



PIPELINE PURPOSE AND RELIABILITY

According to National Transportation Safety Board statistics pipelines are the safest and most efficient means of transporting natural gas and petroleum products, which are used to supply roughly two-thirds of the energy we use. These pipelines transport trillions of cubic feet of natural gas and hundreds of billions of ton/miles of liquid petroleum products in the United States each year.

This system is comprised of three types of pipelines: transmission, distribution and gathering. The approximately 496,000 miles of transmission pipeline* transport products, including natural gas and petroleum products, across the country and to storage facilities. Compressor stations and pumping stations are located along transmission and gathering pipeline routes and help push these products through the line.

Approximately 2.06 million miles of distribution pipeline* is used to deliver natural gas to most homes and businesses through underground main and utility service lines. Onshore gathering lines are pipelines that transport gas from a current production operation facility to a transmission line or main. Production operations are piping and equipment used in production and preparation for transportation or delivery of hydrocarbon gas and/or liquids.

**mileage according to the Pipeline Hazardous Materials Safety Administration (PHMSA).*

WHAT IS A RIGHT-OF-WAY AND CAN I BUILD OR DIG ON IT?

Pipeline companies work diligently to establish written agreements, or easements, with landowners to allow for ease of construction and maintenance when they cross private property. A right-of-way may be recognizable as corridors that are clear of trees, buildings or other structures except for the pipeline markers. A right-of-way may not have markers clearly present and may only be indicated by cleared corridors of land, except where farmland or crops exist. County Clerk's offices also have record of easements which are public record.

Encroachments upon the pipeline right-of-way inhibit the pipeline company's ability to reduce the chance of third-party damage, provide right-of-way surveillance, and perform routine maintenance and required federal/state inspections. In order to perform these critical activities, pipeline maintenance personnel must be able to easily and safely access the pipeline right-of-way, as well as areas on either side of the pipeline. Keeping trees, shrubs, buildings, fences, structures and any other encroachments well away from the pipeline ensures that the pipeline integrity and safety are maintained.

For questions concerning the pipeline or right-of-way, or about future property improvements or excavations, contact the pipeline company.

SCAN THE IMAGE ABOVE WITH PAV



CALL BEFORE YOU DIG. IT'S THE LAW!

Because even relatively minor excavation activities like landscaping or fencing can cause damage to a pipeline, its protective casing and/or buried utility lines, always contact your state One-Call center before engaging in any excavation, construction, farming or digging. Most states require two working days notice to the One-Call center to allow the utility companies to mark their pipelines and utilities at your proposed digging site. In fact, most serious damage done to pipelines is done when a third party inadvertently excavates, blasts or drills within a pipeline right-of-way. By contacting the One-Call center first, this type of damage can be prevented. Sometimes pipeline companies will require a representative to be present to monitor the safe excavation.

One easy, **FREE** phone call to 811 starts the process to get your underground pipelines and utility lines marked. When you call 811 from anywhere in the country, your call will be routed to your state One-Call center. Once your underground lines have been marked for your project, you will know the approximate location of your pipelines and utility lines, and can dig safely. More information regarding 811 can be found at www.call811.com.



SCAN THE 811 LOGO WITH PAV



HOW CAN YOU KNOW WHERE A PIPELINE IS?

Pipeline markers are important for the safety of the general public and provide emergency responders with critical information. Most pipelines are underground, where they are more protected from the elements and interference with surface uses is minimized. Even so, a pipeline right-of-way is clearly identified by pipeline markers along pipeline routes that identify the approximate—NOT EXACT—location of the pipeline. Every pipeline marker contains information identifying the company that operates the pipeline, the product transported, and a phone number that should be called in the event of an emergency. **Markers do not indicate pipeline burial depth, which varies.** Markers are typically seen where a pipeline intersects a street, highway or railway. It is a federal crime for any person to willfully deface, damage, remove, or destroy any pipeline marker.



Pipeline Marker — This marker is the most commonly seen. It contains company information, type of product, and an emergency contact number. Size, shape and color may vary.

Aerial Marker — These skyward facing markers are used by patrol planes that monitor pipeline routes.

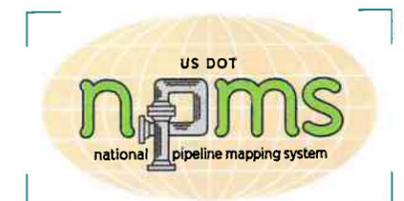
Casing Vent Marker — This marker indicates that a pipeline (protected by a steel outer casing) passes beneath a nearby roadway, rail line, or other crossing.

TRANSMISSION PIPELINE MAPPING

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 browser. 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 www.npms.phmsa.dot.gov/. Companies operating production facilities, gas/liquid gathering piping, and distribution piping are not represented by NPMS nor are they required to be.



SCAN THE NPMS LOGO WITH PAV



WHAT DO PIPELINES TRANSPORT AND WHAT ARE THE POTENTIAL HAZARDS?

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.

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.

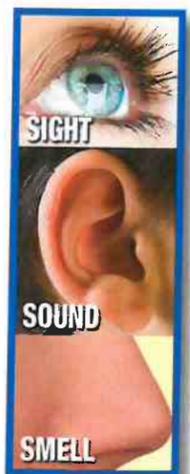
Gas transmission and hazardous liquid pipeline companies have developed supplemental hazard and assessment programs known as Integrity Management Programs (IMPs). IMPs have been implemented for areas designated as "high consequence areas" in accordance with federal regulations. Specific information about companies' programs may be found on their Web sites or by contacting them directly.

WHAT DOES THE PIPELINE COMPANY DO 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



RECOGNIZING A PIPELINE LEAK

Sight: Liquid pools, continuous bubbling in wet or flooded areas, an oily sheen on water surfaces, vaporous fogs or blowing dirt around a pipeline area, dead or discolored plants in an otherwise healthy area of vegetation, or frozen ground in warm weather are all signs of a pipeline leak. Natural gas is colorless, but vapor and "ground frosting" may be visible at high pressures. A natural gas leak may also be indicated by dust blowing from a hole in the ground, or flames if the leak is ignited.

Sound: Volume can range from a quiet hissing to a loud roar depending on the size of the leak and pipeline system.

Smell: An unusual smell, petroleum odor, or gaseous odor will sometimes accompany pipeline leaks. Natural Gas and Highly Volatile Liquids (HVLs) are colorless, tasteless, and odorless unless commercial odorants or Mercaptan is added. Gas transmission/gas gathering pipelines are odorless, but may contain a hydrocarbon smell.

SCAN THE
IMAGE
ABOVE
WITH PAV



RESPONDING TO A PIPELINE EMERGENCY

First Response Call Intake Check List

The following protocol is intended to be a solid framework for call intake, but should not in any manner rescind or override agency procedures for the timing of broadcasts and messaging.

These procedures are established as recommended practices to consider with existing agency policy and procedure to ensure the most swift and accurate handling of every incident involving the release of dangerous gases and/or hazardous liquids.

All information should be simultaneously entered, as it is obtained by the telecommunicator, into an electronic format (when available) that will feed/populate any directed messages sent to emergency responders in conjunction with on-air broadcasts.

Location

Request exact location of the incident (structure addresses, street names, intersections, directional identifiers, mile posts, etc.) and obtain callback and contact information.

The following guidelines are designed to ensure the safety of those in the area if a petroleum product or natural gas pipeline leak is suspected or detected:

Secure the area around the leak to a safe distance.

Because vapors from products transported in pipelines can migrate great distances, it is important to avoid creating ignition sources in the area. Keep in mind, Highly Volatile Liquid (HVL) vapors are heavier than air and can collect in low areas such as ditches, sewers, etc. If safe, evacuating people from homes, businesses, schools, and other places of congregation, as well as controlling access to the site may be required in some incident scenarios. Sheltering in place may be the safest action if the circumstances make going outdoors dangerous.

- **Evacuate or shelter in place.** Depending on the level of chemical, natural gas, or product, and whether or not the product was released, or other variables, it may be necessary to evacuate the public or have the public shelter in place. Evacuation route and the location of the incident will determine which procedure is required, but both may be necessary. Evacuate people upwind of the incident, if necessary. Involving the pipeline company may be important in making this decision.

If the pipeline leak is **not** burning:

- **DO NOT** create any potential source of ignition such as an electrical switch, vehicle ignition, lighting a match, etc.
- **DO NOT** start motor vehicles or electrical equipment.
- **DO NOT** ring doorbells. Knock with your hand to avoid potential sparks from knockers.
- **DO NOT** drive into a leak or vapor cloud at any time.

If the pipeline leak **is** burning, attempt to control the spread of the fire, but:

- **DO NOT** attempt to extinguish a petroleum product or natural gas fire. When extinguished, petroleum products, gas and vapor could collect and explode if reignited by secondary fire or ignition source.
- **DO NOT** attempt to operate any pipeline valves yourself. You may inadvertently route more product to the leak or cause a secondary incident.
- **DO NOT** come into direct contact with any escaping liquid or gas.

Establish a command center. Work with pipeline representatives as you develop a plan to address the emergency. The pipeline representatives will need to know:

- Your contact information and the location of the emergency
- Size, characteristics and behavior of the incident, and if there are any primary or secondary fires
- Any injuries or deaths
- The proximity of the incident to any structures, buildings, etc.
- Any environmental concerns such as bodies of water, grasslands, endangered wildlife and fish, etc.

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.

Each company shall establish written procedures to minimize the hazard resulting from a pipeline emergency. At a minimum, the procedures must provide for the following:

- Receiving, identifying, and classifying notices of events which require immediate response by the company
- Establishing and maintaining adequate means of communication with appropriate fire, police, and other public officials
- Prompt and effective response to a notice of each type of emergency, including the following:
 - Gas detected inside or near a building
 - Fire located near or directly involving a pipeline facility
 - Explosion occurring near or directly involving a pipeline facility
 - Natural disaster
- The availability of personnel, equipment, tools, and materials, as needed at the scene of an emergency
- Actions directed toward protecting people first and then property
- Emergency shutdown and pressure reduction in any section of the company's pipeline system necessary to minimize hazards to life or property
- Making safe any actual or potential hazard to life or property
- Notifying appropriate fire, police, and other public officials of pipeline emergencies and coordinating both planned responses and actual responses during an emergency
- Safely restoring any service outage
- Determining which facilities are located in high consequence areas
- Each company shall establish and maintain liaison with appropriate fire, police, and other public officials to:
 - Learn the responsibility and resources of each government organization that may respond to a pipeline emergency
 - Acquaint the officials with the company's ability to respond to a pipeline emergency
 - Identify the types of pipeline emergencies for which the company is to notify the officials; and
 - Plan how the company and officials can engage in mutual assistance to minimize hazard to life or property

Reference: 49 CFR 192.605, 192.615 and 195.402

HOW CAN YOU HELP?

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. Here's what you can do to help:

- **Become familiar with the pipelines and pipeline facilities in the area (marker signs, fence signs at gated entrances, etc).**
- **Record the company name, contact information, and any pipeline information from nearby marker/facility signs and keep in a permanent location near the telephone.**
- **Be aware of any unusual or suspicious activities or unauthorized excavations taking place within or near the pipeline right-of-way or pipeline facility; report any such activities to the pipeline company and the local law enforcement.**

HIGH CONSEQUENCE AREAS IDENTIFICATION

Hazardous Liquids Transmission

49 CFR 195

A commercially navigable waterway, which means a waterway where a substantial likelihood of commercial navigation exists.

A high population area, which means an urbanized area, as defined and delineated by the Census Bureau, that contains 50,000 or more people and has a population density of at least 1,000 people per sq. mile.

An other populated area, which means a place, as defined and delineated by the Census Bureau, that contains a concentrated population, such as an incorporated or unincorporated city, town, village, or other designated residential or commercial area.

An unusually sensitive area, as defined in DOT Reg. 195.6

Gas Transmission: 49 CFR 192

METHOD A

A current class 3 location.

A current class 4 location.

Any areas outside a class 3 or location where the potential impact radius is greater than 660 feet, and the potential impact circle contains 20 or more buildings intended for human occupancy.

A company in an area with a potential impact circle of greater than 660 feet may use a prorated formula to determine the HCA (see companies for details).

The area within a potential impact circle containing an identified site.

METHOD B

The area within a potential impact circle containing 20 or more buildings intended for human occupancy.

The area within a potential impact circle containing an identified site.

IDENTIFIED SITES

Owners and companies with 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 <http://isr.pipelineportal.com> to provide this valuable information to pipeline companies.

LAND USE PLANNING AND TRANSMISSION PIPELINES

The Pipelines and Informed Planning Alliance (PIPA) is a broad stakeholder initiative led and supported by the US Department of Transportation's Pipeline and Hazardous Materials Safety Administration. The goal of PIPA is to reduce risks and improve the safety of affected communities and transmission pipelines through implementation of recommended practices related to risk-informed land use and development near transmission pipelines. The PIPA recommended practices describe actions that can be taken by stakeholders when there are proposed changes in land use or new development adjacent to existing transmission pipelines.

PIPA has developed recommended practices to help in making decisions about what, where, and how to build safely near transmission pipelines. The decisions you make can impact the safety of the community surrounding the pipeline.

- Have you consulted with the pipeline company?
- Have you considered access for pipeline maintenance and emergency response?
- Is enhanced fire protection needed?
- How will excavation damage to the pipeline be prevented?

For more information, please go to www.phmsa.dot.gov.

PLANNING, ZONING, AND PROPERTY DEVELOPMENT

It is crucial to coordinate with pipeline companies to take the location of pipelines into consideration in land-use plans, zoning, and property-development activities. Developments can make use of pipeline easements as open spaces and greenway connectors. Pipeline depth is a crucial consideration during development planning to ensure that costs for lowering or relocation are identified. Changes to the topography on either side of a pipeline may impose unacceptable stresses on the pipeline. Pipeline companies would like to coordinate in the development of site plans where large numbers of people congregate, including schools, churches, etc.

TRAINING

Pipeline companies regularly host local emergency responder liaison events.

A list of events can be found at

<http://www.pipelinesafetyinfo.com/Schedule.aspx>.

However, if you are not able to attend an event, additional resources and training are available online at 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.



WHAT IS PAV?

The Pipeline Awareness Viewer™ (PAV) is a FREE App that provides interactive content (images, videos, hyperlinks) via your tablet or smartphone. Go to Google Play™ or the iOS App Store™ to download the app. Then look inside this brochure for the phone icon and follow the instructions to view additional information.**



*Windows Phone® and BlackBerry® devices are not supported at this time.

**For best results, enable Wi-Fi on your device before using PAV.

To view this information on the Web and to take our online survey, go to: www.pipelinesafetyinfo.com

©2014 The Paradigm Alliance, Inc. All Rights Reserved.



Important Safety Message
for your community*

PIPELINE SAFETY

WHAT'S INSIDE

Leak Prevention	2
Pipeline Location	2
Leak Recognition.....	3
Leak Response	4
High Consequence Areas	6
FREE Online Training.....	7
What is PAV?	7

**Please share this with others in your organization.*