This is a preliminary summary report of incidents reported to the PUC Safety Staff, from March 16, 2018 through May 17, 2018.

Electric Reportable Incidents

1. On March 20, 2017 at approximately 9:25 a.m., while installing a secondary service to a temporary weather head at a construction site, a journeyman lineman fell from a bucket truck. The lineman fell approximately 27 feet, he remained conscious, was transported to the hospital and treated for multiple injuries.

2. On May 7, 2018 at 2:30 p.m., an individual raised an irrigation pipe into an overhead primary conductor sustaining an electrical contact. The individual had burns to his hands and feet, was up and walking around at the time utility workers arrived. He was directed to get checked at a hospital. No more information is available at this time.

Electric Non-Reportable Incidents of Interest

1. On May 4, 2018 an Electric Utility reported multiple power outages affecting approximately 1778 customers. Severe weather/wind in the area caused multiple line faults.

Gas Reportable Incidents

1. At 10:09 on 4/2/2018 a gas company received notification of a blowing gas condition as a result from a second party excavation damage. A 2-inch polyethylene pipe operating at 22 psig at 30” deep was stuck with mechanized equipment. It was reported the excavator failed to use safe excavation practices. The hazardous leak was controlled at 1045. Natural gas service to 62 customers was interrupted to make the area safe and make repairs.

Gas Non-Reportable Incidents of Interest

1. During replacement of a power pole, a 2” polyethylene natural gas main was ruptured. OPUC Staff was notified of the damage and investigated the incident.

   The 2” polyethylene pipe was installed in 1998 by a subcontractor for a gas utility in the area utilizing horizontal directional drilling (HDD) methods. The pipeline was installed through a power pole (see photos below). At the time of installation, there was little recognition of proper procedures or best practices for HDD.

Advisory Bulletin (ADB) 99-04 (see pages 5-7) was issued on August 27, 1999 by the Research and Special Programs Administration, DOT corresponding with National Transportation Safety Board (NTSB) Safety Recommendation P-99-1. The purpose of this ADB is to ensure that pipeline operators take actions to recognize the dangers associated with directional drilling and other trenchless technology operations, and to ensure that
underground pipeline facilities are adequately located and protected from inadvertent damage.

Since then the U.S. DOT requires Qualification of Pipeline Personnel for operators to have a written qualification (OQ) program by April 27, 2001. The program functions to ensure individuals performing covered tasks involving pipelines are properly qualified and evaluated on tasks.

Operators of pipelines have worked to incorporate risk management principles, develop best practices, training programs and operating procedures. An example of such procedures include but not limited to tracking the drill head and maintaining communication with the drill operator to ensure the drill head does not damage or interfere with other utilities or structures.
The following are Risk Management Principles and topics that presented relevance in advancing safety during this investigation. These are intended to be complimentary and are available as general guidance to mitigate risks.

OSHA - Part 1926 Safety and Health Regulation for Construction:

1926.651(b)(3)

When excavation operations approach the estimated location of underground installations, the exact location of the installations shall be determined by safe and acceptable means.


CFR Part 196 Protection of Underground Pipelines from Excavation Activity

196.103(c)

Excavate with proper regard for the marked location of pipelines an operator has established by taking all practicable steps to prevent excavation damage to the pipeline;

196.107

If a pipeline is damaged in any way by excavation activity, the excavator must promptly report such damage to the pipeline operator, whether or not a leak occurs, at the earliest practicable moment following discovery of the damage.

196.109

If damage to a pipeline from excavation activity causes the release of any PHMSA regulated natural and other gas or hazardous liquid as defined in Parts 192, 193 or 195 from the pipeline, the excavator must promptly report the release to appropriate emergency response authorities by calling the 911 emergency telephone number.

Common Ground Alliance (CGA) – Best Practices:

5.15 Facility Avoidance

The excavator uses reasonable care to avoid damaging underground facilities. The excavator plans the excavation so as to avoid damage or to minimize interference with the underground facilities in or near the work area.

5.16 Federal and State Regulations

The excavator complies with all applicable federal and state/provincial safety regulations, and, when required, provides training as it relates to the protection of underground facilities.

5.20 Excavation within Tolerance Zone

When excavation is to take place within the specified tolerance zone, the excavator exercises such reasonable care as may be necessary for the protection of any underground facility in or near the excavation area. Methods to consider, based on certain climate or geographical conditions, include hand digging when practical (pot holing), soft digging, vacuum excavation methods, pneumatic hand tools, other mechanical methods with the approval of the facility owner/operator, or other technical methods that may be developed. Hand digging and non-invasive methods are not required for pavement removal.
5.24 Facility Damage Notification

An excavator discovering or causing damage to underground facilities notifies the facility owner/operator and the one call center. All breaks, leaks, nicks, dents, gouges, grooves, or other damages to facility lines, conduits, coatings, or cathodic protection are reported.

5.25 Notification of Emergency Personnel

If the damage results in the escape of any flammable, toxic, or corrosive gas or liquid or endangers life, health, or property, the excavator responsible immediately notifies 911 and the facility owner/operator. The excavator takes reasonable measures to protect everyone in immediate danger, the general public, property, and the environment until the facility owner/operator or emergency responders arrive and complete their assessment.
Advisory Bulletin: ADB-99-04

August 27, 1999

Directional Drilling and Other Trenchless Technology Operations Conducted in Proximity to Underground Pipeline Facilities

AGENCY: Research and Special Programs Administration (RSPA), DOT.

ACTION: Notice; issuance of advisory bulletin.

SUMMARY: RSPA is issuing this advisory bulletin to owners and operators operators of natural gas and hazardous liquid pipeline systems to advise them to review, and amend if necessary, their written damage prevention program to minimize the risks associated with directional drilling and other trenchless technology operations near buried pipelines. This action follows several pipeline incidents involving trenchless technology operations which resulted in loss of life, injuries, and significant property damage. It also corresponds to National Transportation Safety Board (NTSB) Safety Recommendation P-99-1, which suggests that RSPA * * * ensure that the operators' damage prevention programs include actions to protect their facilities when directional drilling operations are conducted in proximity to those facilities.

This advisory bulletin emphasizes the importance of having procedures to mitigate the risks of directional drilling and other trenchless technology.

ADDRESSES: This document can be viewed at the Office of Pipeline Safety (OPS) home page at:

FOR FURTHER INFORMATION CONTACT: Eben M. Wyman, (202) 366-0918, or by email at eben.wyman@rspa.dot.gov.

SUPPLEMENTARY INFORMATION:
I. Background
RSPA revised its inspection form for hazardous liquid pipelines to examine how operators monitor directional drilling and other trenchless technology operations in the vicinity of underground pipelines. The pipeline safety regulations require pipeline operators to carry out a written damage prevention program for buried pipelines. The revised inspection form considers whether a pipeline operator’s damage prevention program includes actions to protect their facilities when directional drilling operations are conducted in proximity to the pipeline. RSPA will make similar changes to the natural gas pipeline inspection form in its next revision. In light of recent accidents involving trenchless technology operations, RSPA is encouraging operators to carefully review their damage prevention program and make modifications as appropriate. RSPA also notes the importance of accurately locating underground piping and ensuring the qualifications of personnel performing this work.

Additionally, NTSB Safety Recommendation P-99-1 (April 28, 1999) directs that RSPA [w]hen reviewing pipeline operator safety programs, ensure that the operators’ damage prevention programs include actions to protect their facilities when directional drilling operations are conducted in proximity to those facilities.

This recommendation reflects NTSB’s investigation into the rupture of a natural gas pipeline near Indianapolis, Indiana. The ignition of the escaping gas caused a fatality and an injury. NTSB determined that the probable cause was the failure of the pipeline operator to ensure that safe directional drilling operations were conducted in proximity to underground facilities.

RSPA believes that this Advisory Bulletin will encourage operators to recognize the dangers associated with directional drilling and other trenchless technology operations and to take appropriate action to ensure that underground facilities are adequately located and protected when these activities take place near pipeline facilities.

II. Advisory Bulletin (ADB-99-04)

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

Subject: Directional Drilling and Other Trenchless Technology

Operations Conducted in Proximity to Underground Pipeline Facilities.

Purpose: To ensure that pipeline operators take actions to recognize the dangers associated with directional drilling and other trenchless technology operations, and to ensure that underground pipeline facilities are adequately located and protected from inadvertent damage.

Advisory: RSPA urges all owners and operators of gas and hazardous liquid pipelines to review their operations, maintenance, and damage prevention programs to include effective actions to protect their underground facilities from the dangers posed by directional drilling and other trenchless technology operations. Operators should take actions to ensure that both company and contractor personnel are following safe practices.

Trenchless technologies, including directional drilling, are effective excavating practices that can reduce the threat of third-party damage to gas and hazardous liquid pipelines. They can also mitigate environmental and other concerns associated with traditional trenching methods of pipe and cable installation.

However, the potential exists for trenchless technology operations to damage underground facilities, sometimes with catastrophic results. Directional drilling and other trenchless technology operations employ a variety of cutting, jetting, boring, reaming, and jacking techniques. These techniques can result:
in rupture or damage to existing underground facilities, including oil and gas pipelines, electric cables and
ducts, water and sewer pipes, telecommunications ducts, fiber optic cables, and cable television facilities.

Usually, the exact depth of existing underground facilities is not known, even if the facilities are accurately
located before directional drilling commences. In addition, many facilities are buried deeper than the
minimums required by law and regulation. This can be caused by changes in the surface contours due to
agricultural activities, landscaping, and road building.

Damage to underground facilities can occur without any immediate indication to the operator. Sometimes
a damaged underground facility will not fail for years after the completion of trenchless technology
operations. Drilling equipment does not need to fully rupture a facility to create a hazardous situation.
Damage to coatings and other corrosion prevention systems can increase the risk of a delayed corrosion
failure. Escaping and migrating gas can create a safety issue for people living and working near these
facilities long after the completion of directional drilling and other trenchless technology operations.
Leakage from a damaged or ruptured hazardous liquid pipeline can create environmental and safety
issues.

The primary safety concern is ensuring that trenchless technology operations do not accidentally contact
existing underground facilities. This can be averted by knowing the precise locations of all underground
facilities in proximity to trenchless technology operations. In addition to full compliance with the one-call
notification process, the operator should also consider thorough site surveys of the area of a proposed
directional drilling or trenchless technology project to locate potential conflicts with underground facilities.

Information on the safe conduct of trenchless technology operations is available from various trade
associations and technical publications. In addition, the Gas Piping Technology Committee, a standards
committee composed of experts on gas piping issues, publishes guidelines for planning and designing
trenchless technology pipe installations in its Guide for Gas Transmission and Distribution Piping Systems,
which is available from the American Gas Association.


Richard B. Felder,

Associate Administrator for Pipeline Safety.

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