

NATIONAL TRANSPORTATION SAFETY BOARD
WASHINGTON, D.C.

ISSUED: September 4, 1979

 Forwarded to:

Mr. L.D. Santman
 Director
 Materials Transportation Bureau
 Department of Transportation
 Washington, D.C. 20590

SAFETY RECOMMENDATION(S)

P-79-26

At 9:30 p.m., e.s.t., on January 16, 1979, an explosion and fire destroyed five commercial buildings and damaged several other buildings in London, Kentucky. Two persons were injured as a result of the accident. Firefighters, the first emergency personnel on the scene, evacuated the buildings. The local manager and a gas serviceman from the Gas Service Company, Inc., (a subsidiary of the Delta Natural Gas Co., Inc.) arrived about 5 minutes after the explosion. By 9:40 p.m., they had closed a valve which shut off the gas in the service line serving the buildings. Twenty-five fire companies assisted in extinguishing the fire.^{1/}

Nitrogen pressure testing of the 7-inch O.D., steel distribution main, which had a recent pressure increase to 17 psig, revealed a corrosion hole in the pipe. Further investigation indicated that the gas which had escaped from the corrosion hole had migrated through a break in an adjacent sanitary sewer and then into the buildings where it was ignited possibly by a spark from an electric motor in a beverage cooler.

At the time of the accident, the gas company had been in the process of modifying some 1,500 feet of the steel gas main by inserting a 2-inch plastic pipe so the main's operating pressure could be increased to serve a larger load. Most of the existing line being uprated was used, bare, 7-inch O.D., steel, well casing pipe that had been installed with mechanical couplings in 1930 and 1931. The Gas Service Company

^{1/} For more detailed information read "Pipeline Accident Report--Gas Service Company, Explosion and Fire, London, Kentucky, January 16, 1979" (NTSB-PAR-79-2).

was not in compliance with 49 CFR 192.457(b) because there was no cathodic protection provided for this type of pipe throughout the system. Corrosion holes could exist elsewhere in the system.

The uprating was accomplished by installing regulators at each service and conducting a flame ionization survey. This survey had been conducted in August 1978. At that time all detected leaks were reported to have been repaired. A manhole survey was not included. On Friday, January 12, 1979, pressure on the line, which normally operated at 4 ounces, was increased to 17 psig; inspectors walked over the line to check for leaks, by smell only, while pilot lights were being relighted. The higher pressure was left on the line throughout the weekend. On Sunday, January 14, 1979, three more walking surveys were completed over this sector of pipeline. As before, no manhole inspection was undertaken, and the walk-over surveys were accomplished through smell only. On Monday, January 15, 1979, customer service was interrupted when the insertion job was commenced. The pilot lights were relighted on Monday evening, and this procedure was repeated on Tuesday, January 16, 1979, and the insertion work continued throughout the day of the accident. The relight was completed on Tuesday at 5:30 p.m.

The National Transportation Safety Board concludes that applicable portions of 49 CFR Subpart K were not complied with, and that the leak could have been detected and the accident prevented if proper uprating procedures had been followed.

Therefore, the National Transportation recommends that the Materials Transportation Bureau of the U.S. Department of Transportation:

Monitor, through its State agent, the Kentucky Public Service Commission, the activity of the Gas Service Company, Inc., to uprate its gas distribution system in London, Kentucky, in compliance with the Federal regulations. (Class II, Priority Action) (P-79-26)

KING, Chairman, DRIVER, Vice Chairman, GOLDMAN, and BURSLEY, Members, concurred in the above recommendation. McADAMS, Member, did not participate.

By: 
Chairman