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Alert Notice to Underground Gas Pipeline Operators

Preventing Sewer Service Lateral Cross Bores:
Acceptable Practices and Documentation Requirements

Date:
May 10, 2010

Purpose:
The purpose of this Alert Notice is to provide guidance for gas pipeline installers on acceptable installation practices and documentation requirements when installing gas mains and services.

Background:
The Minnesota Office of Pipeline Safety (MNOPS) is now aware of at least 155 instances in Minnesota where gas pipelines were inadvertently installed through privately owned sewer service laterals due to trenchless construction techniques; MNOPS believes there are probably more.

The majority of these "cross bores" were found by plumbers while cleaning sewer service laterals. Since 2000, six gas lines have been punctured by sewer cleaning contractors. On three occasions, the gas ignited, resulting in significant injuries and property damage.

The following *Acceptable Practices and Documentation Requirements* were developed following a review of industry white papers, a review of previous cross-bore incidents, and discussions with gas distribution pipeline operators on widely available methods and practices.

Acceptable Practices and Documentation Requirements:
Gas pipelines must be installed using one or more of the following methods. Every individual sewer service lateral must be protected by use of one of these methods. Each description below includes documentation requirements.

1. **Open Trench Method**
   The open trench must extend the full width of the property or the full length of the installation. Document all addresses/locations where the installation was performed by open trench.

2. **Map and Record Method (Trenchless)**
Maps and records of sewer service laterals may be used to demonstrate that no conflict between the gas pipeline and the sewer service lateral is possible. For example, if the gas service enters the front of a structure and the sewer service exits the back of the same structure, the two utilities will not cross. Installer's complete confidence in sewer service lateral maps is essential. Document the criteria by which the lack of conflict was established and all addresses/locations where this method was used.

3. **Exposed Sewer Method (Trenchless)**
Pothole and expose the sewer service lateral at the gas crossing; the cutting head must be visible in the pothole. Document the distance between the drilling head and the sewer service lateral at all addresses/locations where this method was used. Photographic documentation showing both the drilling head and the sewer lateral is optional, but recommended.

4. **Sonde Method (Trenchless)**
Sewer service lateral location and depth may be determined by a sonde transmitter at the crossed location. If this method is used, the drilling head must be equipped with a sonde, and must be at least three feet from the sewer service lateral. Each sonde must be calibrated daily. Document the sewer service lateral depth and the drilling head depth at each crossed location along with all addresses/locations where this method was used.

5. **Relative Elevation Method (Trenchless)**
The highest elevation of an individual sewer service lateral may be determined by entering the structure and verifying the sewer drain's elevation as it leaves the structure. The drilling head must be equipped with a sonde, and the drill must at all times be at least three feet **above** the highest sewer service lateral elevation. The three-foot separation must be maintained across the entire width of the property. The sonde must be calibrated daily. Document the highest sewer service lateral elevation relative to the drilling head elevation along with all addresses/locations where this method was used.

6. **Televising Method (Trenchless)**
Individual sewer service laterals may be televised after the gas pipe has been installed. No gas may be introduced into the new pipeline until the sewer service lateral has been televised. Documentation: provide the televising video along with the written report. Correlate the sewer lateral connection (wye) location with the street address in written report. Use of this method does not alleviate the excavator's responsibility to obtain all available information regarding the location of sewer service laterals prior to installation of a gas pipeline (maps, drawings, diagrams or other records). Upon request by any representative of the Office of Pipeline Safety, excavator should be prepared to produce such information at the job site.

7. Other Trenchless Sewer Service Lateral Verification Methods
With prior approval from MNOPS, other gas pipeline installation methods that demonstrate and document protection of sewer service laterals may be used.

In all methods, documentation must be retained for the life of the pipeline.

None of the above procedures replaces Minnesota Statutes Chapter 216D or Minnesota Rules Part 7560. These methods do not replace the need to mark and locate sewer service laterals prior to construction.

After installation of new gas pipeline by methods 3 through 7, gas pipeline installers should report to local sewer operators the verified locations of individual sewer service laterals. These verifications improve location records of sewer operators. Improved sewer location records make future installation of underground utilities safer.

Installations made between Jan. 1 and May 10, 2010
Installations made between Jan. 1 and May 10 are required to have potentially intersecting sewer lines televised by June 1, 2010; if televising is not practicable, pipeline operators must propose an alternate method to demonstrate that no sewer service lateral damage occurred during installation. MNOPS will respond to any proposal within one week of receipt to ensure that all verification work will be completed by June 1, 2010.

Unacceptable Practices:

1. Listening devices may be used to supplement acceptable practices, but must not be used in lieu of them. Because there is no positive visual verification and no way to accurately document the results, the use of listening devices alone is unacceptable.

2. Any procedure that does not allow for positive documentation of cross bore prevention is unacceptable.

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