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Reg. P-44-18

NATIONAL TRANSPORTATION SAFETY BOARD WASHINGTON, D.C.

ISSUED: September 12, 1974

 Forwarded to:

 Honorable Claude S. Brinegar
 Secretary of Transportation
 Washington, D. C. 20590

SAFETY RECOMMENDATION(S)
P-74-28

Two recent anhydrous ammonia pipeline accidents have occurred on an 8-inch pipeline owned and operated by Mid America Pipe Line Company (MAPCO).

On December 6, 1973, a MAPCO pipeline failed near Conway, Kansas, in a section of pipeline which had been damaged previously. On August 13, 1974, the same MAPCO pipeline failed near Hutchinson, Kansas. This failure was almost identical to the first and was only 23 miles away.

In the December 6 accident, a pump station was started against a closed valve, and the pressure became so great that the pipeline failed in a previously damaged section. As a result of the accident, two persons who drove through the ammonia vapors were hospitalized; several rural residents were evacuated from the area; and 89,796 gallons of anhydrous ammonia were lost.

In the August 13 accident, MAPCO personnel started up the pump station against a closed valve, and again, the pressure became so great that the pipeline ruptured. As a result of the accident, 3 police officers were treated for ammonia inhalation; approximately 200 persons were evacuated from the area of the vapors; trees, lawns, shrubbery, and crops were burned; and an estimated 11,000 fish were killed.

The maximum operating pressure on the pipeline system established by MAPCO is 1,200 psig. Before the pipeline was placed in service in 1968, it was tested to a pressure of 1,540 psig. On August 13, 1974, the pressure at the point of failure was estimated to be 1,520 psig.

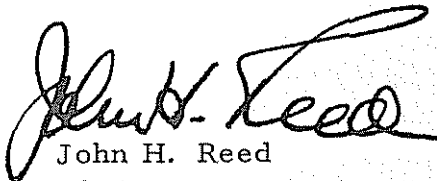
49 CFR 195, Transportation of Liquids by Pipeline, requires that . . . "No carrier may permit the pressure in a pipeline during surges or other variations from normal operations to exceed 110 percent of the operating pressure limit established . . . " by the internal design pressure of the pipe or other pipeline components or 80 percent of the test pressure. It further requires that adequate controls and protective equipment be provided to control the pressure within this limit. As the estimated 1,520 psig greatly exceeded the maximum permitted variation or surge pressure of 1,320 psig, MAPCO did not conform to the Federal regulations.

The National Transportation Safety Board recommends that the Office of Pipeline Safety of the Department of Transportation:

Require the Mid America Pipeline Company to implement immediately corrective measures in pipeline controls, protective equipment, and methods of operations, to assure that the maximum operating pressure established for this pipeline is not exceeded.

The Safety Board's report of the Conway accident, to be issued in the near future, will include a complete discussion and analysis of the factors which are common to both of these accidents on the MAPCO pipeline.

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

By: 
John H. Reed
Chairman

cc: Mid America Pipeline Company