Guide to Pipeline Emergencies
For First Responders & Emergency Planners

In the unlikely event of a pipeline emergency you should:

- Contact Alliance Pipeline
- Establish a Safety Zone
- Initiate Incident Command

Alliance Pipeline 24-hour emergency number
1-800-884-8811

www.alliancepipeline.com
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Why are you receiving this guide?

Alliance Pipeline is a natural gas pipeline. We are committed to the safety of the public, our employees and the environment. As part of this commitment we want to ensure you understand how to respond to a pipeline emergency.

Quick Reference:

What you need to know

Incident Action Plan (Emergency Response Plan):

Notify Alliance Pipeline of incident: 1-800-884-8811. Provide:

- Name
- Location
- Description of the emergency
- Establish communication between Alliance and Incident Commander

Establish a Safety Zone – minimum radius of 800 m (1/2 mile)

- Isolate area and deny entry
- Eliminate all ignition sources
- If possible, monitor atmosphere (natural gas detection equipment)
- Protect people first, property second
- Evacuate if necessary and safe to do so
- Contain or control secondary fires if safe to do so

Incident Command

- Maintain lines of communication until Alliance representatives arrive on site
- Alliance representatives can provide pipeline specific information:
  - Pipeline pressures
  - Valve closures and or system shut in
  - Estimated time until line is depressurized
- Alliance employees integrate into the established unified command structure
The Alliance Pipeline System

Fast Facts

- Transports liquids-rich natural gas
- Approximately 1.6 billion cubic feet of gas is transported each day
- Total length: 3,848 km (2,391 mi)
- Maximum operating pressure: 1743 psi, 1935 psi
- Pipe diameter on mainline 189 cm or 91 cm (36” or 42”) and 10 cm – 60 cm (4” – 24”) on lateral pipelines
- Minimum steel thickness: 0.7493 cm (0.295”) (pipe walls thicker under roads and waterways)
- Minimum safety zone: 800 m (1/2 mile)

Alliance Pipeline is part of the pipeline transmission highway transporting the large volumes of energy that North America needs. Every day, Alliance transports approximately 1.6 billion cubic feet of gas, which is enough to heat seven million homes.

- Our mainline system is both internally and externally coated with fusion-bond epoxy. It is generally tougher and 20 to 50 percent thicker than most operating pipelines in North America.
- The lateral or gathering system consists of pipelines ranging in diameter size from 114 mm to 610 mm (4” to 24”), with lengths ranging from 0.3 km to 142 km (0.19 mi to 88 mi).
- The pipeline is remotely monitored and operated by our gas control centre 24/7, 365 days per year.
- When required, we can isolate any portion of the system. Our gas control centre also helps Alliance communicate with and integrate into an incident command structure.
- Compressor stations, which help move the gas down the pipeline, are located approximately 193 km (120 mi) apart. Together with block valves, we can use these stations as another way to isolate areas of the pipeline.
- Our mainline block valves can be used to stop the flow of gas in the pipeline and are located every 32 km (20 mi) along the system.
- In addition to being remotely controlled, block valves have low pressure detection instruments which can close valves automatically.
Are all pipeline emergencies the same?

Not all pipelines are the same. There can be multiple pipelines beneath the surface in your jurisdiction and they may carry different products, from natural gas and oil to refined products like gasoline. To safely and effectively deal with an incident, you need to understand the various products.

Learning about the products provides an opportunity to work with the pipeline companies in your area. If you do not know who operates in your area, information about the various pipelines can be found on the marker posts at crossing locations such as roads, rails, rivers or streams. Another source of information is municipal maps. In the US, there is a National Pipeline Mapping System you can access by visiting www.npms.phmsa.dot.gov.

Why is an Emergency Response Plan important?

An Emergency Response Plan outlines the necessary actions and decisions required to manage an emergency situation. It contains specific steps that the pipeline operator needs to take to control the incident, including how to proceed with the deployment of emergency personnel, evacuation plans, location of access points and communications procedures.

In the event of an incident, Alliance will use the Incident Command System (ICS), which is an organizational structure used for the command, control and coordination of an emergency response.

NOTE: If you require additional information about ICS or would like to access training, visit www.icscanada.ca

Pipeline Markers

Pipeline markers include three important messages:

- The name of the operator
- An emergency phone number
- The product being transported

Alliance Pipeline 24-hour emergency number 1-800-884-8811
Alliance Products and Risks

In the pipe:

The Alliance system is different from most natural gas transmission systems because we transport liquids-rich natural gas rather than just “dry gas” (methane). Methane is the primary constituent in the pipeline, but other products in the natural gas stream can include:

- Ethane
- Propane
- Butane
- Pentane
- Trace elements of other hydrocarbons (e.g. isobutane, isopentane, hexane, heptane, nitrogen.)

About natural gas:

The following information can be found in your Emergency Response Guidebook Book Guide, #115.

- Natural gas is a fossil fuel that has methane as its primary compound. It is derived from organic material that was deposited or buried under the earth millions of years ago.
- Natural gas is odourless and colourless and, when mixed with the requisite volume of air and ignited, it burns with a clean, blue flame that generates radiant heat.
- It is considered one of the cleanest-burning fuels, producing carbon dioxide and water vapour.

Properties and characteristics of natural gas are:

- Lighter than air*
- Highly combustible
- Clean burning
- Efficient
- Abundant
- Odourless and invisible (possibly a diesel-like odour may be detected)
- Non-absorbing
- Non-corrosive
- Non-Toxic
- Explosive under pressure

* Some of the individual constituents are heavier than air, however they are entrained into the methane gas stream and in the event of a release should not act independently.

Highly Volatile Liquids

The liquids we transport, such as butane, propane, ethane, pentane are heavier than air as they vapourize. They may spread along the ground and travel to an ignition source and flash back. If inhaled, these vapours can cause dizziness or asphyxiation.

If you contact these liquids you can receive a burn or frostbite, even if wearing your protective clothing. That is why it is critical that you stay upwind of the incident.
Signs of a Natural Gas Pipeline Leak

In the unlikely event of a pipeline emergency, it’s important that you know the warning signs.

- Unusual hissing, whistling or roaring
- No odour or may smell similar to diesel, oil or propane*
- Steam-like cloud
- Unexpected frost on the ground
- Dirt blowing from the ground
- Bubbling in wet areas
- Dying or discoloured vegetation along the right-of-way

* Unlike natural gas delivered to your home which may be odourized, natural gas on the Alliance System is not odourized

Emergency Response

If you have been called to respond to an emergency on the Alliance pipeline system or at one of our facilities, the following information will help you understand how Alliance will integrate with the on-site incident command structure.

- Alliance Pipeline follows the Incident Command System (ICS).
- ICS is a standardized on-site management system designed to enable effective, efficient incident management by integrating a combination of facilities, equipment, personnel, procedures, and communications operating within a common organizational structure.
- ICS helps support:
  - The safety of responders and others
  - The achievement of response objectives
  - The efficient use of resources
  - ICS has flexibility to grow or shrink to meet the needs and requirements of the emergency situation and provides the mechanism for coordinated and collaborative incident management.
On-site Steps Required to Manage a Pipeline Incident

If you suspect a pipeline emergency:

1. Assess the situation
   a. Approach with caution from an upwind location
   b. Do not walk or drive into a vapour cloud or pool of liquid
   c. Eliminate ignition sources (cigarettes, cell phones, radios, vehicles)
   d. Establish a safety perimeter of at least 800 m (1/2 mile) around the incident site

2. Protect people, property and the environment
   a. Evacuate if safe to do so
   b. Avoid contacting product released from a pipeline
   c. Let the primary fire burn; never attempt to put out a pipeline fire. It’s best to let the product burn itself out
   d. Put out secondary fires if safe to do so
   e. Do not operate pipeline valves

3. Call for assistance
   a. From a safe, upwind location call the Alliance 24-hour emergency phone number 1-800-884-8811

4. Work together with pipeline personnel
   a. Establish Unified Command

5. First Responders can be released from site by the Incident Commander as the situation stabilizes and Alliance begins to restore operations

What you may expect in the field

In the event of a pipeline emergency, as a local first responder you will likely be first on scene. You will need to initiate some level of an incident command structure. In the early stages of a pipeline emergency this may only be incident command and operations; additional ICS positions will be filled as needed.

Under most emergency scenarios affecting Alliance’s pipeline system, the hazardous zone could be controlled and contained relatively quickly, while the venting, purging and complete elimination of all risks may take longer.

During this early operational period, on-site Alliance staff will integrate into the existing ICS under unified command. The Alliance employee first on scene, the Technical Advisor (TA), will remain integrated with the command staff in the incident command post until relieved by appropriate Alliance personnel. If it becomes necessary for the TA to depart, a method of communications between Alliance and the ICS should be arranged.

We also practice the National Incident Management System (NIMS) and as such, an Alliance incident command structure will be independently and immediately initiated from our Emergency Operations Centre and our ICS roles will be filled quickly. The on-site Incident Commander can fill or supplement command staff, branches, and/or roles with this Alliance support.
Alliance Actions for Emergency Response

As soon as Alliance receives notification of an emergency, we will respond.

- Our gas control centre will begin emergency protocols such as:
  - Remote isolation of pipeline systems including closure of valves
  - Initiate Emergency Support Team (EST)
- We will dispatch Alliance employees to the site.
- Assess the situation and take action based on the incident
- Depending on the incident, Alliance may need to vent gas from compressor stations or valve sites.
- We notify nearby residents if necessary
- We will integrate into the established Incident Command Structure on site.

Alliance Gas Control

Our Gas Control team monitors our pipeline seven days a week, 24 hours a day using a sophisticated computer system that shows exactly how the entire 3,848 km (2,391 mi) pipeline system is operating at any given moment. We have a back up control system that we could activate in the event of any large scale emergency.

Our gas controllers have the ability to remotely gather data from the pipeline and send commands to the field. This allows total control of the system from our Gas Control Centre, including stopping/starting compressors, opening/closing block valves and adjusting flow rates and pressures.

Gas Control also monitors information such as temperatures, pressures, and potential alarms such as fire or intrusion.
What to Expect During an Emergency

In the event of an incident on the Alliance system, first responders should prepare for:

- Evacuation of people living or working within the safety zone (800 m, 1/2 mile).
  - Alliance Pipeline maintains a data base of stakeholders who may need evacuation assistance.
- Ground control, as media and other interested parties arrive at site and try to get as close to the incident as possible.
  - Alliance’s media briefings and ongoing emergency communications are handled by its communications department and by the designated Public Information Officer (PIO).
- The arrival of investigators from the appropriate regulatory bodies.

After the Emergency

Once the incident has been resolved, the following may occur:

- Transfer of command back to Alliance under the ICS structure.
- Preservation of site and evidence for investigation.
- Depending on the size and nature of the emergency, Alliance and its regulators will conduct independent investigations.
- Release of site following investigation by regulators (if necessary).
- Pipeline system returned to service.
- Alliance will conduct an after incident review with first responders.
Possible Emergency Scenarios:

As a first responder you could be involved in the following emergency situations:

**Personal injury at a facility**

**Situation:** Alliance employee or contractor sustains injuries or requires medical aid. Injuries could include but are not limited to: chemical or fire burns, bodily injury, bumps and bruises, etc.

**First Responder Action:**
- Alliance compressor stations have locked gates and an Alliance employee will ensure the gate is open for access.
- Follow all instructions of the Alliance employee as they are familiar with the risks on site.

**Facility damage, no product release**

**Situation:** Pipeline or facility is damaged but no product is released.

**First Responder Action:**
- Evacuate and establish a safe perimeter around the site – minimum suggested radius is 800 m (1/2 mile).
- Do not attempt to operate any pipeline valves or equipment.
- Eliminate any ignition sources.
- Contact Alliance and wait for Alliance representative to arrive on site and support your efforts.

**Uncontrolled product release**

**Situation:** Leaks at compressor stations, meter stations, valve sites or the pipeline. While unlikely, these leaks could be small or large. Always exercise caution as the situation could change quickly. Do not approach these sites. Instead, isolate an area appropriate for the size of the leak. Wait for an Alliance representative to arrive on site for further direction.

**First Responder Action:**
- Assess the situation.
- Evacuate and establish a safe perimeter – minimum suggested radius is 800 m (1/2 mile) around the site.
- Do not attempt to operate any pipeline valves or equipment.
- Eliminate any ignition sources.
- Wait for Alliance representative to arrive on site to support your efforts.

**Pipeline rupture with product release**

**Situation:** Pipeline rupture with or without fire.

**First Responder Action:**
- Evacuate and establish a safe perimeter around the site – minimum radius of 800 m (1/2 mile) is suggested. Remember, if it’s too hot or loud you are too close. Heat, noise or weather conditions may require that you increase this perimeter.
- Do not attempt to operate any pipeline valves or equipment.
- Eliminate any ignition sources.
- Extinguish secondary fires if safe to do so.
- Alliance representative on site will integrate into ICS structure.
Emergency Preparedness

Partners In Safety

Our staff knows it is critical to communicate with local officials and first responders along our pipeline. We believe in working closely with local responders and building relationships. To that end, we invite first responders to regularly attend emergency response liaison events and training sessions.

We also know that emergency preparedness results from knowledge, training and drills. We invite you to engage with us to learn about each other’s resources and capabilities. By working together, we can respond effectively to an emergency on the pipeline.

Practice Scenarios

Alliance Pipeline will facilitate and participate in tabletop or full scale training exercises at your convenience and at locations relevant to your jurisdiction. Some of the scenarios we are prepared to practice with your agency include:

- Vehicular damage to a block valve
- Vandalism
- Pipeline strike during excavation
- Railroad derailment which impacts Alliance

Collaborative Sessions

Resources we can offer include:

- Meeting/discussions with you and representatives from your area with emergency response accountabilities
- Presentations

Please contact your local Alliance office if you are interested in setting up a meeting or accessing additional information.

Security Threat

**Situation:** Break and Enter at an Alliance facility. Alliance calls 911.

**First Responder Action:**
- Respond to the alarm.
- Alliance representative on site will work with First Responders to assess damage or loss.

Security Threat

**Situation:** A suspicious package is found on Alliance property. Alliance calls 911.

**First Responder Action:**
- Law enforcement will search the area with assistance from an Alliance representative to ensure anything out of the ordinary is noted.
- Alliance representative on site will integrate into ICS structure.
Investment in Safety

Our commitment to safety extends beyond our operations and into our community investment initiatives. Alliance supports organizations that have a broad-reaching impact on the safety of our communities.

We recognize the critical role that first responders play in keeping our communities safe. We have a program that provides funding for first responder organizations serving the communities along our pipeline. Through this program, we provide funding for safety training and equipment to help with emergency and disaster preparedness.

For more details and information about how to apply visit our website www.alliancepipeline.com.

The following are a few examples of the types of equipment and training that we’ve funded through our first responder program:

- “Jaws of life”
- Training for volunteer firefighters
- Thermal imaging cameras
- Radios, lights, etc.
- Contributions towards new fire trucks, ambulances, facilities, etc.
- Search and rescue training
- Self Contained Breathing Apparatus
- Hydraulic rescue tools
- Turnout gear
- Defibrillators
Things for Emergency Management Planners to Consider

When you are planning your emergency response to natural disasters or emergency scenarios such as those detailed on pages nine and 10, please answer the following:

- Do you know the location of pipelines and associated facilities?
- Do you know what materials pipelines in your jurisdiction carry?
- Have you shared information with pipeline operators in your area so that you understand the operator’s ability to control and contain an incident?
- Have you practiced with pipeline operators so that you can work seamlessly in the event of an emergency?
- Are you aware of any mutual aid agreements wherein pipeline operators have agreed to support each other in the event of an incident? In Canada, members of the Canadian Energy Pipeline Association have signed a mutual aid agreement.
- Have you shared your response capabilities with the pipeline operator? For example, if you have combustible gas indicators you can assist in establishing an appropriate safety zone.

Links

For more information about Alliance: www.alliancepipeline.com

- Canadian Common Ground Alliance: www.canadiancga.com
- Canadian Energy Pipeline Association: www.cepa.com
- Incident Command System: www.icscanada.ca
- Free online training and scenarios: www.pipelineemergencies.com
- General Information about Pipelines: www.pipeline101.com
- Interstate Natural Gas Association of America (INGAA) www.ingaa.org
- National Transportation Safety Board: www.ntsb.gov
- Pipeline and Hazardous Materials Safety Administration www.phmsa.dot.gov
- Pipeline Safety Partnership: www.pipelinepartnership.com
Keep these phone numbers and references close by to contact Alliance personnel, or for additional information on pipeline safety.

**Alliance Pipeline Emergency Number** at **1-800-884-8811**

**Canada**
- **Head Office**
  - 800, 605 - 5th Avenue SW
  - Calgary, Alberta, Canada, T2P 3H5
  - Toll-Free: 1-800-717-9017
  - Phone: 403-266-4464
  - Fax: 403-266-4495
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