
NTSB CITES DAMAGE BY HEAVY EQUIPMENT AND OPERATOR ERROR IN KANSAS PIPELINE RUPTURE AND TOXIC CHEMICAL RELEASE

Washington, DC -- The National Transportation Safety Board today determined that damage by construction equipment or excavation activity probably caused the pipeline rupture that resulted in the release of 204,000 gallons (4,858 barrels) of anhydrous ammonia in Kingman, Kansas. The released material created a highly toxic vapor cloud but there were no injuries associated with the accident.

Chemicals from the pipeline entered a nearby stream in an environmentally sensitive area and killed more than 25,000 fish, including some fish from threatened species.

"We are very fortunate that such highly toxic chemicals of the size and scope involved in this accident were not released in a populated area," said NTSB Chairman Mark Rosenker. "Had this same quantity of ammonia been released near a town or city, the results could have been catastrophic."

At about 11:15 am on October 27, 2004, an 8 5/8-inch diameter steel pipeline operated by Enterprise Products Operating L.P. ruptured and released about 204,000 gallons (4,858 barrels) of anhydrous ammonia in an agricultural area about 6 miles east of Kingman, Kansas.

The Board found that the probable cause of the rupture was a pipe gouge created by heavy equipment damage to the pipeline during construction in 1973 or subsequent excavation activity at an unknown time that initiated metal fatigue cracking and led to the eventual rupture of the pipeline.

Contributing to the severity of the accident was the pipeline controller's failure to accurately evaluate available operating data and initiate a timely shutdown of the pipeline.

A drop in pipeline pressure, indicating abnormal conditions or a possible compromise in pipeline integrity, set off alarms displayed on the computerized pipeline monitoring system. Shortly after the first alarm the pipeline controller, in an attempt to remedy the low pressure, increased the flow of anhydrous ammonia into the affected section of pipeline. A total of 33 minutes elapsed between the time when the first alarm indicated a problem with the pipeline and the initiation of a shutdown.

In its initial report to the National Response Center, the pipeline operator's accident reporting contractor reported a release of at least 20 gallons of ammonia, telling the NRC that an updated estimate of material released would be reported at a later time. No such report was ever made. Because of the inaccurate report, the arrival of representatives from the Environmental Protection Agency was delayed by a full day, affecting the oversight of the environmental damage mitigation efforts.

"The severity of this release of dangerous chemicals into the community could have been prevented," noted Rosenker. "The safety

recommendations that we have made, if acted upon, will reduce the likelihood of this type of accident happening again."

As a result of this accident, the NTSB made the following safety recommendations:

To the Pipeline and Hazardous Materials Safety Administration:

1. Require that a pipeline operator must have a procedure to calculate and provide a reasonable initial estimate of released product in the telephonic report to the National Response Center.
2. Require that a pipeline operator must provide an additional telephonic report to the National Response Center if significant new information becomes available during the emergency response.
3. Require an operator to revise its pipeline risk assessment plan whenever it has failed to consider one of more risk factors that can affect pipeline integrity.

To Enterprise Products Operating L.P.:

4. Provide initial and recurrent training for all controllers that includes simulator or noncomputerized simulations of abnormal operating conditions that indicate pipeline leaks.

A synopsis of the Board's report, including the probable cause and recommendations, is available on the Board's website, www.nts.gov, under "Board Meetings." The Board's full report will be available on the website in several weeks.

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