



Pacific Gas and Electric Company Natural Gas Transmission Pipeline Rupture and Fire

Executive Summary

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.

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.

Probable Cause

The National Transportation Safety Board determines that the probable cause of the accident was the Pacific Gas and Electric Company's (PG&E) (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.

Accident Location: San Bruno, CA
Accident Date: 9/9/2010
Accident ID: DCA10MP008

Date Adopted: 8/30/2011
NTSB Number: PAR-11-01
NTIS Number: PB2011-916501

Related Report

PAR-11-01

Related Recommendations

- P-10-001
P-10-002
P-10-003
P-10-004
P-10-005
P-10-006
P-10-007
P-11-001
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P-11-026
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P-11-030
P-11-031
P-11-032

Related Press Releases

Cited in City and County of San Francisco v. U.S. Dept of Transp.
Case No. 13-19855 archived on September 25, 2015

- October 13, 2010  
NTSB Releases Preliminary Report on Its Investigation of Pipeline Rupture Accident in California
- January 21, 2011  
NTSB Releases First of Six Factual Reports on San Bruno Pipeline Rupture Investigation
- September 10, 2010  
NTSB Launches Team to Investigate Apparent Gas Pipeline Explosion in California
- January 03, 2011  
NTSB issues urgent Safety Recommendations as a result of preliminary findings in San Bruno pipeline rupture investigation; hearing scheduled for March
- December 14, 2010  
NTSB Issues Update on Investigation into Fatal Pipeline Rupture in San Bruno, California
- June 08, 2011  
NTSB issues three safety recommendations after it finds deficiencies in emergency notification requirements of pipeline operators
- August 30, 2011  
NTSB cites Pacific Gas & Electric (PG&E) and government oversight in fatal California pipeline rupture
- February 24, 2011  
NTSB Announces Agenda and Witness List for Public Hearing on San Bruno, Calif., Pipeline Rupture Accident
- April 14, 2011  
NTSB Adding Interview Transcripts to Public Docket for San Bruno Pipeline Accident Investigation
- July 21, 2011  
NTSB adding documents to public docket for San Bruno pipeline investigation
- August 15, 2011  
NTSB adding documents to public docket for San Bruno pipeline accident investigation

cited in *City and County of San Francisco v. U.S. Dept of Transp.*  
No. 13-15855 archived on September 25, 2015

### Related Events

### Related Investigations

- [Pacific Gas and Electric Company Natural Gas Transmission Pipeline Rupture and Fire](#)

### More NTSB Links

- [Investigation Process](#)
- [Data & Stats](#)
- [Accident Reports](#)
- [Most Wanted List](#)

#### Resources

Press Releases  
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#### Publications

Accident Reports  
Annual Review of Aircraft  
Accident Data

