Excavation Safety

You are receiving this brochure because you participate in excavation related activities near the Portland Natural Gas Transmission System, operated by TransCanada. This brochure contains important safety information about natural gas pipelines.

Please retain this brochure for your information.

811 Know what's **below.** **Call 811** before you dig.

Portland Natural Gas Transmission System

About Us

TransCanada is a leading North American energy infrastructure company with an industry leading safety record. For more than 65 years, we have been building, operating, and maintaining pipeline systems in a responsible and reliable way to meet the energy needs of North America.

What is Natural Gas?

- Natural gas is an energy source composed mostly of methane.
- Natural gas is said to be odorless, but some people detect a slight hydrocarbon smell. If the gas has been odorized, it could smell "skunk-like" or similar to rotten eggs.
- Natural gas is highly flammable and explosive.

Our Natural Gas Facilities

TransCanada owns and operates pipelines and other associated natural gas facilities including meter stations and compressor stations.

Pipelines

Pipelines are the safest and most efficient method to transport energy to market. Our pipelines are built using industry best practices, which include using the highest quality materials during the construction and implementing routine quality inspections and 24 hour monitoring programs throughout the life of the pipeline.

Meter Stations

Meter stations are facilities necessary within a pipeline system that measure the volume of natural gas transported by a pipeline. Natural gas is measured at all locations where it either enters the pipeline (receipt station) or leaves the pipeline (sales station).

Compressor Stations

As natural gas flows along a pipeline, it slows due to friction between it and the pipeline. This results in a loss of pressure along the pipeline. In order to make the gas flow continuously at the desired flow rate, it is re-pressurized at suitable locations along the pipeline. This is done by mechanically compressing the gas at sites connected to the pipeline known as compressor stations. The location and quantity of compressor stations required in a pipeline system is dependent on a number of factors, including the operating pressure of the pipeline, the diameter of the pipe used, elevation changes along the pipeline route and the desired volume of gas to be delivered.

Maintaining Pipeline Safety

- TransCanada conducts a rigorous pipeline maintenance program to ensure the integrity and safety of our systems. This includes but is not limited to ground surveys, cathodic protection, hydrostatic testing, investigative digs, patrols and in-line inspections.
- TransCanada works to meet all applicable federal and state safety standards.
- The pipeline facilities are constantly monitored to ensure safety and integrity of the entire system 24/7.
- The pipelines are equipped with multiple valves that can isolate sections of the pipeline, reducing the potential amount of product released.
- TransCanada patrols pipeline right-of-ways to identify any unsafe or unauthorized activity within the right-of-ways which could damage the pipeline.
- TransCanada's employees are trained to meet all mandated federal requirements for Pipeline Operator Qualifications in the U.S.
- In accordance with federal regulations, some segments along TransCanada's pipelines have been designated as High Consequence Areas (HCAs) where extra precautions are taken. For information regarding these measures, contact TransCanada and ask to speak with the US IMP Program Manager.

Excavation

Unauthorized digging by contractors, farmers, landscapers and homeowners is the leading cause of pipeline incidents.

Before conducting any excavation, either by hand or with machinery, contact your local One-Call center by calling '811' – America's national toll-free number for requesting underground utility location.

The One-Call Center will notify owners of buried facilities in your area, who will send representatives to mark these facilities with flags, paint or other marks, helping you avoid damaging them.

A notification to the One-Call Center is required by law in the United States. The service is free and could prevent accidents, injuries or deaths.

Dig with **C.A.R.E.**

Call 811 before you dig

Or visit www.call811.com.

Allow required time for marking

Two-three business days (varies by state).

Respect the marks

Lines are marked by flags, paint or other markers (normally yellow for pipelines).

Excavate carefully

Hand dig to determine exact locations of pipelines. A TransCanada representative must be present. All digging must take place during the time allotted by the TransCanada representative.

Consequences of Unsafe Digging

Interrupted services such as electricity, gas and water.

Underground utilities are damaged every two minutes in the United States due to unsafe excavation work*.

Fines and repair costs to fix the underground utility line(s).

Enforcement guidelines are state-specific.

Risk of serious injuries and death.

Since 2008, the Pipeline and Hazardous Materials Safety Administration (PHMSA) has reported 98 injured workers and 17 fatalities due to damages done to underground infrastructures during excavation work**.

**2015, Common Ground Alliance, DIRT Report*
*** 2015, PHMSA, Serious Pipeline Incidents*

Agriculture Safety

TransCanada wants to ensure the safety of anyone living or working near our facilities, and that includes America's active farming community.

Normal farming practices can be completed without notice to TransCanada or contacting '811' but ground disturbance and some other activities can pose a risk to underground utilities and may require permission or coordination.

These include:

- Ground leveling
- Sludge spreading
- Clearing/Brushing/ Grubbing
- Reducing or adding soil cover
- Deep tilling/Sub-soiling
- Trenching
- Earth moving
- Drainage ditch clean out
- Drain tile installation
- Terracing
- Fencing/Landscaping
- Excavation
- Augering
- Stockpiling/Storage/ Parking
- Blasting activities
- Building construction
- Controlled burning

Crossing and Encroachment

A crossing or encroachment is a temporary or permanent structure across, on, along or under a facility or pipeline right-of-way. A crossing can also mean equipment or machinery crossing over the pipeline right-of-way or facility site.

Like excavations, crossings and encroachments can pose a threat to the pipeline.

If you think your activity requires a crossing agreement with TransCanada, please contact us by phone at **1.800.562.8931** or by email at **us_crossings@transcanada.com**. To better serve you and speed up your request, please provide the following information:

- Proposed activity – what are you planning to do?
- Location of proposed work (GPS coordinates are preferred)
- Make(s) and model(s) of any of the equipment that will cross/encroach the pipeline facilities
- Proposed activity date
- Axel load (weight)
- Your name and phone number
- Email address

Once you have received approval, the party completing the work must call '811' to request a locate of the pipelines before beginning work.

Pipeline Location

- Most pipelines are buried underground in an area of cleared land often referred to as the "right-of-way". The area on either side of the pipeline within the right-of-way must be clear of trees, shrubs, buildings, fences, structures or any other encroachments.
- Markers are used to indicate a pipeline's **approximate** location as well as the name of the pipeline and the operator's information.
- Only a TransCanada representative can determine the location and depth of the pipeline. Pipelines may not follow a straight course between marker signs.
- You can access further information regarding transmission pipelines in your community transporting natural gas or other fuels through the National Pipeline Mapping System (N.P.M.S.) at www.npms.phmsa.dot.gov.
- If you observe any unusual or suspicious activities near a pipeline, please immediately report the issue to law enforcement or the pipeline company.

Warning Sign

Line Marker

Vent Marker

Aerial Marker

Pipeline Markers

- Pipeline marker signs contain important information, including the owner of the pipeline, the product shipped in the pipeline and emergency contact numbers.
- TransCanada uses a variety of markers and signs along right-of-ways to alert people to the general location of its pipelines. Markers are typically placed where the pipeline intersects streets, railroads, rivers, fence rows and in heavily congested areas.
- **Do not rely on pipeline markers or signs to show you the pipeline's location, path or depth**. Instead call '811'. TransCanada and other utilities will send a representative to the proposed excavation site to mark buried utilities at no cost to you.
- It is against the law to willfully and knowingly deface, damage, remove or destroy any pipeline sign. If these signs are missing, damaged or otherwise unreadable, please contact TransCanada to replace them.

Emergency Preparedness

A pipeline incident could involve an uncontrolled or unplanned release of natural gas from the pipeline system. TransCanada's leak detection systems, elevated safety features and specially trained staff make us confident that leaks will be identified and addressed.

In the unlikely event an incident should occur, TransCanada would immediately respond by shutting down the pipeline and dispatching emergency personnel to the location of the incident. Valves spaced at intervals along all TransCanada pipelines allow incidents to be quickly and effectively isolated.

Trained crews would be dispatched to the site work to further isolate the area and coordinate a response with local emergency services. TransCanada will not restart the pipeline until the issue has been identified and it is safe to do so.

TransCanada's policies and practices for emergency response planning go above and beyond the standard regulatory requirements for emergency response.

Being a Partner in Pipeline Safety

Although a pipeline leak is rare, it is important to know how to recognize the signs. Use your senses of smelling, seeing and hearing to detect a potential pipeline leak.

What you may smell

- Transmission lines that transport natural gas across the U.S. are rarely odorized, but may have a slight hydrocarbon smell. Distribution lines that transport natural gas to homes and businesses are odorized and could smell "skunk-like" or similar to rotten eggs.

What you may see

- Dead or dying vegetation on or near a pipeline in a normally green area
- Water bubbling or blowing into the air at a pond, creek or river
- Dirt being blown or appearing thrown into the air
- An accumulation of ice or frost over the pipeline (in the summer)

What you may hear

- A hissing, roaring or bubbling sound

If You Suspect a Leak

If you witness any of the typical signs listed, or any other unusual sights, sounds or smells near a pipeline location, it is important that you follow these steps:

1. **Leave** the area immediately on foot – do not use motor vehicles or any equipment that could be a potential ignition source.
2. **Move** to a safe location, call '**911**'.
3. **Call** the emergency number 1.800.830.9865. This number can be found on all pipeline marker signs.
4. **Warn** others to stay away.

Safety in the Community

Safety is a core value at TransCanada. We make safety – for ourselves, each other, our contractors and for members of our communities – an integral part of the way we work.

TransCanada's operations extend across North America with established offices in key communities. Each region is fully staffed with qualified employees trained in pipeline safety and emergency response to ensure the safe and efficient operation of the facilities in the area.

We view the communities in which we operate as emergency response partners. We work collaboratively with these stakeholders on a continuous basis, inviting them to participate in exercises and training.

We work with emergency response officials to ensure everyone is familiar with local operations and is ready to respond in the event of an incident.

What to do if you strike a pipeline

A "strike" is any unauthorized contact with a pipeline and can include mechanical equipment like a backhoe or hand tools, such as a shovel. Whether or not the pipe appears to be damaged, if you strike a pipeline, it is important that you follow these steps:

1. Stop all excavation and construction. Shut off all machinery if safe to do so and move away from the area on foot – warn others to do the same.
2. Do not attempt to repair the pipe or operate any valves.
3. Call **'911**' as soon as you are in a safe location. Describe the situation and inform the operator of any injuries, leaking product or fire.
4. Call TransCanada's emergency number 1.800.830.9865 and explain the incident. This number is available on all pipeline marker signs.
5. Do not continue your project until authorized by a TransCanada representative.

The safety of the surrounding population dramatically decreases when a pipeline is damaged. Contact TransCanada as soon as possible so we can make any necessary repairs.

Standardized Color Code

Sourced from American Public Works Association (APWA). Some states have different codes. When you request a locate, colored flags and/or paint are used to mark the location and type of underground utility.

- Proposed Excavation
- Temporary Survey Markings
- Electric Power Lines, Cables, Conduit and Lighting Cables
- Gas, Oil, Steam, Petroleum or Gaseous Materials
- Communication, Alarm or Signal Lines, Cables or Conduit
- Potable Water
- Reclaimed Water, Irrigation and Slurry Lines
- Sewers and Drain Lines

Important Contact Information

Call or Click Before You Dig

Phone 811
Online www.call811.com

Emergencies 1.800.830.9865

General Inquiries

Email ..... public_awareness@transcanada.com
Phone 1.855.458.6715

Landowner Inquiries

Phone 1.877.287.1782

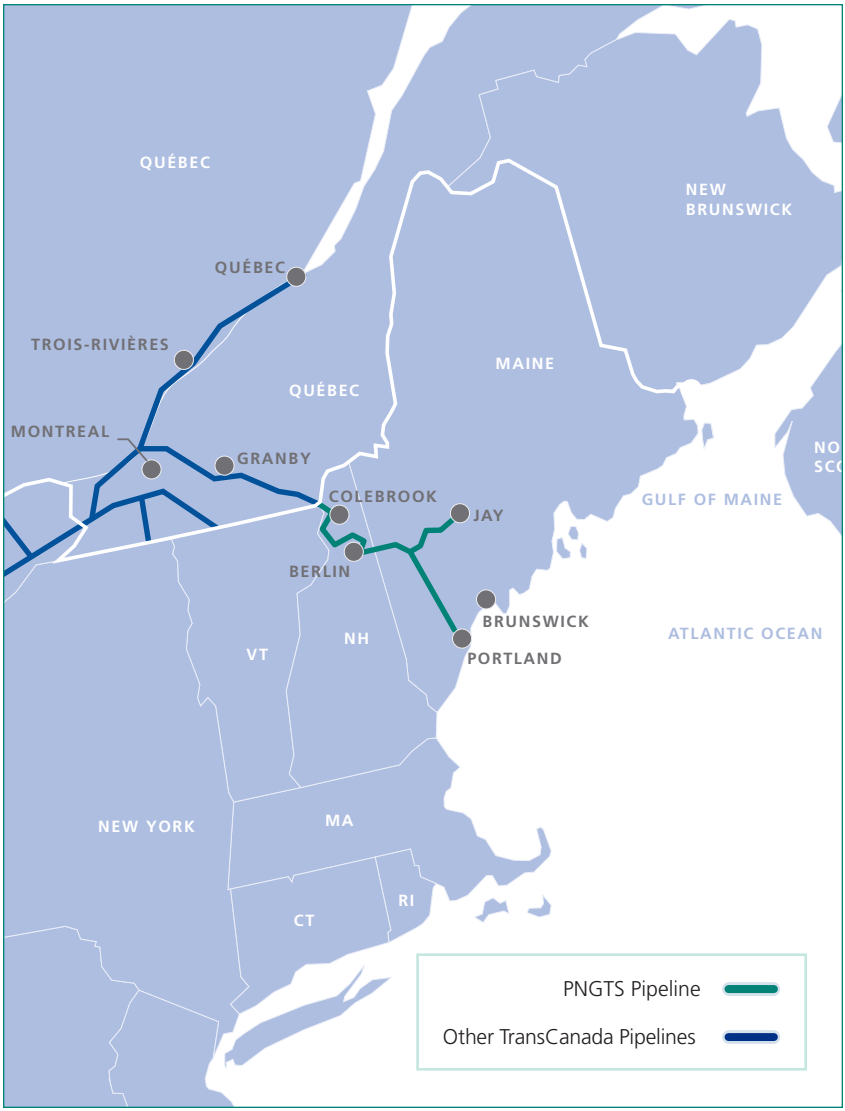
Crossing or Encroachment Agreements

Email ..... us_crossings@transcanada.com
Phone 1.800.562.8931

TransCanada is regulated by US Department of Transportation Pipeline and Hazardous Materials Safety Administration (PHMSA) in the United States.

You can access further information regarding transmission pipelines located in your community transporting hazardous liquids or natural gas through the National Pipeline Mapping System at www.npms.phmsa.dot.gov.

Portland Natural Gas System



In the case of an emergency, call 1.800.830.9865.

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