

# Excavator safety near underground natural gas pipelines

Use this poster for employee training.



**Smell Gas. Act Fast.**  
In a gas emergency, call 911 and National Grid 24 hours a day, 7 days a week at 1-800-233-5325.

Always call **911** if you suspect a gas leak!

For excavator safety tips, tools and videos, visit [ngridssafety.com](http://ngridssafety.com). ➔



**Before you notify Dig Safe, pre-mark your proposed dig area with white paint, flags and/or stakes.**

## Help protect natural gas pipelines.

- **National Grid pipelines deliver natural gas safely and reliably** to homes and businesses across New York and Massachusetts. We regularly inspect these pipelines for corrosion and defects, monitor for leaks and conduct routine maintenance.
- **Hitting a natural gas pipeline has serious consequences.** Even a tiny gouge, scrape, dent or crease to a gas pipe or its coating may cause a leak that could lead to a catastrophic fire or explosion.
- **The greatest risk to gas pipelines is accidental damage during excavation.** We need your help to prevent pipeline damage and reduce the risk of dangerous natural gas leaks.

## Notify 811, and dig with care.

- State law requires you to call **Dig Safe®** or make an online request at least **72 hours** before any excavation starts, excluding weekends and legal holidays.
  - This **FREE** service will arrange for marking of buried natural gas lines and other utilities so that you can work a safe distance away from them.
  - Call **811** or **1-888-DIG-SAFE (344-7233)** | [digsafe.com](http://digsafe.com).
- **Wait the required time** for utilities to locate and mark their lines before you dig.
- **Physically locate marked natural gas pipelines by hand digging.** If you cannot locate marked pipelines, **STOP** digging and contact National Grid immediately.
- **Do not use mechanical excavation equipment within the “tolerance zone,”** which spans the width of a marked utility plus **18 inches** from each indicated outside edge. **Use ONLY hand tools or vacuum technology within this safety zone.**
- **If your excavation will cross a cast iron gas main or run parallel nearby, notify the 811 service and National Grid well in advance.** Cast iron gas mains in our Northeast communities may be damaged when the earth near them is moved in any way.



Always contact your state 811 center before digging and for the most current requirements.

**A gas leak may have a distinctive, sulfur-like odor (but not always).\*** So be alert for other warning signs as well:

- a hissing, whistling or roaring sound
- dirt blowing into the air from a hole in the ground
- continuous bubbling in water
- dead or dying vegetation (in an otherwise moist area) over or near a pipeline
- an exposed pipeline after a fire, flood or other disaster
- a damaged connection to a gas appliance

\*The odor of natural gas comes from a chemical additive called mercaptan. Be aware that some natural gas is not odorized, so some leaks may not be detectable by smell alone. Additionally, chemical or physical processes may strip the odorant from natural gas so that the gas no longer smells. This is known as “odor fade.”

Dirt blowing

Dead or dying vegetation

Water bubbling

Exposed pipeline

**Signs of a gas leak**

Leaking natural gas may throw dirt up into the air, kill grass or plants, or make bubbles in water. Gas pipelines exposed by fires or floods may be a source of leaks.

## If you contact a natural gas pipeline and/or suspect a gas leak:

- **Do NOT turn off engines or generators,** as a spark from the ignition could ignite leaking gas. Warn others and leave the area quickly.
- **Do NOT use matches, lighters, cigarettes (including e-cigarettes or vape pens), light switches or anything electrical** – not even a phone or garage door opener.
- **Do NOT crimp or tape a broken pipe,** or otherwise attempt to stop the flow of gas. Leave the excavation open.
- **Do NOT operate underground pipeline valves.**
- **From a safe location, call 911 and National Grid immediately.** Call even if there is no visible damage to the pipeline. (Excavators are required by law to call 911 if gas is escaping.)
- **Report the incident to your supervisor.**
- **Stay away from the area** until National Grid personnel say it is safe to return.

## Watch out around pipeline markers.

- **High-visibility yellow markers with National Grid’s 24-hour emergency phone number** indicate the general location of our high-pressure natural gas pipelines.
- **If you notice any type of suspicious activity or excavation occurring near a pipeline marker** or you see a damaged marker, call the National Grid emergency number immediately.
- **For security purposes, these markers do not show the exact location, path, depth or number of gas pipelines in the area.** In addition, pipelines may not follow a straight course between markers.
- **You can also find the general location of high-pressure natural gas transmission pipelines near you** through the National Pipeline Mapping System (NPMS) at <https://www.npms.phmsa.dot.gov>.
- **Never use pipeline markers or maps as a substitute for contacting 811.** Always notify the 811 service before digging to have all utility lines in your dig area located and marked. If you will be digging within **15 feet** of a high-pressure natural gas transmission pipeline, National Grid **MUST** be on-site during the excavation.

In addition to buried pipelines, our natural gas distribution system includes aboveground pipelines that run under bridges built over roads and waterways, other aboveground gas facilities and liquefied natural gas (LNG) transport trailers. These trailers carry LNG over roads and interstate highways to deliver LNG to acceptance sites, where we re-gasify and deliver it through our pipelines during periods of high demand.

Tear along perforated line.

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# Respond safely to natural gas emergencies.

Keep this card handy in your vehicle visor or glove box.

**Gas leak signs:** A gas leak may have a distinctive, sulfur-like odor (but not always). Other signs may include a hissing, whistling or roaring sound; dirt blowing into the air from a hole in the ground; continuous bubbling in water; dead or dying vegetation (in an otherwise moist area) over or near a pipeline; an exposed pipeline after a fire, flood or other disaster; or a damaged connection to a gas appliance.

- 1. Leave equipment; do NOT turn off engines or generators.** Warn others and leave the area quickly.
- 2. Do NOT use matches, lighters, cigarettes (including e-cigarettes or vape pens), light switches or anything electrical** – not even a phone or garage door opener.
- 3. Do not operate underground pipeline valves or stop the flow of gas.** Leave the excavation open.
- 4. From a safe location, call 911 and National Grid immediately.** Excavators are required by law to call 911 if gas is escaping.
- 5. Report the incident to your supervisor.**
- 6. Stay away from the area** until National Grid personnel say it is safe to return.

**Call 911 and National Grid** if you suspect a gas leak or if you make ANY contact with a natural gas line, even if you just nick the pipeline or damage its coating.

**Smell Gas. Act Fast.**  
In a gas emergency, call 911 and National Grid 24 hours a day, 7 days a week at 1-800-233-5325.

Always call **911** if you suspect a gas leak!





# Excavator Safety

Employee training materials on natural gas pipeline safety enclosed.

Protect yourself, your crew and the public. Urge your employees to follow the enclosed safety tips when they work around underground natural gas lines.



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Visit [ngridssafety.com](http://ngridssafety.com) and connect with us on    

Know what's below. 811 before you dig.



Employee training materials on natural gas pipeline safety enclosed.

104 Bridge Road  
Salisbury, MA 01952

Dear Excavator:

**Excavator pre-digging requirements by Massachusetts law** (Chapter 82, Section 4D) require excavators to **contact Dig Safe®, the association of registered public utilities, at least 72 hours (excluding weekends and legal holidays) before commencing excavating activity.** National Grid, as a member of Dig Safe, will be notified of your intent to excavate when you contact Dig Safe at either of the following toll-free numbers or website:

**811 or 1-888-DIG-SAFE (344-7233) | [digsafe.com](http://digsafe.com)**

**National Grid protocol when pipelines are identified within excavation areas**  
If National Grid gas pipeline facilities are within the described or pre-marked excavation area, the company will mark the location within the required safety zone with yellow paint, flags or other physical means. For larger projects, a National Grid employee or representative may contact you to coordinate scheduling of work as required by state law. Facility depth information cannot be provided because of grade changes that may have occurred after the gas facilities were installed. Facility location marks will not reflect any protrusions, appurtenances, fittings or valves that are inherent to underground pipeline facilities.

**Excavation procedures once gas utilities are marked**  
After such markings are provided, excavating personnel must determine the exact location of all underground facilities using safe and acceptable means. The law prevents powered or mechanized excavation within 18 inches on either side of the indicated outside edge of underground facilities. **Any excavation required in this zone should be performed very carefully with hand tools only and without damage to the facility.** Damage includes but is not limited to nicks, dents, cuts, scrapes or gouges to the marker balls, tracer wire, pipe surface or coating; seemingly insignificant damage can lead to a future pipeline failure. Excavators must also exercise reasonable care to support gas pipelines during excavation and backfill activities to avoid pipes being damaged by their own weight or excavation compaction. Excavators should notify National Grid whenever cast iron gas pipe is exposed or falls within an excavation trench's angle of repose.

**Excavator information sessions and safety presentations**  
Visit [digsafe.com](http://digsafe.com) and click the "Education" button to schedule on-site training on the damage prevention process, safe work practices and an overview of the Dig Safe law. Thank you.

Sincerely,

*Mark Huck*

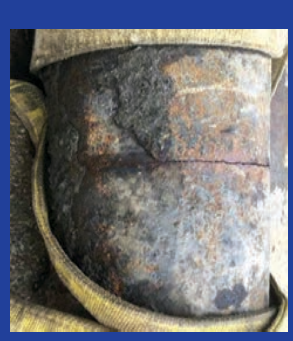
Mark Huck  
Damage Prevention  
NewEnglandDamagePrevention@nationalgrid.com

For additional excavation safety training tips, tools and videos, visit [ngridssafety.com](http://ngridssafety.com).

## Backfill for pipeline safety

- Remove sharp objects, trash, debris, wire and rocks from the trench.
- Backfill a 6-inch radius of padding sand around natural gas pipelines.
- Remove rocks more than 3 inches in diameter from the padding sand level to grade.
- Use only clean backfill materials – no paving materials, cinders, ash or flowable fill.
- Compact soil in 12-inch lifts up to 6 inches above the pipe to a density comparable to the surrounding soil.
- Do not damage the copper wire that may be running near a plastic natural gas pipeline.
- Hand tamp around fittings where mechanical compaction cannot be used.

## Plan ahead to protect cast iron gas mains



Cast iron gas mains are supported by the soil around them. **They can be damaged when the earth near them is moved in any way.** When possible, work with National Grid to plan your excavation to avoid damage to cast iron mains.



Please visit [nationalgridus.com](http://nationalgridus.com) for more natural gas safety tips. Translations of important safety information and National Grid services are available by choosing the **Select Language** feature at [nationalgridus.com](http://nationalgridus.com).

See "select language" link at [nationalgridus.com](http://nationalgridus.com)

Vași el enlăce "selecționare limbaj" pe [nationalgridus.com](http://nationalgridus.com)  
Voiți le lien « sélectionner la langue » sur [nationalgridus.com](http://nationalgridus.com)  
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Ver a ligação "selecionar língua" em [nationalgridus.com](http://nationalgridus.com)  
Cik, cchynny "Buloparyt rasyke" na kabre [nationalgridus.com](http://nationalgridus.com)  
Xem liên kết "tựa chọn ngôn ngữ" tại [nationalgridus.com](http://nationalgridus.com)

This is an important notice. Please have it translated.  
Este é um aviso importante. Questa mensagem tradurr.  
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Avis important. Veuillez traduire immédiatement.  
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ĐÂY LÀ MỘT BẠN THÔNG CÁO QUAN TRỌNG  
XIN VUI LÒNG CHO DỊCH LẠI THÔNG CÁO AÝ  
Это очень важное сообщение. Пожалуйста, попросите, чтобы вам его перевели.

## Have you notified 811 yet?

Call 811 or make an online request before you start digging. It's the law!

### Five steps for safe excavation

- Plan your job and pre-mark your dig area with white paint, flags and/or stakes.
- Call 811 or make an online dig ticket request before any excavation starts: **811** or **1-888-DIG-SAFE (344-7233) | [digsafe.com](http://digsafe.com)**.
- Wait the required time for utilities to locate and mark their lines: **At least 72 hours** excluding weekends and legal holidays.
- Respect the marks and maintain them while digging.
- Dig with care and follow hand-excavating rules.

Always contact your state 811 center before digging and for the most current requirements.

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Always call 911 if you suspect a gas leak!

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### American Public Works Association color code for locator marks



- Electric power lines
- Gas, oil or steam
- Communications lines, cables or conduit
- Temporary survey markings
- Potable water
- Reclaimed water, irrigation and slurry lines
- Proposed excavation
- Sewers and drain lines

If you find an unmarked utility line, stop digging and call **811** immediately.

