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NATIONAL TRANSPORTATION SAFETY BOARD  
WASHINGTON, D.C.

ISSUED: June 4, 1980

Forwarded to:

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City Manager  
City Hall  
P.O. Box 569  
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SAFETY RECOMMENDATION(S)

P-80-39 through -42

At 11:10 a.m., e.s.t., on February 21, 1980, an explosion and fire destroyed four stores in a shopping complex and severely damaged an adjoining restaurant in Cordele, Georgia. Of the eight persons who were injured, three died later as a result of their injuries. Property damage was extensive.

The gas department construction crew responded promptly to the accident and shut off the gas to the affected section of the shopping complex by digging up and closing the tap tee on the gas main. Gas shutoff was completed 45 minutes after the accident.

The National Transportation Safety Board's continuing investigation of the accident has revealed that natural gas leaked from a 1-inch steel service line, which had been pulled from a 1-inch compression coupling, and migrated under a concrete slab floor and into a jewelry store where it was ignited by an unknown source.

On February 18, 1980, a crew from the City of Cordele Gas Department discontinued gas service to a gasoline service station. Since no maps, records, or measurements were available, the crew used a pipe locator to locate the service line and a backhoe to dig for it. While digging for the service line, the backhoe struck and broke it directly behind a row of stores. The crew promptly installed a 1-inch valve and closed it. The crew took no additional action to determine the possibility of further damage.

During the investigation, a survey revealed heavy concentrations of gas in the south end of the shopping complex and parking areas and around a 6-inch gas main adjacent to the jewelry store. Further investigation revealed that the service line had been pulled from a compression coupling located approximately 14 feet upstream of the closed valve when the backhoe struck it. Natural gas at 22 psig leaked from the broken coupling.

Cordele officials did not report this accident telephonically to the National Response Center until 4:30 p.m., on February 21, 1980, over 5 hours after the accident. The Safety Board received its first notification of the accident at 4:35 p.m., on February 21, 1980, and arrived at the accident site at 4:30 p.m., on February 22, 1980, 29 hours after the accident.

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PAR-80-5

On January 29, 1971, a letter was written by Mr. Joseph C. Caldwell, Acting Director, Office of Pipeline Safety, U.S. Department of Transportation, to each owner or operator of gas pipeline facilities, which stated, in part:

"49 CFR 191.5 requires each operator to give direct telephone notice to the Office of Pipeline Safety at the earliest practicable moment following discovery of certain types of leaks described therein, and identifies the information to be furnished. In most cases this telephonic report can and should be made within one to two hours after discovery."

OPSO Advisory Bulletin No. 77-6, June 1977 addressed the fact that some operators had been delinquent in making telephonic notices of reportable leaks to OPSO. The late notification and the consequent late arrival of the Safety Board investigator hampered the timely onsite witness interrogation and the visual inspection of the pipe as it was unearthed.

No gas leak complaints had been received by the gas department before the accident. The gas department's records showed that only 195 gallons of odorant had been put into the gas distribution system between March and November 1979. Records did not exist to corroborate that the odorant level required by 49 CFR 192.625 was maintained. However, the use of only 195 gallons of odorant in this system over a 9-month period would not be consistent with maintenance of an adequate level of odorization as prescribed by regulation. Well odorized gas, leaking at 22 psig pressure from the open end of a 1-inch service line for 3 days before the explosion, should have been easily detected. In addition, if the crew had used a spotting bar and a combustible gas indicator (CGI) upstream of the break to determine if additional gas was leaking, the accident probably would not have occurred because the compression coupling pullout and gas leakage would have been revealed and repaired.

The Safety Board is concerned with the unsafe operational practices in the City of Cordele Gas Department. Therefore, the National Transportation Safety Board recommends that the City of Cordele Gas Department:

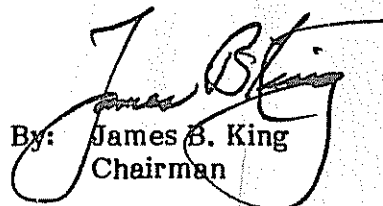
Immediately establish gas pipeline system maps and records to include distribution services and maintain accurate measurements to implement the gas systems operating and maintenance plan. (Class II, Priority Action) (P-80-39)

Instruct its gas department crews to specifically locate gas lines by a safe means before excavating. (Class I, Urgent Action) (P-80-40)

Develop and implement odorization monitoring procedures that comply with the requirements of 49 CFR 192.625. (Class II, Priority Action) (P-80-41)

Instruct its gas department employees to make sufficient checks to ensure that all leaks resulting from excavation damage have been located and repaired. (Class I, Urgent Action) (P-80-42)

KING, Chairman, DRIVER, Vice Chairman, McADAMS, GOLDMAN, and BURSLEY, Members, concurred in these recommendations.

  
By: James B. King  
Chairman