

Advisory Bulletin

Advisory Bulletin #: ADB-93-03 **File Code:** ADVBUL

Issue Date: 07/29/93

CFR Reference(s): 192.615; 192.402

Keyword(s): Flood, Hazardous, Liquid, Natural, Gas

Subject:

Advisory to Owners and Operators of Hazardous Liquid and Natural Gas Pipeline Facilities in Areas of Flooding



US Department of Transportation
Research and Special Programs Administration

400 Seventh Street, SW.
Washington, DC 20590

PIPELINE SAFETY ADVISORY BULLETIN

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To: Owners and Operators of Hazardous Liquid and Natural Gas Pipelines

Subject: Advisory to Owners and Operators of Hazardous Liquid and Natural Gas Pipeline Facilities in Areas of Flooding

Purpose:

Extended periods of rain and flooding in Midwestern states have resulted in the potential for conditions that threaten the safety of pipelines. The Office of Pipeline Safety (OPS), RSPA, has issued this advisory bulletin to pipeline operators in those flood areas to advise them of measures they should consider to assure the safety of those pipelines. In particular, pipeline operators should review emergency plans to assure they adequately cover conditions possible in the current severe flooding.

Advisory:

For compliance with 49 CFR Sections 192.615(a)(3)(iv) Emergency Plans and 195.402(e)(2) Emergencies, pipeline operators must develop procedures for a prompt and effective response to natural disasters including flooding. In developing and reviewing emergency plans and procedures for natural disasters, operators should consider, as applicable to their pipeline systems, each of the actions outlined below:

Preventive Actions: Operators need to be alert to conditions that may adversely affect their pipelines and should consider the following actions:

- o Be alert to flooding and have personnel available for emergency response actions such as shutdown, isolation, and containment.

- o Consider extending regulator vents and relief stacks above the level of anticipated flooding as appropriate.

- o Evaluate the accessibility of pipeline facilities, such as valve settings needed to isolate water crossings or other sections of pipelines that might be jeopardized.

- o Perform frequent patrols to evaluate right-of-way conditions at water crossings during flooding and after waters subside. Determine if flooding has exposed and/or undermined pipelines as a result of forming new channels or erosion of riverbeds.
- o Coordinate with other pipeline companies in the flood area and provide personnel to emergency response centers to act as a liaison for pipeline issues. Provide maps and information on pipeline location and condition to emergency responders.
- o Determine if normally aboveground facilities (valves, regulator, and relief sets, etc.) that have become submerged could be struck by craft operating in flooded areas and supply maps to emergency response center and mark with buoys as appropriate.
- o Perform surveys to determine the depth of cover over pipelines and notify landowners of reduced cover. Agricultural agencies may be helpful in reminding farmers of the potential hazard of reduced cover over pipelines.
- o Assure that line markers are still in place and remind contractors, highway departments, and others involved in excavation and clearing activities associated with flood clean-up of the presence of pipelines and the operating hazards that could occur due to reduced pipeline cover.

Background:

Damage to a pipeline may occur as a result of additional stresses imposed on piping by undermining of the support structure and by impact and/or waterborne forces. Washouts and erosion may result in loss of support for both buried and exposed pipelines. The flow of water against an exposed pipeline may also result in forces sufficient to cause a failure. These forces are increased by the accumulation of debris against the pipeline. Reduction of cover over pipelines in farmland may also result in the pipeline being struck by equipment used in farming or clean-up operations.

Additionally, the safety of valves, regulator, and relief sets, and other facilities normally aboveground, or above water, is jeopardized when covered by water. This threat is posed, not only by operational factors, but also by the possibility of damage by outside forces, floating debris, current, and craft operating on the water. Boaters involved in rescue operations, emergency support functions, sightseeing, and other activities, are generally not aware of the seriousness of an incident that could result from their craft damaging a pipeline facility that is unseen beneath the surface of the water. Depending on the size of the craft and the pipeline facility struck, significant pipeline damage may result. Pipeline failure could occur immediately or in the future.

Issued in Washington, DC, on July 29, 1993.

George W. Tenley, Jr., Associate Administrator for Pipeline Safety