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DEPARTMENT OF TRANSPORTATION

Pipeline and Hazardous Materials Safety Administration

[Docket No. PHMSA-04-19856]

**Pipeline Safety: Notice to Operators of Natural Gas and Hazardous Liquid Pipelines
to Accurately Locate and Mark Underground Pipelines Before Construction-
Related Excavation Activities Commence Near the Pipelines**

AGENCY: Pipeline and Hazardous Materials Safety Administration (PHMSA), DOT.

ACTION: Notice; Issuance of Advisory Bulletin.

SUMMARY: This advisory reminds and reinforces the importance of safe locating excavation practices near underground pipelines. PHMSA's pipeline safety regulations require pipeline operators to implement damage prevention programs to protect underground pipelines during construction related excavation. In addition, PHMSA recommends pipeline operators excavating in areas populated with other pipelines and utilities follow all consensus best practices and guidelines developed by the Common Ground Alliance. Recent serious incidents especially reinforce the importance of accurately locating and marking pipelines and highlight an urgent need for pipeline operators to review how they implement their damage prevention programs to prevent further accidents caused by construction related damage. This Advisory Bulletin provides guidance on how to do this.

ADDRESSES: This document can be viewed on the PHMSA home page at:

<http://www.phmsa.dot.gov>.

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SUPPLEMENTARY INFORMATION:

I. Background

Recently several construction related incidents have caused damage to underground natural gas and hazardous liquid pipelines in several States, including California, Texas, Virginia, and Wyoming. Some of these incidents have resulted in deaths, injuries, property damage, and disruption to communities. Following an appropriate damage prevention program is the best way to prevent such incidents in the future.

This is the second bulletin PHMSA has issued on locating damage prevention this year. In Advisory Bulletin 06-01, published in the **Federal Register** on January 17, 2006 (71 FR 2613), we described other preventable accidents caused by construction-related damage. Advisory Bulletin 06-01 specifically called on operators to ensure that individuals critical to damage prevention at construction sites are qualified to perform the necessary safety tasks. These tasks include one-call notifications, line locating and marking, and inspection of construction activities. In Advisory Bulletin 02-01, published

in the **Federal Register** on May 24, 2002 (67 FR 36667), we pointed to the best practices on damage prevention found in the Common Ground Study and urged operators to follow them (see <http://ops.dot.gov/init/prevent/damage.htm>). The Common Ground Alliance is continuing the work on developing best practices begun with the Common Ground Study. These best practices are widely accepted as providing the basis for conducting safe locating excavation near pipelines.

Investigations by PHMSA and its State partners continue to show that the pipeline operators involved in construction related incidents may not always comply with Federal pipeline safety regulations or their own construction and maintenance practices. Among the problems discovered are the following:

- Pipeline operators do not always follow their procedures for constructing, repairing, ditching, and backfilling in areas where there are existing pipelines. Typically, procedures prohibit machine excavation within two feet of existing pipelines.
- Inspectors working for pipeline operators at construction sites sometimes fail to assist the operator's employees, the operator's contractors, and third-party construction contractors in verifying the marked locations of the existing pipeline facilities.
- Operators do not always verify pipeline "as-built" drawings and make them available to locators and excavators at construction sites before activities began.
- Operators do not always mark pipelines at cross-overs.
- In locations with parallel pipelines, operators sometimes mark the wrong pipeline.

- Pipeline operators do not always correctly mark all pipelines in the vicinity of the construction and maintenance activities, and sometimes fail to assign personnel skilled enough to observe excavation and backfilling tasks.

Good procedures can prevent accidents only if they are followed.

II. Advisory Bulletin (ADB-06-03)

To: Owners and Operators of Natural Gas and Hazardous Liquid Pipeline Systems

Subject: Accurately Locating and Marking Underground Pipelines Before Construction-Related Excavation Activities Commence Near the Pipelines

Advisory: Construction-related excavation damage continues to be one of the three leading causes of pipeline damage. PHMSA continues to find pipeline operators damaging regulated pipelines, production and gathering pipelines, and other utilities adjacent to where construction and maintenance is being performed. This damage jeopardizes the safety of excavators, pipeline employees, construction personnel, and others in the vicinity of the excavation. To guard the integrity of buried pipelines and prevent injury, death, and property and environmental damage, PHMSA advises pipeline operators to take the following damage prevention measures:

- Use safe locating excavation practices. Follow your procedures and processes for excavation and backfill. When constructing a new pipeline, honor the marking of existing pipelines.
- Locate and mark pipelines accurately before locating excavation begins. Do not rely solely on maps, drawings, or other written materials to locate pipelines.
- Make sure that individuals locating and marking the pipelines have the knowledge, skills, and abilities to read and understand pipeline alignment and as-built drawings, and that they know what other buried utilities exist in the construction area.
- Make sure that individuals locating and marking the pipelines have up-to-date pipeline alignment and as-built drawings.
- Make sure that individuals locating and marking the pipelines are familiar with state and local requirements on marking.
- Mark all pipelines, including laterals. This is especially important in areas where there is a considerable amount of new pipeline and utility construction.
- Consider environmental conditions such as rain and snow when selecting marking methods.
- In areas where the pipelines are curved or make sharp bends to avoid other utilities or obstructions, consider the visibility and frequency of markers.
- Confirm the accuracy of pipe locating before locating excavation begins. This applies when the pipeline operator conducts the excavation using its own employees, a contractor, or a third party.

- Use qualified personnel for locating and marking pipelines. At a minimum, they should have received appropriate training such as that outlined in the National Utility Locating Contractors Association locator training standards and practices.
- Make sure excavators have sufficient information about underground pipelines at the construction site to avoid damage to the pipeline. Facilitate communication during the construction activity.
- Calibrate tools and equipment used for line locating and make sure they are in proper working order.
- Individually mark pipelines located within the same trench where possible.
- Follow the best practices on locating and marking pipelines developed by the Common Ground Alliance.
- When pipelines are hit or almost hit during excavation, evaluate the practices and procedures in use before continuing the construction activity.

Operators should use the full range of safe locating excavation practices. In particular, pipeline operators should ensure the use of qualified personnel to accurately locate and mark the location of its underground pipelines.

Authority: 49 U.S.C. chapter 601; 49 CFR 1.53.

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