

Log P-36 Oct 1970 Per P-76-2

**NATIONAL TRANSPORTATION SAFETY BOARD**  
**WASHINGTON, D.C.**

FOR RELEASE: 6:30 A.M., E.D.T., JANUARY 23, 1976

(202) 426-8787

ISSUED: January 23, 1976

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Forwarded to:

Honorable William T. Coleman, Jr.  
Secretary  
Department of Transportation  
Washington, D. C. 20590  
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SAFETY RECOMMENDATION(S)

P-76-2

About 3:45 a.m. on March 15, 1974, the Southern Union Gas Company's 12-inch natural gas transmission pipeline ruptured in a desert near Farmington, New Mexico. Natural gas at almost 500 psig pressure escaped, ignited, and burned several hundred feet high. An 8-foot section of the 12-inch pipeline had blown out, digging a crater 40 feet long, 17 feet wide, and 10 feet deep. Three persons driving down a road adjacent to the pipeline died and the earth within a 300-foot diameter was charred. At 5 a.m., the valves on both sides of the break were closed, isolating the failed section within 8.9 miles.

The longitudinal flash weld of the A. O. Smith pipe, manufactured in 1948, showed severe crevice corrosion in the fusion line. Metal-lurgical examination showed that the brittle fracture initiated along the longitudinal seam on the bottom of the pipe and propagated in both directions from the origin area along the weld. The corrosion in the flash weld reduced the overall strength of the pipe by reducing the effective wall thickness; this resulted in higher-than-normal stresses in the weld line until the failure occurred.

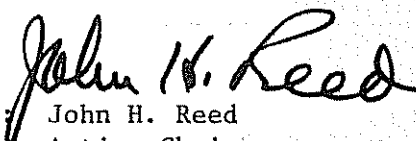
This uncoated pipeline had been under hot-spot protection since 1965 and, while experiencing many corrosion leaks, there had never been a rupture of this type in the past. The pressure at the time of failure was below the maximum allowable operating pressure of 565 psig.

This is the only failure of this type ever experienced by Southern Union, but other operators may have had failures resulting from weakened flash welds.

Therefore, the National Transportation Safety Board recommends that the Department of Transportation:

Review all pertinent data such as leak and failure reports submitted by all pipeline operators to determine if longitudinal weld failures constitute a recurrent safety problem, and take appropriate regulatory action if they do. (Recommendation P-76-2) (Class II, Priority Followup)

REED, Acting Chairman, McADAMS, THAYER, BURGESS, and HALEY, Members, concurred in the above recommendation.

  
By: John H. Reed  
Acting Chairman

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