

IV.1. Pipeline Emergency

INCIDENT COMMAND:

The initial Incident Commander for a Pipeline Emergency would be the area fire department with Hazardous Material training. In Butte/ Silver Bow County the following agencies have been designated as the Lead Responders for a pipeline emergency incident:

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Technical Assistance will be provided by the responsible pipeline operator. Pipeline operators have staff trained and equipped to assist in response to a pipeline release. Therefore response to the release shall be coordinated with the pipeline operator. The nature and duration of the emergency may require the responsible Pipeline owner/user to take over Incident Commander responsibility from the initial Incident Commander through a formal transfer of command process. Additionally, Unified Command may be established to facilitate coordination amongst all responding agencies, including the area fire department and the responsible Pipeline owner/user.

| Silver Bow | Emergency Number | Non-Emergency Number |
|---------------------|------------------|----------------------|
| NorthWestern Energy | 1-888-467-2669 | 1-406-497-2446 |

OPERATING CONCEPT:

A pipeline emergency – leak, explosion – creates a dangerous situation for Emergency Responders. Pipeline operator will be required in order to resolve the incident safely. Responders' goal will be to minimize the level of risk to responders, the community and the environment.

If a pipeline is leaking, it is very likely that the pipeline system will need to be shut down (even if the leak is minor). This usually involves valve closures and other actions that should be performed only by pipeline company personnel. Many pipeline companies also have the ability to perform these actions remotely, thereby reducing the severity of the event and shortening the time it takes to stabilize the scene. Actions shall be taken to contact the appropriate pipeline company as soon as it is practical. Their 24hrs/7 days a week emergency contact information as listed above.

9-1-1 personnel may call 8-1-1 to reach the local One Call Center and request emergency contact information for pipeline operators and local utilities with facilities near the incident location.

Another way to obtain emergency contact information is to ask the responders to check for pipeline markers in the area. These markers normally contain: the company name, the product transported, and the emergency telephone number where the operator can be reached.

PIPELINE PRODUCTS AND HAZARD INFORMATION:

NATURAL GAS is the predominant product found in gas distribution pipelines, and with few exceptions, is transported via pipelines in its gaseous form. Like crude oil, it is a naturally occurring resource formed millions of years ago as a result of heat and pressure acting on decayed organic material. It is extracted from wells and transported through gathering pipelines to processing facilities. From these facilities it is transported through transmission pipelines to distribution centers or distribution pipeline systems. The main ingredient in natural gas is methane (94 percent). Natural gas is odorless, colorless, tasteless and nontoxic in its natural state. When transported via transmission pipelines, natural gas typically does not have odorant added. An odorant (called mercaptan) is normally added when it is delivered to a distribution system. At ambient temperatures, natural gas remains lighter than air. However, it can be compressed (CNG)

under high pressure to make it convenient for use in other applications or liquefied (LNG) under extremely cold temperatures (-260° F) to facilitate transportation.

PETROLEUM GAS is a mixture of gaseous hydrocarbons, primarily propane, butane and ethane, which are easily liquefied under pressure and are used for residential or commercial heating and other industrial applications. Propane and butane are often stored and transported under pressure as liquid (LPG) in portable containers for use as fuel for heating and cooking applications. LPG is usually transported through hazardous liquid transmission pipelines and may also be identified as Highly Volatile Liquids (HVLs) or Natural Gas Liquids (NGLs). Vaporized propane and butane may also be found in small distribution systems. LPG is a tasteless, colorless and odorless gas. When transported via transmission pipelines it typically will not have odorant added. Odorant is added when LPG is offloaded to a distribution pipeline system or transport tanks to facilitate leak detection.

PETROLEUM LIQUIDS is a broad term covering many products, including crude oil, gasoline, diesel fuel, aviation gasoline, jet fuel, fuel oil, kerosene, naphtha, xylene and other refined products. Crude oil is unrefined petroleum that is extracted from beneath the earth's surface through wells. As it comes from the well, crude oil contains a mixture of oil, gas, water and other impurities, such as metallic compounds and sulfur. Refinement of crude oil produces petroleum products that we use every day, such as motor oils and gasoline. Crude oil is normally transported from wells to refineries through gathering pipelines. Refined petroleum products are normally transported in transmission pipelines to rail or truck terminals for distribution to consumers. Odorant is not added to these products because they have a natural odor.

ANHYDROUS AMMONIA is the liquefied form of pure ammonia gas. It is a colorless gas or liquid with an extremely pungent odor. It is normally transported through transmission pipelines located in the Midwest and is used primarily as an agricultural fertilizer or industrial refrigerant.

CARBON DIOXIDE is a heavy gas that is normally transported in transmission pipelines as a compressed fluid. It is a naturally occurring, colorless, odorless and tasteless gas used in the petroleum industry. Under normal conditions, carbon dioxide is stable, inert and nontoxic.

ETHANOL (also called ethyl alcohol) is a colorless liquid that is widely used as an additive to automotive gasoline. It may be transported in buried transmission pipelines.

HYDROGEN GAS is commonly produced from the steam reformation of natural gas. It is frequently used near its production site, with the two main uses being petrochemical processing and ammonia production. Hydrogen is a flammable gas that is colorless, odorless and lighter than air. It is nontoxic, but can act as a simple asphyxiant.

“SOUR” CRUDE OIL AND “SOUR” GAS products containing little or no sulfur are often referred to as “sweet,” whereas, products containing high concentrations of sulfur and hydrogen sulfide are commonly referred to as “sour.” Hydrogen sulfide (H₂S) is a toxic, corrosive contaminant found in natural gas and crude oil. It has an odor like the smell of rotten eggs or a burnt match. Exposure to relatively low levels of hydrogen sulfide (500 ppm) can be fatal.

Hazard Information

(1) These products are naturally odorless and only certain pipeline systems may be odorized.

Natural Gas
Petroleum Gas
Petroleum Liquids
Anhydrous Ammonia
Carbon Dioxide
Ethanol
Hydrogen Gas
Sour Gas (H2S)
Sour Crude Oil (H2S)
Liquids & Natural Gas

| INDICATIONS OF A LEAK | | | | | | | | | | |
|--|-----|-----|---|---|---|---|---|---|---|-----|
| An odor like rotten eggs or a burnt match | (1) | (1) | | | | | | X | X | (1) |
| A loud roaring sound like a jet engine | X | | | | | | | X | | X |
| A white vapor cloud that may look like smoke | | X | | X | | | | | | |
| A hissing or whistling noise | X | X | | X | X | | X | X | | X |
| The pooling of liquid on the ground | | | X | | | X | | | X | X |
| An odor like petroleum liquids or gasoline | | X | X | | | X | | | X | X |
| Fire coming out of or on top of the ground | X | X | | | | | X | X | | X |
| Dirt blowing from a hole in the ground | X | X | | X | X | | X | X | | X |
| A sheen on the surface of water | | X | X | | | | | | X | X |
| An area of frozen ground in the summer | X | X | | | X | X | X | X | | X |
| An unusual area of melted snow in the winter | X | X | | | X | | X | X | | X |
| An area of dead vegetation | X | X | X | | | | X | X | X | X |
| Bubbling in pools of water | X | X | | | X | | X | X | | X |
| An irritating and pungent odor | | | | X | | | | X | X | |
| HAZARDS OF A RELEASE | | | | | | | | | | |
| Highly flammable and easily ignited by heat or sparks | X | X | X | | | X | X | X | X | X |
| Will displace oxygen and can cause asphyxiation | X | X | | X | X | | X | X | | X |
| Vapors are heavier than air and will collect in low areas | | X | X | X | X | X | | X | X | X |
| Contact with skin may cause burns, injury or frostbite | | X | X | X | X | X | X | X | | X |
| Initial odor may be irritating and deaden the sense of smell | | | | | | | | X | X | |
| Toxic and may be fatal if inhaled or absorbed through skin | | | | X | | | | X | X | |
| Vapors are extremely irritating and corrosive | | | | X | | | | X | X | |
| Fire may produce irritating and/or toxic gases | X | X | X | X | | X | X | X | X | X |
| Runoff may cause pollution | | | X | X | | X | | | X | X |
| Vapors may form an explosive mixture with air | X | X | X | | | X | X | X | X | X |
| Vapors may cause dizziness or asphyxiation without warning | (1) | (1) | | | X | | X | X | X | (1) |
| Is lighter than air and can migrate into enclosed spaces | X | | | | | | X | | | X |
| EMERGENCY RESPONSE | | | | | | | | | | |
| Avoid any action that may create a spark | X | X | X | X | | | X | X | X | X |
| Do NOT start vehicles, switch lights or hang up phones | X | X | X | X | | | X | X | X | X |
| Evacuate the area on foot in an upwind and/or uphill direction | X | X | X | X | X | X | X | X | X | X |
| Alert others to evacuate the area and keep people away | X | X | X | X | X | X | X | X | X | X |
| From a safe location, call 911 to report the emergency | X | X | X | X | X | X | X | X | X | X |
| Call the pipeline operator and report the event | X | X | X | X | X | X | X | X | X | X |
| Wait for emergency responders to arrive | X | X | X | X | X | X | X | X | X | X |
| Do NOT attempt to close any pipeline valves | X | X | X | X | X | X | X | X | X | X |
| Take shelter inside a building and close all windows | | | | X | X | | | X | X | |

AGENCY SPECIFIC CONSIDERATIONS:

| Agency | Description |
|----------------------------|---|
| Facility / Operator | <ul style="list-style-type: none"> • Notify 9-1-1 and Initiate site safety procedures, including facility/area evacuation • Provide representation to incident command post to support coordination • Conduct primary facility response and repair actions • Support ongoing off-site emergency operations as necessary • Coordinate incident remediation / recovery (i.e. clean up company, service restoration) |
| Fire Dept. | <ul style="list-style-type: none"> • Establish Incident Command & Unified Command Post • Establish/maintain communications with facility official(s) • Perform rapid size up of situation and assess incident scope • Prevent extinguishment of primary pipeline fire unless for immediate life safety/rescue • Conduct fire protection to non-pipeline property and affected structures • Determine hazardous areas (Hot-Warm-Cold Zones) and respective safety measures • Implement initial community protective actions including evacuation / in-place sheltering. |
| Law Enforcement | <ul style="list-style-type: none"> • Interface with Incident Command System/Unified Command Post • Establish perimeter security, crowd control, and traffic control away from hazardous areas • Ensure security to pipeline secured areas and critical valves • Conduct incident investigation (accidental or criminal incident) • Assist in community protective measures (i.e. evacuation, notifications, etc.). • Provide additional support as necessary. |
| Emergency Medical | <ul style="list-style-type: none"> • Interface with Incident Command System/Unified Command Post. • Provide emergency medical care for affected responders and citizens • Develop EMS/Hospital medical treatment plan for gas/H2S • Communicate with hospital on treatment and decontamination methods. • Provide additional support as necessary. |
| 9-1-1 / Warning | <ul style="list-style-type: none"> • Activate emergency services (fire, police, ems, and emergency management) • Ensure notification of pipeline officials via emergency contact numbers • Coordinate activation of community warning systems as directed by IC • Notify nearby critical operations and vulnerable populations (i.e. schools, hospital, govt) • Ensure formal notification of reporting authorities (DEQ, LEPT, State Police, PEAS) |
| Additional Agencies | <ul style="list-style-type: none"> • State DES/EOC Plan Support • National Guard • Department of Environmental Quality • Montana Dept. of Transportation • State Fire Marshal • Dept. of Public Health and Human Services • Montana Fish, Wildlife and Parks • Volunteer Organizations • Local government official(s) for notification/advisement. |

Further response support will be provided by extension of the NIMS Incident Command System and/or activation of the Butte/Silver Bow County Emergency Operations Plan (Emergency Action Guidelines).

ESF's ANNEXES OR PROCEDURES WHICH MAY ALSO APPLY

- Evacuation
- Closure of Roads and Streets
- Closure of Public Places/Buildings
- Restricting Area Access
- Public Information and Alerts
- Hazardous Material Procedures
- Emergency Proclamation or Disaster Declarations

RESOURCES AVAILABLE

- Resource List
- Mutual Aid Agreements
- Mobile Command Post
- Evacuation Transportation
- Pipeline mapping (See attached)

To request Pipeline GIS layers go to: <https://www.npms.phmsa.dot.gov/>

