



NATIONAL ASSOCIATION OF PIPELINE SAFETY REPRESENTATIVES RESOLUTION

Eastern Region
State of Vermont
Resolution 2009-3 AC-1

Action Category 1

URGING PHMSA TO ADOPT A MINIMUM SEPARATION DISTANCE FOR GAS DISTRIBUTION LINES FROM ADJACENT UNDERGROUND FACILITIES

WHEREAS – The National Transportation Safety Board’s Report, Number PAR-01/01, specifically recognized the danger associated with heat on plastic piping resulting from electric power line shorts as stated in their abstract below regarding the fatal incident in South Riding Virginia.

“Abstract: About 12:25 a.m. on July 7, 1998, a natural gas explosion and fire destroyed a newly constructed residence in the South Riding community in Loudoun County, Virginia. A family consisting of a husband and wife and their two children were spending their first night in their new home at the time of the explosion. As a result of the accident, the wife was killed, the husband was seriously injured, and the two children received minor injuries. Five other homes and two vehicles were damaged.

The National Transportation Safety Board determines that the probable cause of the accident in South Riding, Virginia, was the corrosion and subsequent overheating and arcing at a splice in one of the conductors of the triplex electrical service line, which, because of inadequate separation between the electrical conductors and the gas service line, led to the failure of the gas service line and the subsequent uncontrolled release of natural gas that accumulated in the basement and was subsequently ignited. Precipitating the electrical service line failure was damage done to the electrical service line during installation of the gas service line and/or during subsequent excavation of the electrical line.

The safety issues identified during this investigation were (1) the adequacy of standards for minimum separation distances between gas service lines and electrical service lines...”

WHEREAS – As a result of the incident in South Riding, the NTSB issued recommendation P-01-1, which states:

“Require gas utility operators to maintain a specified minimum separation distance, sufficient to protect against both thermal and mechanical damage, between plastic gas service lines and underground electrical facilities whenever they install a new gas service line or perform maintenance on existing lines.”

WHEREAS – The GPTC Guide for Gas Transmission and Distribution Piping Systems, Guide Material 192.325 Underground Clearance, specifically recognizes the risk associated with heat on plastic piping as stated below:

“Section 1. CLEARANCE... Subsection 1.2(c) Mains

(c) Provide heat damage protection from other underground facilities such as steam or electric power lines, particularly where plastic piping is installed in common trenches with sources of heat.”

WHEREAS – In its Planning and Design Best Practice No. CGA 2-12, the Common Ground Alliance recommends a radial separation distance between direct buried electrical lines and other buried facilities, as follows:

“When installing new direct buried supply facilities in a common trench, a minimum of 12 inch radial separation should be maintained between supply facilities such as steam lines, plastic gas lines, other fuel lines, and direct buried electrical supply lines. If 12 inches separation cannot be feasibly attained at the time of installation, then mitigating measures should be taken to protect lines against damage that might result from proximity to other structures.”

WHEREAS – The National Electric Safety Code (NESC) specifically requires radial separation between electrical conductors and other underground structures as follows:

“353. Deliberate separations – Equal to or greater than 300mm (12 in) from underground structures or other cables

A. General

1. These rules apply to radial separation of supply and communication cables or conductors from each other and from other underground structures such as sewers, water lines, gas and other lines that transport flammable material, building foundations, steam lines, etc., when separation is equal to or greater than 300 mm (12 in).

354. Random separation – Separation less than 300 mm (12 in) from underground structures or other cables

A. General

2. Radial separation of supply and communication cables or conductors from steam lines, gas, and other lines that transport flammable material shall be not less than 300 mm (12 in) and shall meet Rule 353.”

WHEREAS – The underground damage incident record identifies instances where facilities other than underground electric cables, such as metallic piping in close proximity to buried gas facilities, can become energized due to electrical surges or shorts and damage gas piping, and where inadequate separation was a root cause that allowed mechanical damage to occur;

WHEREAS –Pipeline safety regulations should be consistent with the practices of other industries, the recommendations of the gas industry and damage prevention organizations, and the lessons learned from incidents.

NOW THEREFORE BE IT RESOLVED: That PHMSA be requested to amend 49 C.F.R. §192.325(b) language, and amend 49 C.F.R. §192.361 by adding a new section (h) as follows:

§192.325 Underground Clearance.

~~(b) Each main must be installed with enough clearance from any other underground structure to allow proper maintenance and to protect against damage that might result from proximity to other structures at least 12 inches of clearance from any underground facility, pipe, cable, or conduit. If this clearance cannot be attained, the main must be protected from damage by the installation of a proper shielding material or another acceptable engineered solution.~~

§192.361 Service lines: Installation.

(h) Underground clearance. Each service line must be installed with at least 12 inches of clearance from any underground facility, pipe, cable, or conduit. If this clearance cannot be attained, the service line must be protected from damage by the installation of a proper shielding material or another acceptable engineered solution.