



# Pipeline safety and emergency response information

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\*Instructions on back



Know what's below.  
Call before you dig.

Please share this important information within your organization

## Pipelines are near you

Pipeline operators share/encourage an emphasis of **PUBLIC SAFETY** and **ENVIRONMENTAL PROTECTION** as top priorities in any pipeline emergency response.

You have been identified as an agency that may be called on to respond to an incident involving the pipelines in your area. These pipelines, operated by the companies whose fact sheets accompany this booklet, are part of the

network of over 2.6 million miles of gathering, transmission, and distribution pipelines in the United States, transporting two-thirds of the energy we use each year.



*Pipeline Right-of-Way*

## What pipelines transport and what the potential hazards are

Many pipelines transport petroleum products and natural gas. Some pipelines transport other hazardous products such as chemicals, highly volatile liquids, anhydrous ammonia, or carbon dioxide. Exposure to these products can be harmful if inhaled, can cause eye and skin irritation, and/or difficulty in breathing. Fortunately, pipeline accidents are extremely rare, but they can occur. Natural gas and petroleum products are flammable, potentially hazardous, and explosive under certain conditions. Pipeline companies undertake many prevention and safety measures to ensure the integrity of their pipeline systems. You can obtain more specific information regarding pipelines and the products they carry by contacting the pipeline company directly.

## How you can help keep pipelines safe

While accidents pertaining to pipeline facilities are rare, awareness of the location of the pipeline, the potential hazards, and what to do if a leak occurs can help minimize the number of accidents. A leading cause of pipeline incidents is third-party excavation damage. Pipeline companies are responsible for the safety and security of their respective pipelines. To help maintain the integrity of pipelines and their right-of-way, it is essential that pipeline and facility neighbors protect against unauthorized excavations or other destructive activities. You can help by:

- Being aware of any unusual or suspicious activities or unauthorized excavations taking place within or near the pipeline right-of-way or pipeline facility.
  - Develop contacts and relationships with pipeline company representatives, i.e. participate in mock drill exercises with your local pipeline company.
  - Share intelligence regarding targeting of national infrastructure, and specific threats or actual attacks against pipeline companies.
  - Assist with security steps for pipeline facilities during heightened national threat levels, i.e., increased surveillance near facilities.
  - Monitor criminal activity at the local level that could impact pipeline companies, and anti-government/pipeline groups and other groups seeking to disrupt pipeline company activities.
- Keeping the enclosed **fact sheets** for future reference.
- Attending an emergency response training program in your area.
- Familiarizing yourself and your agency with the Pipelines and Informed Planning Alliance (PIPA) best practices regarding land use planning near transmission pipelines.
- Completing and returning the enclosed postage-paid survey.
- Report to the pipeline company localized flooding, ice dams, debris dams, and extensive bank erosion that may affect the integrity of pipeline crossings.

## How to recognize the location of a pipeline

Pipeline markers are important for the safety of the general public and provide emergency responders with critical information.

Markers are located in the pipeline right-of-way and indicate the approximate location, but not the depth, of a buried pipeline. Although not present in certain areas, these can be found at road crossings, fence lines, and street intersections. The markers display the product transported in the pipeline, the name of the pipeline operator, and a telephone number where the operator can be reached in the event of an emergency.



## How to recognize a pipeline leak

### Sight

Natural gas and Highly Volatile Liquids (HVL) are colorless and nearly invisible to the eye. Small leaks can be identified by looking for dying or discolored vegetation in a naturally green area. Hazardous liquids produce a strong sheen or film standing on a body of water.

An HVL leak may be identified by a fog-like vapor cloud in areas of high humidity. Natural gas is colorless, but blowing dirt around a pipeline area may be observed, or vapor and "ground frosting" may be visible at high pressures, regardless of temperature.

Other ways to recognize a leak may include: water bubbling up or standing in an unusual area, a mist or vapor cloud, a powerful fire or explosion with dense smoke plumes, or an area of petroleum-stained ground.

### Sound

The volume of a pipeline leak can range from a quiet hissing to a loud roar, depending on the size and nature of the leak.

### Smell

An unusual smell, petroleum or gaseous odor will sometimes accompany pipeline leaks. Natural gas and HVLs are colorless, tasteless and odorless unless odorants, such as Mercaptan, are added.

Most HVLs contain a slight hydro-carbon or pungent odor. Most are nontoxic; however, products such as ammonia are considered a toxic chemical and can burn the senses when it seeks out moisture (eyes, nose or lungs). If inhaled, HVLs may cause dizziness or asphyxiation without warning.



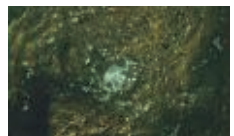
Vapor Cloud



Sheen on Water



Dead Vegetation



Bubbling Water

# 911 dispatch; National Emergency Number Association (NENA) Pipeline emergency operations standard/model recommendation\*

Dispatch personnel play a critical role in effective response to pipeline incidents. A dispatcher's actions can save lives, direct the appropriate emergency responders to the scene, as well as help protect our environment and our nations' infrastructure. The National Emergency Number Association (NENA) recommends a focus regarding three critical areas:

- Awareness of pipelines affecting 911 service area,
- Pipeline leak recognition and initial response actions, and,
- Additional notifications to pipeline operators.

## **Goals for initial intake:**

- Obtain and verify incident location, callback and contact information.
- Maintain control of the call.
- Communicate the ability to HELP the caller.
- Methodically and strategically obtain information through systematic inquiry to be captured in the agency's intake format.
- Recognize the potential urgency of situations involving the release of dangerous gases or liquids related to pipelines or similar events of this nature and immediately begin the proper notifications consistent with agency policy.
- Perform all information entries and disseminations, both Initial and updated.

## **First response call intake checklist:**

- Determine location.
- Determine exactly what has happened.
- Determine if immediate danger exists.
- Initiate public response resources.
- Contact the pipeline company as soon as practical.



## **Additional notifications:**

- Valve closure
  - Should be performed only by pipeline company personnel.
  - Many pipeline companies also have the ability to perform these actions remotely.
- If pipeline emergency contact information is unknown
  - Call 811 to obtain operator emergency information.
  - Ask emergency responders to look for pipeline markers in the area.
  - Local gas companies are often times aware of other operators in their service area and may have contact information for these companies.

\* NENA 56-007, September 28, 2010.

## Emergency response plans for gas and hazardous liquid pipeline companies

Federal regulations for both gas and hazardous liquid pipelines require companies to have written procedures for responding to emergencies involving their pipeline facilities. Because pipelines are often located in public space, the regulations further require that companies include procedures for planning with emergency and other public officials to ensure a coordinated response. Please contact your local pipeline companies for information regarding their company-specific emergency response plan.



## What the pipeline company does if a leak occurs

To prepare for the event of a leak, pipeline companies regularly communicate, plan, and train with local emergency personnel such as fire and police departments. Upon the notification of an incident or leak, either by the pipeline company's internal control center or by phone, the pipeline company will immediately dispatch trained personnel to assist public safety officials in their response to the emergency. While emphasizing public safety and environmental protection, pipeline companies will also take steps to minimize the amount of product that leaks out and to isolate the pipeline.

### The pipeline company's control center may:

- Stop or reduce the flow of product.
- Dispatch pipeline emergency response personnel and equipment to the emergency site.
- Inform you of any special precautionary recommendations.
- Act as a liaison between emergency response agencies and pipeline company personnel.
- Help bring the emergency to conclusion as quickly and safely as possible.

## Maintaining safety and integrity of pipelines

Pipeline companies invest significant time and capital maintaining the quality and integrity of their pipeline systems. Most active pipelines are monitored 24 hours a day via manned control centers. Pipeline companies also utilize aerial surveillance and/or on-ground observers to identify potential dangers. Control center personnel continually monitor the pipeline system and assess changes in pressure and flow. They notify field personnel if there is a possibility of a leak. Automatic shut-off valves are sometimes utilized to isolate a leak. Gas transmission and hazardous liquid pipeline companies have developed supplemental hazard and assessment programs known as Integrity Management Programs (IMPs). IMPs have been implemented for areas designated as "high consequence areas" (HCAs) in accordance with federal regulations. Specific information about companies' programs may be found on their company web sites or by contacting them directly.



*Underground Pipeline*

## National Pipeline Mapping System (NPMS)

The National Pipeline Mapping System (NPMS) is a geographic information system created by the U.S. Department of Transportation (DOT), Pipeline and Hazardous Materials Safety Administration (PHMSA), Office of Pipeline Safety (OPS) in cooperation with other federal and state governmental agencies and the pipeline industry to provide information about companies and their pipelines. The NPMS web site is searchable by ZIP Code or by county and state, and can display a printable county map.

Within the NPMS, PHMSA has developed the Pipeline Integrity Management Mapping Application (PIMMA) for use by pipeline companies and federal, state, and local government officials only. The application contains sensitive pipeline infrastructure information that can be viewed via internet browsers. Access to PIMMA is limited to federal, state, and local government officials, as well as pipeline companies. PIMMA access cannot be given to any person who is not a direct employee of a government agency.

For a list of companies with pipelines in your area and their contact information, or to apply for PIMMA access, go to [npms.phmsa.dot.gov](http://npms.phmsa.dot.gov). Companies that operate production facilities, gas/liquid gathering piping, and distribution piping are not represented by NPMS nor are they required to be.



## High consequence area identification\*

Pipeline safety regulations use the concept of HCAs, to identify specific locales and areas where a release could have the most significant adverse consequences. Once identified, operators are required to devote additional focus, efforts, and analysis in HCAs to ensure the integrity of pipelines.

Releases from pipelines can adversely affect human health and safety, cause environmental degradation, and damage personal or commercial property. Consequences of inadvertent releases from pipelines can vary greatly, depending on where the release occurs, and the commodity involved in the release.

**More information on HCAs in your area may be available upon request from your local pipeline operator(s).**

### **What criteria define HCAs for pipelines?**

Because potential consequences of natural gas and hazardous liquid pipeline releases differ, criteria for HCAs also differ. HCAs for natural gas transmission pipelines focus solely on populated areas. (Environmental and ecological consequences are usually minimal for releases involving natural gas.) Identification of HCAs for hazardous liquid pipelines focuses on populated areas, drinking water sources, and unusually sensitive ecological resources.

### **HCAs for hazardous liquid pipelines:**

- Populated areas include both high population areas (called “urbanized areas” by the U.S. Census Bureau) and other populated areas (areas referred to by the Census Bureau as a “designated place”).
- Drinking water sources include those supplied by surface water or wells and where a secondary source of water supply is not available. The land area in which spilled hazardous liquid could affect the water supply is also treated as an HCA.
- Unusually sensitive ecological areas include locations where critically imperiled species can be found, areas where multiple examples of federally listed threatened and endangered species are found, and areas where migratory water birds concentrate.

### **HCAs for natural gas transmission pipelines:**

- An equation has been developed based on research and experience that estimates the distance from a potential explosion at which death, injury or significant property damage could occur. This distance is known as the “potential impact radius” (or PIR), and is used to depict potential impact circles.
- Operators must calculate the potential impact radius for all points along their pipelines and evaluate corresponding impact circles to identify what population is contained within each circle.
- Potential impact circles that contain 20 or more structures intended for human occupancy; buildings housing populations of limited mobility; buildings that would be hard to evacuate (Examples are nursing homes, schools); or buildings and outside areas occupied by more than 20 persons on a specified minimum number of days each year, are defined as HCAs.



*High Consequence Area (PHMSA Fact Sheet: High Consequence Area (HCA))*

\* <https://primis.phmsa.dot.gov/comm/FactSheets/FSHCA.htm>

## Identified sites\*

Owners and companies of gas transmission pipelines are regulated by the US Department of Transportation (DOT). According to integrity management regulations, gas pipeline companies are required to accept the assistance of local public safety officials in identifying certain types of sites or facilities adjacent to the pipeline which meets the following criteria:

- (a) A small, well-defined outside area that is occupied by twenty or more persons on at least 50 days in any twelve-month period (the days need not be consecutive). **Examples of such an area are playgrounds, parks, swimming pools, sports fields, and campgrounds.**
- (b) A building that is occupied by 20 or more persons on at least 5 days a week for 10 weeks in any 12 month period (the days and weeks need not be consecutive). **Examples included in the definition are: religious facilities, office buildings, community centers, general stores, 4-H facilities, and roller rinks.**
- (c) A facility that is occupied by persons who are confined, are of impaired mobility, or would be difficult to evacuate. **Examples of such a facility are hospitals, schools, elder care, assisted living/nursing facilities, prisons and child daycares.**

If you know of sites within your jurisdiction that fit any of the above requirements, please go to [my.spatialobjects.com/isr/home](http://my.spatialobjects.com/isr/home) to provide this valuable information to pipeline companies.

\* 49 CFR §192.903.

## Capabilities

It is important for pipeline companies to understand what resources and capabilities emergency response agencies have in the event of a pipeline emergency. By providing your capabilities, pipeline companies can better plan and respond in the event of an emergency. Any information you provide will only be used for pipeline companies' communication and planning information. It is not sold, nor is it used for marketing purposes. Please go to [survey.pdigm.com/capabilities/pls/eo](http://survey.pdigm.com/capabilities/pls/eo) and tell us what your capabilities are.

## Training

Pipeline companies regularly host local emergency responder and local public official liaison events. A list of events can be found at [pipelinesafetyinfo.com/state\\_sites](http://pipelinesafetyinfo.com/state_sites). However, if you are not able to attend an event, additional resources and training are available online at [pipelinesafetyinfo.com/tc](http://pipelinesafetyinfo.com/tc). This can also serve as a resource for all personnel within your department. Once you complete the registration, you will be distributed an email with a username and password.

## Course Offerings



Pipeline Emergencies- Introduction



Pipeline Emergencies- Intermediate



Pipeline Emergencies- Comprehensive

[Training Center Portal](#)

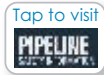
**Download** the Pipeline Awareness Viewer™ (PAV) app for important emergency response information. Use PAV to:



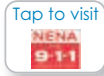
- Apply for PIMMA access



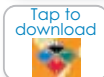
- Visit the API training center website



- Register for a pipeline safety meeting near you



- Download the NENA call intake checklist



- Download the PHMSA Emergency Response Guidebook




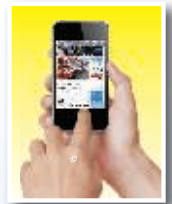
- View a video about the pipeline industry



- Take online survey

## How to use PAV:

- Launch the app on your device.
- Review the brief instructions.
- Tap the SCAN button and aim your camera at the brochure cover.\*
- When the buttons appear, tap the lock icon  to view the available content.
- Tap the buttons to view important pipeline safety information.



*\*For best results, enable Wi-Fi on your device prior to using the PAV app.*