



US Department of Transportation
Research and Special Programs Administration

400 Seventh Street, SW.
Washington, DC 20590

PIPELINE SAFETY ALERT NOTICE

Alert Notice: ALN-92-01

Date: 01/08/92

To: Each Owner or Operator of a Natural Gas Distribution Facility and Every State Pipeline Representative

Subject: Tracer Wire on Plastic Pipe

Purpose:

To address concerns regarding lightning induced electrical discharge from tracer wire to plastic pipe.

Notice:

Section 192.321 requires that plastic pipe that is not encased must have an electrically conductive wire or other means of locating the pipe while it is underground. OPS is alerting all operators of gas pipeline facilities that wrapping an electrically conductive tracer wire around plastic pipe has resulted in conducting lightning through the tracer wire, thereby damaging and causing plastic pipe to leak. Accordingly, each gas pipeline operator that uses a tracer wire as a means to comply with Section 192.321 should lay the tracer wire along the plastic pipe with 2"-6" separation, rather than wrap the tracer wire around the plastic pipe.

George W. Tenley, Associate Administrator, Office of Pipeline Safety

Background:

The National Association of Pipeline Safety Representatives (NAPSR) passed a resolution in 1991 (No. 1991-2-E-WV-P1) recommending, in part, that OPS:

Issue an Alert Notice to all operators notifying them of the potential problems that may exist when electrically conductive wire is wrapped around plastic pipe.

The following are some of the reports by NAPSR personnel of lightning being conducted through tracer wire and thereby damaging and causing plastic pipe to leak:

(1) September 2, 1989: An explosion and ensuing fire occurred in a residence at 121 South 4th Street, Benton, Arkansas. Three people died and property damage was over \$50,000.

The probable cause of the accident was determined to be a thunderstorm that occurred on the previous night that discharged an electrical current through the tracer wire on the plastic pipe and caused the plastic pipe to leak.

(2) July 26, 1989: An odor of gas was detected on Park Ridge Drive in Chesterfield County, VA. The company found that lightning had struck a tree and the electrical current traveled from the tree to the buried pipelines causing two 5/8-inch plastic tapping tees to separate from the 2-inch plastic main. The main was wrapped with tracer wire.

(3) July 2, 1991: An incident occurred in the Loch Braemer Subdivision on Loch Braemer Drive, Chesterfield County, VA, where lightning struck a tree and the main which was directly under the tree was damaged resulting in a leak. The main was wrapped with tracer wire.

The "Plastic Pipe Manual for Gas Service (1989)" published by the American Gas Association in addressing burial requirements for plastic pipe notes the following:

"An electrical conductor should be installed with direct-burial plastic pipe (preferable 2-6-inches from the pipe) to facilitate locating with an electronic detector unless other means are available for locating the pipe underground. This conductor can be bare or coated metal wire or a coated tape, and should be corrosion-resistant. Leads into curb boxes, valve boxes, and on service risers can be used for direct connection of locating equipment. It is preferable to separate the locating wire from the plastic pipe to avoid damage to the pipe should a lightning strike melt the wire."