



Power and Communications Contractors Association
Position Paper
Underground Facility Damage Prevention
January 2019

The Power & Communication Contractors Association (PCCA) represents contractors, manufacturers, and suppliers that build and repair America's power and communications infrastructure, including electric transmission and distribution lines and substations and broadband, telephone, and cable television systems. PCCA members also engage in directional drilling, local area and premises wiring, water and sewer utilities, and gas and oil pipelines. PCCA members do what it takes to effectively install power and communication facilities while ensuring a safe worksite and protecting underground facilities in areas of excavation.

PCCA supports policy that reflects shared responsibility among all stakeholders in the damage prevention process and promotes three principal "pillars" to damage prevention: 1) membership of all owners/operators of underground facilities to the state one-call center, 2) accurate locating, and 3) "potholing" of underground facilities.

One-Call Membership

The establishment of "811" as the nationwide, toll-free one-call notification number has proved to be a valuable tool in reducing damages to underground facilities during excavation. However, one-call notification is only one side of the damage prevention coin. All underground facility operators must belong to one-call centers in states where they operate and respond in kind to locate requests prior to excavation activity. Without meeting all of these fundamental responsibilities, damage prevention is unattainable. Exemptions from these essential responsibilities undermine the entire process. Despite the fact that this is widely understood in the damage prevention realm, exemptions to the process continue to compromise safety.

Municipal exemptions are particularly precarious as they are common causes of dangerous cross bore situations. A study released in 2014 by the Pipeline and Hazardous Materials Safety Administration (PHMSA) entitled, *Study on the Impact of Damage Prevention on Pipeline Safety*, states that "[o]ne-call membership exemptions for sewer operators may contribute to unintentional cross bores of natural gas pipelines" and that "cross bores are more likely to occur when sewer operators are exempt from one-call membership requirements and don't have to mark their lines."

The 1999 *Common Ground Study of One-Call Systems and Damage Prevention Best Practices* was developed by virtually all stakeholders in the damage prevention process, including underground facility operators, excavators, locators, one-call centers, and others. The study states that "the underlying premise for preventing damage for underground facilities, and the foundation for this Study, is that all underground facility owners/operators are members of one-call centers, and that it is always best to call before excavation."

CGA Best Practice 3-26 states:

Membership in the one-call center by underground facility operators ensures that potential conflicts with existing facilities that may be encountered during excavation activities are identified by using a single regional point of contact. Operators of the aforementioned underground facilities who fail to become members of their local one-call center risk public safety and damage to their facilities, and endanger excavators who may come into contact with these aforementioned underground facilities.

Accurate Locating of Facilities

There is a wide range of underground pipes, wires, cables, and other underground facilities at various depths and sizes, as well as materials buried alone or as part of a bundle or joint trench buried underground. For excavation to be performed safely, facilities must be located accurately and in a timely fashion in accordance with state law.

While the traditional method of electromagnetic induction is an effective way to locate most underground facilities, it will not find polyethylene gas lines, dielectric fiber, or nonmetallic sewer and water lines that aren't accompanied by tracer wire or another conductor. Areas with multiple conductors in or on the ground present additional problems, such as crowded rights of way. Age, condition, and composition of facilities as well as the type of soil in which they are buried can further complicate locating them.

Technologies such as ground penetrating radar (GPR), acoustic/seismic measures, traceable wire, electronic markers, or closed-circuit television (CCTV) camera inspections are often necessary to combat tough situations, such as mitigating cross bore situations. While there are a number of steps that can mitigate all of these challenges, they must be performed by competent locating technicians. It is the responsibility of the operator to provide accurate and timely facility markings using qualified locators, whether contract or in-house personnel. In addition, locating excellence requires a focus on quality before quantity. Ensuring accurate locating needs to be the goal, not pushing locators to clear as many locating tickets as possible in a given day.

CGA Best Practices 4-5 and 4-6 states:

- *Locators are properly trained. Locator training is documented.*
- *Locates are performed safely... It is the responsibility of the owner/operator and locator to establish when and how the underground facility will be identified.*

Potholing

Excavation contractors obviously hold significant responsibility in preventing facility damages in addition to calling 811 in accordance with state law. Respecting facility markings and digging carefully during a project through backfilling are musts. While critically important, line markings are only estimations of the horizontal location of underground facilities. The only 100% method for determining their exact location is to safely expose them through "potholing."

Potholing is the practice of digging a test hole to expose an underground facility to determine its horizontal and vertical location. The position of the exposed facility must be tied to a survey benchmark or an above-grade feature, identified by GPS or traditional survey coordinates or by measuring the distance, with a tape measure, to permanent features. Safe, prudent, non-evasive potholing can be done by hand digging, vacuum or air vacuum excavation, or hydro excavation.

CGA Best Practice 5-20 states:

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.

Enforcement of Damage Prevention Law

The fundamental responsibilities in damage prevention are evident: excavators must call 811 before they dig, wait the required time before excavating, respect facility markings, and dig with care. Equally important, all underground facility operators must belong to their respective one-call center and ensure that facilities are marked accurately and in a timely fashion according to state law. Exemptions of responsibilities in this process only compromise safety, including municipal governments who operate water and sewer systems and oversee that infrastructure.

As states evaluate and adjust their damage prevention laws and enforcement practices in response to PHMSA enforcement regulation, PCCA believes enforcement must be administered in a balanced and equitable manner. Locating and accurate marking responsibilities subject to facility operators should be held in the same regard as one-call notification and safe digging practices subject to excavators.