAOP Validation errors for the other pressure restoration lines, and, absent such evidence, does not recommend suspending the pressure restoration orders. (Of course, should PG&E find such evidence, it should promptly disclose it on the record of this case in an appropriate pleading.) In reaching the conclusion that no further pressure reductions are warranted, TURN is mindful of PG&E's

[41] Indeed, as noted above, the Substantive OSC Ruling itself seemed to make the case against the need for any further MAOP reductions beyond those that PG&E had already implemented. TURN believes that many of the procedural and scoping challenges encountered in this Substantive OSC proceeding could have been avoided if the Commission had not issued an OSC focused on whether to suspend the pressure restoration orders (a remedy the Ruling did not even seem to want), but rather a more general order directing PG&E to address the questions raised about the quality of its MAOP Validation work and inviting PG&E and the parties to discuss going-forward measures to ensure that PG&E's pipeline features records are appropriately reliable.

testimony about the potential adverse impacts on customers of curtailments that could result from further pressure reductions.[42]

However, the Commission should formalize PG&E's reduced MAOP for Line 101 by ordering that Ordering Paragraph 1 of D.11-12-048 should be modified to reduce the approved MAOP of Line 101 from 365 psig to 330 psig. (The Commission has already formalized the reduced MAOP for Line 147 in D.13-12-042.

For the reasons set forth in Section III, the Commission should reject PG&E's claim that there is no reason to be concerned about errors in PG&E's pipeline features records. TURN's going-forward recommendations to address the continuing reliability problems with those records are set forth in the next Section.

V. THE COMMISSION SHOULD ORDER A FULLY INDEPENDENT ASSESSMENT, FUNDED BY PG&E'S SHAREHOLDERS, OF THE RELIABILITY OF PG&E'S PIPELINE FEATURES RECORDS

Section III has shown that there is ample reason to believe that there are many other undetected and consequential errors in PG&E's supposedly validated pipeline features list, beyond the Line 147 errors that PG&E discovered by happenstance. Although PG&E seems to think the problematic specifications will be discovered in due time, the Commission should not allow years to pass before these errors are discovered. Many important decisions and actions – about MAOP, Integrity Management, and PSEP work – are being made right now that depend on accurate and duly conservative information.

[42] TURN's conclusions regarding MAOP are based on the MAOPs that are justified by PG&E's records. Other parties, such as the City of San Carlos, have suggested there are other reasons to require lower operating pressures. TURN has not examined their presentations and therefore is not taking a position on them.

Accordingly, the Commission should order a thorough, independent third-party review of the reliability of PG&E's documented pipeline specifications. The review should include a top-to-bottom assessment of where errors or unduly aggressive assumptions could have entered into PG&E's MAOP Validation process and should recommend measures to ferret out, at a minimum, all consequential errors, *i.e.,* Type 5 and Type 4 errors. "Independent" means an outside person or firm which does not have any current contracts with PG&E, whose revenue is obtained mostly from entities other than pipeline operators, and which otherwise shows an openness to all conclusions based on the facts that are uncovered, including conclusions with which PG&E may disagree. The person or firm should report to the Commission and should be funded by PG&E shareholders.

A particular focus of the review should be the problems caused by PG&E's inadequate information about the use of reconditioned pipe in its system and PG&E's practice of recording the date of installation, rather than the date of manufacture when using reconditioned pipe. As noted above, if PG&E does not know where it has used reconditioned pipe, then it may need to be more conservative in the assumptions it makes when traceable, verifiable and complete records are unavailable.

If the Commission is not prepared to adopt these recommendations based on this record at this time, then it should open a new phase in this docket to consider these and other recommendations parties may have to address the ongoing reliability problems of PG&E's records.

VI. CONCLUSION

For the reasons set forth above, the Commission should adopt the recommendations in TURN's Summary of Recommendations at the beginning of this brief.

Date: January 17, 2014

Respectfully submitted,

By: _____/s/_____
Thomas J. Long

Thomas J. Long, Legal Director
THE UTILITY REFORM NETWORK
785 Market Street, Suite 1400
San Francisco, CA 94103
Phone: (415) 929-8876 x303
Fax: (415) 929-1132
Email: TLong@turn.org