



Pipeline Safety – Recent Actions

Since the September 9, 2010 accident in San Bruno, California, PacificGas and Electric Company has moved in a comprehensive way to improve the safety and operations of our natural gas transmission pipeline system. Our work is continuing as we diligently review our records, monitor, inspect, and test pipelines throughout our entire natural gas transmission pipeline system. PG&E's highest responsibility in 2011 and beyond is to enhance the safety of our operations.

Summary of actions on the natural gas system:

Committed to hydrostatically pressure test or replace approximately 150 miles of pipeline segments in 2011.

Conducted both an aerial laser and ground leak survey of our entire natural gas pipeline transmission system.

Reduced the pressure on pipelines that had segments with characteristics similar to the San Bruno pipeline and had not been pressure tested.

Continued to share detailed information with public officials, emergency response agencies and customers about the locations of our pipelines.

Launched a painstaking, thorough effort to comb through, check and cross-check records and pressure testing data of all our pipelines.

Pipeline Safety Actions

Hydrostatic Pressure Testing

In 2011, PG&E will hydrostatically pressure test or replace approximately 150 miles of pipelines that had segments with characteristics similar to the San Bruno pipeline and had not been pressure tested.

A hydrostatic pressure test involves pressurizing a pipe with water to reveal potential weaknesses.

Hydrostatic testing is a proven method for verifying the capability of a natural gas pipeline to operate at a safe level of pressure (referred to as the maximum allowable operating pressure, or MAOP). Hydrostatic testing is also used to test such familiar items as scuba tanks, fire extinguishers and air compressor tanks.

Beyond this work, PG&E has prioritized further assessment of pipelines for which PG&E has not yet located pressure test records.

Precautionary Pressure Reductions

We reduced the pressure on pipelines that had segments with characteristics similar to the San Bruno pipeline and had not been pressure tested. This was performed as a near-term precautionary step.

Immediate and Ongoing Pipeline Leak Surveys, Inspection and Testing

We have checked every mile of our natural gas transmission pipeline system for leaks, first by aircraft equipped with state-of-the-art laser leak detection technology, then by teams of gas field technicians using handheld leak detectors. In addition, we will be deploying a variety of methods to survey, monitor, and test pipelines on a continuous basis, including:

- > Using pipeline "smart pigs," devices that are inserted into and travel throughout the length of a pipeline.
- > Employing robotically operated cameras to look directly inside pipes.
- > Conducting hydrostatic pressure testing.

For more information about our pipeline safety efforts, visit our website at www.pge.com, or call us at 1-800-743-5000.



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Detailed Pressure Test Records Review

PG&E has records for pressure tests or historical operating pressure on more than 90% of its 1,805 miles of natural gas transmission pipeline near more populated areas. However, our detailed records review indicates that we do not have pressure test information for most of these segments that were installed before the regulations were enacted that required pressure testing. We've retained independent firms to assist us in gathering records and assessing our record validation process.

Since January 2011, we've been tasking teams of engineers to digitize, review and verify more than one million paper records, in addition to scrutinizing newer computerized records. For pipeline segments where we do not have pressure test records, we will be taking extra safety precautions where appropriate. This may include actions such as pressure testing, inserting a camera into the pipeline, excavating and surveying pipe, or replacing pipe if necessary.

Frequently Asked Questions

Is there a transmission pipeline in my neighborhood?

PG&E is committed to providing you with information about the natural gas system that serves your community, neighborhood, home and business. For information about any specific transmission pipeline in your neighborhood visit www.pge.com/pipelinelocations, log on to your account and see a map online or call us at 1-888-743-7431.

How do I know the transmission pipeline in my neighborhood is safe?

PG&E has a comprehensive inspection and monitoring program to enhance the safety of its natural gas transmission pipeline system. PG&E regularly conducts leak inspections, surveys, and patrols of all of our natural gas transmission pipelines. Any issues identified as a threat to public safety are immediately addressed. We do not delay or defer work that is necessary for public safety. We monitor our gas pipeline system operations 24 hours a day, seven days a week.

Why did you reduce pressure in some of your pipelines?

After the accident we reduced the pressure on pipelines that had segments with characteristics similar to the San Bruno pipeline and had not been pressure tested. This was performed as a near-term precautionary step until we can confirm the safety of these pipelines by other appropriate action.

What is Maximum Allowable Operating Pressure?

Carefully regulated pressure is used to move natural gas

often coming from outside California through the pipeline system to deliver it safely to homes and businesses. PG&E controls pressure through a series of safety measures, including pressure regulator stations and overpressure protection devices. These systems operate to keep pressure within specified limits. Federal law requires that we establish a Maximum Allowable Operating Pressure, or MAOP, for all pipeline systems. MAOP includes a wide margin of safety and is set at a fraction of the pipe's calculated strength, which is the minimum pressure at which the pipe is expected to begin deforming. For example, the MAOP for pipelines in areas with more than 45 homes within 220 yards per linear mile on either side of the pipeline is set at no more than half the pipe's calculated strength.

What is your plan for addressing the pipelines with incomplete records?

We are prepared to implement an aggressive plan to field test and replace pipe segments wherever appropriate. Potential field actions could include in-line inspections with "smart pigs," new camera inspection technologies, as well as pressure testing or a combination of actions where appropriate. When indicated by field testing, PG&E proposes to excavate, further inspect and/or replace pipelines. This field testing and potential subsequent remediation will begin immediately.

How long will it take for you to address pipelines with incomplete records?

We are committed to expeditiously addressing any potential safety issues, but we cannot commit to a particular schedule until our review is complete and we have had a chance to analyze the results.

Who is PG&E working with to enhance the safety of the transmission pipeline system?

We are committed to earning back our customers' confidence in the safety of our gas system, but we know we have a long way to go. While we have taken significant steps to improve the safety of our system since the San Bruno tragedy, we are committed to do much more.

We are working under the oversight of regulatory agencies, including the California Public Utilities Commission (CPUC), the U.S. Department of Transportation (DOT) Pipeline and Hazardous Materials Safety Administration (PHMSA) and the National Transportation Safety Board (NTSB). Our work is continuing as we diligently review our records, and monitor, survey and test pipelines throughout our entire natural gas pipeline system. PG&E's highest responsibility in 2011 and beyond is to enhance the safety of our operations.