

Each year, EPCOR responds to several emergency hits on underground power and natural gas lines by contractors. While contacts are unintentional they can still result in widespread service disruption and serious injury.

Under Ontario regulations, the party causing the damage to the underground utilities is responsible for the cost of repairs. The party may also be required to pay a fine or costs associated with an investigation. These costs could add up to thousands of dollars.

Business reputation can also be affected when a line is hit. Operations could be halted as the infrastructure is repaired, meaning you're unable to deliver on agreed upon project timelines.

Below, we outline best practices to help keep projects on track and crews heading home safely.

## Key hazards looming below ground

To protect yourself, be aware of the hazards. While today's standards require a minimum depth of 1.1 metres, older utility lines can be installed in shallower ground.

A site visit from the local utility technicians is required to assess the hazards before any digging can begin. Some of the unknowns you may encounter without a site visit include the following:

- **Utility congestion:** power cables may be installed in separate trenches or in common trenches with telecommunications and streetlight cables.
- **Varying depth:** both power cables and natural gas line can be installed at varying depths, often to offset other underground utilities. In addition, the fittings on a natural gas pipeline may also protrude above the pipeline elevation.
- **Unprotected lines:** power cables can be direct buried without the protection of a conduit or duck bank. Cable jackets are meant to protect the cable from the environment and from damage during installation but are not designed to withstand external force from a shovel or bucket.

## Top equipment offenders

At EPCOR, we see the majority of contact with underground natural gas and power lines come from backhoes. In the last year, EPCOR saw more than 75% of contacts came from backhoes, primarily used by contractors.

## Take preventative action

**Locate the line:** Before starting any type of excavation, you must contact Ontario One Call to have the underground utilities located. At no cost to you, they will notify your local utility or locate service provider for scheduling and completion of the request. Locates can take as much as six weeks so factor these timelines into your work schedule.

**Tip:** Locators are required to locate each circuit path for primary underground power; however, if multiple circuits are in the same trench, there may only be one locate alignment with a comment indicating multiple power lines. EPCOR or your utility provider can provide additional information on the number of circuits and cables.

**Expose the line:** No mechanical excavation is allowed within one (1) metre of the locate marks for underground power and within 300 millimetres for natural gas lines. You must hand-expose or hydrovac all utilities within this zone.

Hydrovac: are considered by industry as a safe way of exposing natural gas and underground power lines. Remember these tips:

- The excavation should begin beside the locate mark(s) and go to a depth below the expected depth of the buried facility. At that point, soil covering the buried utility can be removed.
- The water pressure and temperature settings must not exceed 1,500 psi and 38°C.
- The water wand must be in constant motion and should not be parallel to the buried utility.

Hand expose: never probe for buried lines with pointed tools such as pick axes or pointed bars. A shovel with a curved edge and dry, non-conductive handle must be used. Keep these tips in mind:

- Expose all the lines in your dig area within one (1) metre of either side of the locates.
- Hold the shovel at a shallow angle and use a prying motion to remove small layers of dirt at a time.
- Dig across buried lines not along the length of them.

**If you find cable or gas lines during excavation that are within the located area but not identified on the locate form, call EPCOR or the local utility. It could be an energized cable or unmarked live gas line, either of which could cause personal harm.**

## What do you do if you hit a line

If you suspect you've struck an underground line, call the local utility provider or 911 right away. This requires immediate attention. Once you've notified the utility or authorities, take the following actions:

- Keep everyone clear of the area by at least 10 metres.
- Turn off any machinery or motor vehicles immediately and have it remain in place.
- Don't smoke or use anything that could spark a flame.

**Tip:** If you hit an underground power line, do not exit the equipment unless it is an emergency (e.g. fire). If an exit is required then shuffle (keeping your feet together) until you're at least 10 metres away. Don't lift your feet off the ground.

## Stay safe

Striking an underground utility is preventable. Take the necessary precautions to identify buried lines and cables, properly expose them using the right equipment and maintain safe distances. Your local utility provider is a great resource for information and consultation on preventing line strikes. They can provide you with helpful contact cards, educational brochures or conduct an on-site inspection.

At EPCOR, safety is our top priority—for our employees, customers and the contractors we work with. No matter the size of your project, be sure to phone Ontario One Call at 1-800-400-2255 or visit [www.digsafe.ca](http://www.digsafe.ca) before you dig.

*EPCOR is a Canadian-based company that provides clean water, wastewater and drainage services and safe, reliable electricity and natural gas to more than one million residential and commercial customers in North America.*