

Index no. 3069 - Media Inquiry - Chronicle - 7/13

3069.01: He knows Bob Howard retired last year. Do Bob Fassett and Glen Carter still work for PG&E? (he just wants to say "former" or "current" employees, but note that he will likely reference them by name).

Response: Both Mr. Fassett and Mr. Carter are retired from PG&E.

3069.02: When PG&E management received this report, what did they do?

Response: When senior management became aware of this report in April 2008, it was immediately terminated because of concern that local supervision might assume that it was appropriate to use the report to downgrade leaks without proper review and field investigation.

3069.03: Was there any kind of communication to the gas ops teams about this and, if so, can we provide a copy?

Response: While we have found documentation to confirm the termination of the report, PG&E has not yet found a formal communication to the organization about its termination. The ability to generate the report was eliminated on the same day that senior management became aware of its existence. Additionally, just prior to learning about the existence of the report, PG&E had completed a retraining of all leak surveyors in the proper detection and grading of leaks.

3069.04: What does this report mean to us?

Response: The report was a tool that was used by engineers to support management of the leak monitoring and repair program. The report provided high level trend data that the divisions could use to evaluate identified Grade 2 and Grade 2+ leaks and potentially trigger more detailed analysis and evaluation of specific leaks to determine if they had been appropriately graded. The cost information that was provided on the report was based on assumptions and trends. Leaks that might have been conservatively graded would have been resurveyed to validate the grade. Before a leak would have been downgraded, a field recheck would have been performed to determine the appropriateness of the potential downgrade. The leak would not have been downgraded based on a "desk review" of the data.

3069.05: Why would we downgrade these leaks if they were at the higher end of the gas concentration spectrum – more than 2%?

Response: The report provided trend analysis and used assumptions based on the trends. The report was developed as an aid to the divisions to help them see grading trends and practices throughout the system. There was never a directive to downgrade leaks, merely a request to observe the trends, percentages.

Leak grades are not solely based on gas concentration. The leak location and other criteria are used to grade gas leaks. For example, a 4% reading in a subsurface gas facility where the gas may migrate to within five feet of a building is a grade 1, while a 4% reading in a well vented more densely populated location is a grade 2. A reading of 2% gas concentration does not automatically dictate the grade of the leak.

3069.06: Any other information we can provide him to give context would be very helpful.

Response: PG&E's objective is to find and fix gas leaks quickly and well within the compliance standards set for each type of gradable leak (described below).

Pipeline safety regulations require PG&E to conduct periodic or routine leak surveys on its distribution systems to find gas leaks. The frequency depends on the local conditions where the pipe is installed and the material or operating condition of the pipe itself.

PG&E's current gas distribution leak survey cycles are as follows:

Six months:

- Substations

Annual:

- Business districts;
- High public assemblies (e.g., schools);
- Atmospheric exposed mains;
- Bare steel mains.

Three-year:

- Copper services;
- Cast iron mains;
- Unprotected steel mains.

Five-year:

- All others

Approximately 94 percent of the distribution system is currently surveyed on a 5-year cycle.

Identified leaks are graded based on a number of factors, including the amount of gas present, the proximity to structures, whether the below ground leak is covered wall-to-wall by concrete or other permanent covering, and whether or not the leak is above- or below-ground. PG&E personnel classify leaks into four grades based on the severity and location of the leak, the hazard the leak presents to persons or property, and the likelihood that the leak will become more serious within a specified amount of time.

- **Grade 1** leaks (also referred to as "hazardous" leaks) represent existing or probable hazards to persons or property and require immediate repair or continuous action until conditions are no longer hazardous.
- **Grade 2+ (Priority Grade 2)** leaks fall below Grade 1 criteria and above Grade 2 criteria. These leaks are non-hazardous to persons or property at the time of detection, but still require a scheduled priority repair within 90 days or less.
- **Grade 2** leaks are non-hazardous to persons or property at the time of detection, but still require a scheduled repair because they present probable future hazards. Grade 2 leaks must be repaired within 15 months, and rechecked every six months until repaired.
- **Grade 3** leaks are non-hazardous at the time of detection and can reasonably be expected to remain non-hazardous. They are re-surveyed and monitored annually, or no later than 15 months, but historically not scheduled for repair (unless they become hazardous). However, PG&E plans to repair Grade 3 leaks within 15 months, rather than recheck them. This will promote both efficiency and safety by limiting the number of visits to the leak site and by repairing the leaks before they have an opportunity to become hazardous.

PG&E's grading rules exceed industry standards, as set by the ASME GPTC Guide for Gas Transmission and Distribution Piping systems, in that PG&E uses a Grade 2+ category with a scheduled priority repair within 90 days.

PG&E is in the process of implementing several leak survey initiatives which will result in more leaks being identified. These initiatives include:

- Using the Picarro Surveyor in one division in 2013, three divisions in 2014, six divisions in 2015 and 10 divisions in 2016;
- Moving from a 5-year to a 3-year survey cycle starting in 2014;
- Using the Picarro Surveyor to perform annual surveys of high-risk pipe starting in 2014; and
- Accelerating the rate of rechecking Grade 3 leaks.

PG&E is acquiring new technology to more efficiently conduct its leak surveys. Multiple Leak Survey Detecting Equipment and Survey Grading Equipment are being upgraded with an all-in-one Heath Detecto Pak-Infrared (DP IR)[™] instrument that self-calibrates, detects gas leaks with fewer false positives, grades leaks, and has wireless communicate ability to transfer information. This instrument is also more sensitive to the presence of gas and performs a higher level of on-board analysis to determine severity/grade of leak, leading to a more accurate survey and associated grading of leaks.

PG&E is the first in the gas industry to begin incorporating a state-of-the-art gas leak detection analyzer, The Surveyor[™], developed by Santa Clara based company Picarro, Inc. into its leak survey program. This equipment is installed in a vehicle and is 1,000 times more sensitive than incumbent leak survey/detection equipment, uses cavity ring down spectroscopy, distinguishes between natural occurring gases to that of natural gas, and otherwise has the possibility to not only increase the efficiency of leak survey, but find gas leaks at a greater rate than incumbent equipment. Unlike incumbent leak detection instruments, The Surveyor[™] picks up trace molecules while driving through neighborhoods and analyzes them for detection of natural gas.

PG&E has a trained and operator qualified workforce that finds and repairs leaks using acceptable industry repair methods and procedures. While some leak repair work is completed on above ground facilities, many leak repairs require excavation to below the surface infrastructure facilities. All work performed is documented for completeness of all activities required to render gas leak repaired and safe.

All PG&E employees and contractors who perform leak surveys are trained and tested in the consistent application of PG&E's policies regarding the grading and repair of leaks. All leak surveyors must pass the test and receive their Operator Qualification before they are allowed to perform leak survey.

Additionally, as part of PG&E's overall push to improve the integrity of its gas system, PG&E initiated a plan early this year to repair all fuzz leaks at gas meter sets (these are very small leaks that do not pose a hazard to life or property) by the end of 2013, and has made significant progress repairing these leaks

- Approximately 150,000 fuzz leaks were documented in our records at the beginning of 2012. PG&E has about 4.4 million gas customers.
- We have repaired 53,546 fuzz leaks at gas meter sets this year through June 30th, and expect to reduce the number of existing fuzz leaks by at least 80,000 in total by the end of 2012.

In addition, PG&E has repaired another 18,529 leaks on its gas systems this year through June 30, 2012. In total to-date for 2012, PG&E has repaired and closed out 72,085 leaks, which substantially improves the integrity of its gas pipeline system.

PG&E has also made quality control (QC) improvements in the leak survey and repair programs. For leak repair, on a random sampling basis, qualified non-PG&E leak surveyors go out 90 days after a documented leak repair and conduct an instrumented sweep of the repair area to see if any gas is present. The 90 day timeline allows for any potential residual gas, which may have accumulated in the ground prior to the repair, to dissipate. The purpose of this quality control leak repair check is to ensure that the repair was made, is an effective repair, and that the documentation is complete and accurate. If any gas is found, then local personnel are promptly notified and the discrepancy is investigated until resolution is achieved.

For leak survey, also on a random sampling basis, a PG&E leak surveyor is selected and a full day of their leak survey work is reviewed by a qualified, non-PG&E, quality control leak surveyor. These QC assessments are performed the day after the original survey in order to minimize the variability of field conditions. The purpose of this quality control leak survey check is to make sure no hazardous leaks were left behind, validate appropriate grading for any other non-hazardous leaks, and ensure the associated documentation is complete and accurate. If a hazardous leak is found an investigation is performed immediately, including repair of the leak.

As PG&E continues to revamp Quality Assurance/Quality Control capabilities as part of the company's top ten priorities for gas operations, the Leak Survey & Repair QC programs will continue to evolve in order to provide an appropriate level of confidence that leak survey and repair activities are being performed safely and in accordance with all governing standards and regulations.