AltaGas

Emergency Response and Safety Guide

Gas Division

Founded in 1994, AltaGas has evolved into a diversified operator and developer of gas, power and utility infrastructure. Our gas business gathers, processes, transports, stores, and markets natural gas and natural gas liquids.

Field Gathering & Processing

We have gathering and processing facilities across western Canada that process raw natural gas to remove impurities, and in some cases, to extract higher valueadded NGLs for sale. Our network of gathering and sales pipelines provides producers in the Western Canada Sedimentary Basin with quick access to North American markets for their natural gas.

Extraction

Our extraction assets include plants that reprocess natural gas to recover ethane and natural gas liquids (NGLs). Our facilities are strategically located near pipeline transmission systems that transport natural gas to end markets.

Transmission

Our transmission pipelines deliver natural gas and NGLs to distribution systems, end users, and other downstream pipelines.

AltaGas Contact Information

Emergency 24-hour emergency line: 1.866.826.3830 Questions, comments, concerns 1.888.890.2715



Product Characteristics & Safety Information

Across AltaGas' array of facilities and operations, we process, store, and ship a number of different products of raw natural gas.

When raw natural gas is extracted from the ground, it contains several different types of products that need to be separated:

- Natural gas: the natural gas that gets delivered to your home for heating and cooking is composed primarily of methane
- Natural gas liquids: these hydrocarbons are heavier than methane. They are extracted from the methane through a combination of processes, including cooling, compression, and chemical processes that separate them from the methane as liquids. Once natural gas liquids are separated from the methane, they can be further split out into different products:
 - Ethane
 - · Propane
 - Butane
 - Condensate also called natural gasoline or pentane + (meaning hydrocarbons including and larger than pentane)
 - Impurities:
 - Water
 - Carbon dioxide
 - Hydrogen sulphide: this highly toxic gas is a component of raw sour gas that must be separated out prior to consumption.
 Raw sweet natural gas does not contain hydrogen sulphide

Properties of Natural Gas:

- Stored and transported under pressure
- Lighter than air
- · Flammable when mixed with air
 - Ignition can occur from any source that creates a spark such as static electricity, matches, pilot lights, phones, electric motors, internal combustion engines
- Asphyxiant when it displaces oxygen
- Exposure to skin or eyes can cause freezing of tissue
- · Sweet natural gas is odorless unless mixed with an odorant
- Natural gas that smells like rotten eggs is sour, meaning it contains highly toxic hydrogen sulphide (H2S)
 - · Hydrogen sulphide is heavier than air

Properties of Natural Gas Liquids

- · Natural Gas Liquids are also called High Vapour Pressure (HVP) liquids
- Upon release the liquids will immediately convert to gas and freeze the immediate area around a leak
- Exposure to skin or eyes can cause freezing of tissue
- \cdot Vapour that forms is flammable when mixed with air
 - Ignition can occur from any source that creates a spark such as static electricity, matches, pilot lights, phones, electric motors, internal combustion engines
- Asphyxiant when it displaces oxygen
- · HVP gases are colourless and may have a strong gasoline odour.
- · An HVP gas release will form a visible white cloud extending downwind
- HVP gases are heavier than air and will collect in low areas, ditches and drains
- Exposed vegetation will turn brown and the gas will penetrate porous soils
- Exposed snow will turn yellow and the gases will accumulate under snow in low lying areas

Pipeline & Facility Safety

We employ industry best practices during construction of our pipelines and facilities, and during operation we follow rigorous maintenance and inspection activities as part of our damage prevention program.

Pipeline Right-of-Way

Pipelines are the safest way to transport petroleum products when compared to other methods of transportation, such as trucking. Clear regulation and robust safety standards have been in place for decades to cover the lifecycle of our assets. The right-of-way is the strip of land in which the pipeline is buried. It is kept clear of shrubs and trees, buildings, and anything else that could obstruct the view of the pipeline. This is done so that any disturbance or leak on the pipeline is visible. There are also restrictions on the types of activities that can occur on the right-of-way. The purpose of these restrictions is to prevent people or vehicles from damaging the pipeline. Our rights-of-way are monitored in a variety of ways, including automated monitoring systems, ground patrols, and air patrols to ensure that our pipelines are operating safely.

Pipeline Integrity

Our pipelines are protected by a thick coating and cathodic protection, which uses electricity to prevent corrosion of the pipe walls. In addition, inspection tools called PIGs (Pipeline Inspection Gauges) are sent down the pipeline regularly to clean the pipe and to check for any abnormalities in the pipe wall.



Facility Safety

There are a variety of activities that occur on pipeline rights-of-way and in the areas surrounding our pipelines and facilities, including:

- Other pipeline operations
- Other industrial facilities
- · Agricultural activities
- · Urban and residential areas
- Road crossings
- Recreational activities
- · Excavation, development, and construction activities

AltaGas is committed to working with stakeholders involved in these activities to ensure the safety of all our employees and neighbours.

AltaGas Emergency Response

AltaGas has Emergency Response Plans (ERPs) for its pipelines and facilities. These plans contain information and protocols to help AltaGas and other emergency responders address emergency situations in a timely and safe manner.

In the event of an emergency on our right-of-way or at one of our facilities, we would activate our Emergency Response Plan (ERP) for that pipeline or facility. We would then take steps to secure the situation and ensure everyone's safety. If necessary, we would contact our neighbours within the surrounding area – this includes residents, local businesses, local governments, first responders, other industrial operators, and individuals traveling through the area – in order to alert them to the situation and provide instructions for the best course of action. We would also contact all relevant regulators to inform them of the situation.

In order to ensure that our ERPs are comprehensive, AltaGas conducts hazard assessments for each of its facilities and pipelines. In these assessments, we identify all the hazards that the facility or pipeline is exposed to, and then evaluate how likely each hazard is to occur and how much of an impact it could potentially have. Types of hazards that are identified and evaluated include:

- Pipeline hits and ruptures
- · Fires and explosions on our pipelines or at our facilities
- Vehicle and transportation accidents
- · Failure or damage of assets or infrastructure
- Gas releases
- · Chemical or hazardous material releases
- Medical events
- Breaches of site security at our facilities
- · Natural hazards, natural disasters, and severe weath

Emergency Exercises

Our employees participate in regular emergency-simulation exercises, in which we work through hypothetical emergency scenarios to practice our response procedures.

Collaborative Approach

We will work collaboratively with local authorities, emergency response agencies, and neighboring operators as necessary to provide an effective and efficient response.

Emergency Response Plan (ERP) Development

When AltaGas develops a new facility, we take the following steps in emergency response planning, beginning in the early planning stages of the project and continuing throughout its lifespan.



Call Before You Dig

Always call or click before you dig. If you are planning projects that require ground disturbance work of any kind, call your provincial One Call centre 72 hours prior to commencing work and request that the buried facilities in the vicinity of your project be located and marked.

One-Call Centres

British Columbia	1.800.474.6886 bconecall.bc.ca
Alberta	1.800.242.3447 alberta1call.com
Saskatchewan	1.866.828.4888 sask1stcall.com
Washington	1.800.424.5555 or 811 callbeforeyoudig.org/washington

When to Call

Always call before beginning any digging or excavation project, including:

- Deep ploughing
- Installing drain tiles
- · Installing a new deck, fence, or driveway
- · Planting a tree

AltaGas 24-hour Emergency Line Canada: 1.866.826.3830 Washington: 1.360.384.1701

Questions? AltaGas Ltd. Toll-free: 1.888.890.2715