

UNITED STATES OF AMERICA  
NATIONAL TRANSPORTATION SAFETY BOARD  
WASHINGTON, D.C.

ISSUED: March 15, 1971

Adopted by the NATIONAL TRANSPORTATION SAFETY BOARD  
at its office in Washington, D. C.  
on the 18th day of February 1971

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FORWARDED TO: )  
Honorable Willard J. Smith )  
Assistant Secretary of )  
Transportation )  
Department of Transportation )  
Washington, D. C. 20590 )  
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SAFETY RECOMMENDATIONS P-71-3 & 4

This is in regard to a pipeline accident which occurred near Farmington, West Virginia, on October 29, 1970.

In this accident, which was investigated by the National Transportation Safety Board, a 16-inch pipeline operating at a pressure of 378 p.s.i.g. ruptured, causing a crater 30 feet long, 10 feet wide, and 25 feet deep. An earthquake-like rumble was heard and felt by residents in the area. Mud and stones were thrown up on the highway, houses shook and the noise was deafening. Vehicles being driven on a nearby highway were hit by the flying stones and mud, and four cars were stalled. One of the drivers started her car and drove from the scene. At this time, about 10 minutes after the initial rupture, the escaping gas ignited along the ground, and flashed back to the break, resulting in a fire 100 feet high which was visible 10 miles away. The occupants of three cars remaining on the highway ran from their vehicles as they started to burn. The fire burned for about 45 minutes, died down, and went out as the valves one-half mile north and 5 miles south of the rupture were manually turned off by the workmen of the Equitable Gas Company (Equitable). The cars were demolished but there were no fatalities or injuries.

Equitable, which operates the line designated H-557, indicated that the accident was caused by coal mine subsidence. On June 3, 1970, a similar type failure occurred 766 feet south of the site of the October 29, 1970, failure. Both accidents occurred at overbends in this API 5LX 46 pipe.

No metallurgical analysis was made of the first failure. At the Board's suggestion, an analysis is now being conducted of the October 29 failure by the Battelle Memorial Institute. Equitable has exposed portions of the line near the two failures and discovered other signs of pipe movement. About 200 feet of pipe has been replaced, and an 11-mile section of this line has been

retested hydrostatically at pressures ranging from 1,500 to 1,678 p.s.i.g. The line has a maximum allowable operating pressure of 1,000 p.s.i.g. Based on the tests and pipe replacement, Equitable has now returned this line to service.

The value of the hydrostatic test as an indication of future safety is suspect at this time, since the type of failure has not as yet been determined. If the line had failed because of excessive gas pressure, such a test would be desirable. If the line failed because of earth movement, as it now appears, the type of test performed would not be meaningful. Equitable indicates that the earth movement caused by the subsidence should continue in this area.


Based on a preliminary investigation of this accident, the Safety Board considers that a continuing hazard probably exists, due to the threat of further earth movement, and recommends that:

1. The Department of Transportation take the necessary steps to determine whether there is a hazard within the meaning of Section 3(b) of the Natural Gas Pipeline Safety Act of 1968; and
2. The Department review the overall problem of safety of pipelines in areas where mine subsidence exists.

Our staff would be pleased to provide you with additional information developed. Mr. Barry M. Sweedler, Associate Chief of our Railroad/Pipeline Safety Division is the contact.

This recommendation will be released to the public on the issue date shown above. No public dissemination of the contents of this document should be made prior to that date.

Reed, Chairman, Laurel, McAdams, and Thayer, Members, concurred in the above recommendations. Burgess, Member, was absent, not voting.

By:   
John H. Reed  
Chairman