



National Transportation Safety Board

Washington, D.C. 20594

Safety Recommendation

Date: September 26, 2011

In reply refer to: P-11-21

The Honorable Edmund Gerald Brown, Jr.
Governor
State of California
State Capitol, Suite 1173
Sacramento, California 95814

The National Transportation Safety Board (NTSB) is an independent Federal agency charged by Congress with investigating transportation accidents, determining their probable cause, and making recommendations to prevent similar accidents from occurring. We are providing the following information to urge your organization to take action on the safety recommendation in this letter. The NTSB is vitally interested in this recommendation because it is designed to prevent accidents and save lives.

The recommendation is derived from the NTSB's investigation of the September 9, 2010, San Bruno, California, pipeline accident and is consistent with the evidence we found and the analysis we performed. As a result of this investigation, the NTSB has issued 29 safety recommendations, 1 of which is addressed to the governor of the state of California. Information supporting this recommendation is discussed below. The NTSB would appreciate a response from you within 90 days addressing the actions you have taken or intend to take to implement our recommendation.

On September 9, 2010, about 6:11 p.m. Pacific daylight time, a 30-inch-diameter segment of an intrastate natural gas transmission pipeline known as Line 132, owned and operated by the Pacific Gas and Electric Company (PG&E), ruptured in a residential area in San Bruno, California. The rupture occurred at mile point 39.28 of Line 132, at the intersection of Earl Avenue and Glenview Drive. The rupture produced a crater about 72 feet long by 26 feet wide. The section of pipe that ruptured, which was about 28 feet long and weighed about 3,000 pounds, was found 100 feet south of the crater. PG&E estimated that 47.6 million standard cubic feet of natural gas was released. The released natural gas ignited, resulting in a fire that

destroyed 38 homes and damaged 70. Eight people were killed, many were injured, and many more were evacuated from the area.¹

The NTSB determined that the probable cause of the accident was PG&E's (1) inadequate quality assurance and quality control in 1956 during its Line 132 relocation project, which allowed the installation of a substandard and poorly welded pipe section with a visible seam weld flaw that, over time grew to a critical size, causing the pipeline to rupture during a pressure increase stemming from poorly planned electrical work at the Milpitas Terminal; and (2) inadequate pipeline integrity management program, which failed to detect and repair or remove the defective pipe section.

Contributing to the accident were the California Public Utilities Commission's (CPUC) and the U.S. Department of Transportation's exemptions of existing pipelines from the regulatory requirement for pressure testing, which likely would have detected the installation defects. Also contributing to the accident was the CPUC's failure to detect the inadequacies of PG&E's pipeline integrity management program.

Contributing to the severity of the accident were the lack of either automatic shutoff valves or remote control valves on the line and PG&E's flawed emergency response procedures and delay in isolating the rupture to stop the flow of gas.

Authority and Enforcement

The CPUC, as the regulator for pipeline safety within California, failed to uncover the pervasive and long-standing problems within PG&E. Consequently, this failure precluded the CPUC from taking any enforcement action against PG&E. The CPUC lost opportunities to identify needed corrective action and to follow through and ensure that PG&E completed the prescribed corrective actions in a timely manner. For its part, PHMSA rated the CPUC's pipeline safety program in the mid- to high-90s in the years leading up to the San Bruno accident—a superior, if not outstanding, score. Furthermore, PHMSA's participation in the 2005 joint audit with the CPUC of PG&E apparently did not make any difference in uncovering PG&E's systemic problems or in accurately assessing the quality of oversight exercised by the CPUC.

The quality of oversight exercised by any regulatory agency depends upon the quality of the regulations in force, the authority granted to the regulator, and the enforcement program implemented by the regulator. Despite deficiencies with specific regulatory requirements and integrity management programs as discussed previously, the CPUC's failure to recognize PG&E's corporate failures and PHMSA's failure to recognize the CPUC's ineffectiveness indicate that more fundamental problems exist, particularly with enforcement practices and policies.

The NTSB believes that Federal regulations for all types of pipeline systems provide sufficient authority to PHMSA to enforce the regulations and to take appropriate actions to

¹ For additional information, see *Pacific Gas and Electric Company Natural Gas Transmission Pipeline Rupture and Fire, San Bruno, California, September 9, 2010*, Pipeline Accident Report NTSB/PAR-11/01 (Washington, DC: National Transportation Safety Board, 2011), which is available on the NTSB website at <http://www.nts.gov/>.

address noncompliance by a pipeline operator. PHMSA can require an operator to take numerous corrective actions, such as reducing operating pressure, conducting inspections and tests, and, if necessary, suspending operation of a pipeline. PHMSA also can initiate enforcement actions leading to monetary civil penalties against an operator for safety violations.

Most states either adopt or pattern state pipeline safety regulations after the Federal regulations. Because state pipeline regulatory agencies receiving Federal grants through PHMSA are monitored for alignment with PHMSA standards, most state regulators should be expected to have comparable enforcement authority. However, a state regulator's authority will be affected by the organizational placement of the regulatory agency within the state government. In the case of the CPUC, pipeline safety is one of several utility programs under the CPUC's jurisdiction. Further, the CPUC sets utility rates, which could potentially conflict with the enforcement of safety programs.

Because of the lapses of oversight seen in this accident, the NTSB is concerned and has strong doubts about the quality and effectiveness of enforcement at both the Federal and state levels. Although the CPUC and PHMSA have authority to enforce pipeline safety regulations, the organizational failures of PG&E seen in this accident suggest that some operators are able to ignore certain standards without concern for meaningful enforcement action against them.

The NTSB concludes that the ineffective enforcement posture of the CPUC permitted PG&E's organizational failures to continue over many years.

Therefore, the National Transportation Safety Board makes the following recommendation to the governor of the state of California:

Expediently evaluate the authority and ability of the pipeline safety division within the California Public Utilities Commission to effectively enforce state pipeline safety regulations, and, based on the results of this evaluation, grant the pipeline safety division within the California Public Utilities Commission the direct authority, including the assessment of fines and penalties, to correct noncompliance by state regulated pipeline operators. (P-11-21)

The NTSB also issued safety recommendations to the U.S. Secretary of Transportation, the Pipeline and Hazardous Materials Safety Administration, the California Public Utilities Commission, the Pacific Gas and Electric Company, the American Gas Association, and the Interstate Natural Gas Association of America. Additionally, the report reclassifies two previously issued recommendations to the Pipeline and Hazardous Materials Safety Administration.

In response to the recommendation in this letter, please refer to Safety Recommendation P-11-21. If you would like to submit your response electronically rather than in hard copy, you may send it to the following e-mail address: correspondence@ntsb.gov. If your response includes attachments that exceed 5 megabytes, please e-mail us asking for instructions on how to use our secure mailbox. To avoid confusion, please use only one method of submission (that is, do not submit both an electronic copy and a hard copy of the same response letter).

Chairman HERSMAN, Vice Chairman HART, and Members SUMWALT, ROSEKIND, and WEENER concurred in this recommendation. Chairman HERSMAN filed a concurring statement and Vice Chairman HART filed a concurring and dissenting statement, both of which are attached to the pipeline accident report for this accident.

[Original Signed]

By: Deborah A.P. Hersman
Chairman