

NATIONAL TRANSPORTATION SAFETY BOARD
WASHINGTON, D.C.

ISSUED: July 6, 1978

Forwarded to:

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

SAFETY RECOMMENDATION(S)

P-78-24

At 1 p.m., e.s.t., on December 1, 1977, a 12-inch, cast-iron high-pressure gas main owned by the Atlanta Gas Light Company (AGL) was ruptured by an 8-inch steel I-beam pile, which was driven through the pipe at a construction site in downtown Atlanta, Georgia. 1/

Within minutes, natural gas at 10-psig pressure migrated through the ground, entered sewer lines and electric conduit systems, and spread into nearby buildings. The gas did not ignite, but thousands of people were evacuated from nearby office buildings. A valve was closed at 2:45 p.m. to shut off the flow of gas to the ruptured main, and the area was declared safe at 4 p.m.

The 12-inch gate valve that was used to shut off the flow of gas was located 1,000 feet from the rupture. The gas was fed from one direction and because the main was dead-ended, only one valve was required to shut the system. Because this valve was not designated an emergency valve, the gas company did not have to check and service the valve annually as required by Federal regulations for emergency valves. The gas company was unaware that the valve cover had been paved over with 8 inches of asphalt; if the valve could not have been located or if the valve had failed to stop the flow of gas to the main, 22 emergency valves would have to have been closed to isolate the rupture area.

1/ For more detailed information read "Pipeline Accident Report -- Atlanta Gas Light Company, High-Pressure Gas Main Rupture, Atlanta, Georgia, December 1, 1977" (NTSB-PAR-78-3).

If AGL had had to close the 22 valves, the company would have to have relighted customer services to the entire downtown business section. It is apparent from this accident that additional emergency valves are needed and should be installed and located to make a more rapid shutdown possible. Since emergency valves are required to be inspected annually, the cost of maintenance influences the number of valves selected and, in some existing systems, only a certain percentage of existing valves have been designated emergency valves. The Safety Board believes that this is not in the best interest of public safety.

The Safety Board, in its "Pipeline Accident Report, Northern States Power Company, Lake City, Minnesota, October 30, 1972," (NTSB-PAR-73-1), recommended that the Office of Pipeline Safety (Operations) of the U.S. Department of Transportation:

Amend 49 CFR 192.181(a) to include requirements which express clearly the intent of OPS concerning the number and the location of emergency valves in high pressure gas distribution systems and which treat the need for keys in the hands of local authorities. (Recommendation P-73-4)

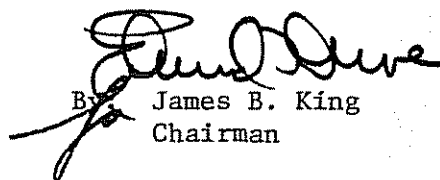
On April 3, 1978, in a letter to the Safety Board, the OPSO stated that because of "... the variety of operating conditions and types of systems in operation throughout the nation, we do not feel that specific requirements in this area could be developed to adequately apply to all operations."

The Safety Board, however, still believes that a problem exists in that there is a deficiency in regulation 49 CFR 192.181 as it does not clearly reflect the requirement for location and number of emergency valves.

Therefore, the National Transportation Safety Board recommends that the Office of Pipeline Safety Operations:

Amend 49 CFR 192.181(a) to specifically define the requirement for location and number of emergency valves. (Class III, Longer Term Action) (P-78-24)

KING, Chairman, McADAMS, HOGUE, and DRIVER, Members, concurred in the above recommendation.


By James B. King
Chairman