



Important Pipeline and Excavation Safety Information

For Emergency Responders, Excavators
and Public Officials

APACT
ALABAMA PIPELINE AWARENESS COOPERATIVE TRAINING

ALABAMA
Know what's below. **811** 811 Before you dig.

You Have Received This Brochure Because:

- You live or work near buried natural gas or hazardous liquid pipelines.
- You possibly engage in digging, excavation, demolition or other related activities near natural gas or hazardous liquid pipelines.
- Your emergency response agency plans, coordinates and conducts emergency preparedness and response activities near natural gas or hazardous liquid pipelines.
- You are a public official who impacts community growth, land-use planning and development activities near natural gas or hazardous liquid pipelines.

This booklet along with the APACT website located at www.apactpipelineawareness.com, provides pipeline safety information to keep you, your family, and your community safe.



Purpose and Reliability

The United States is home to the largest network of energy pipelines in the world. The US houses approximately 2.5 million miles of underground lines, and Alabama housing approximately 70,000 miles of combine product lines. A pipeline size, depending on the system, can vary anywhere from ½ inch to 48 inches in diameter. Most modern pipelines are either constructed of either steel or plastics.

How Pipeline Operators Keep Pipelines Safe

Pipeline operators have a responsibility to ensure that their pipelines do not pose a threat to the general public or environment.

Some of the operator responsibilities are to ensure that...

System is sound and constructed properly

Materials are of good quality

System is inspected, tested, maintained and repaired properly

Continuously monitored and controlled

Employees are trained and qualified

Implementation of industry best practices

Identify and mitigate risks

Emergency response preparation and coordination



Types of Pipeline Systems

Most pipeline systems are grouped into one of the following:

Transmission

Transmission pipelines are used to transport crude oil and natural gas from their respective gathering systems to refining, processing, or storage facilities. Transmission pipelines also transport refined petroleum products and natural gas to customers, for use or for further distribution. With very few exceptions, transmission pipelines are dedicated to the transportation of crude oil, refined petroleum products, or natural gas.

Transmission pipeline systems include all of the equipment and facilities necessary to affect the transportation of the products. This includes the pipe, valves, pumps or compressors, breakout tanks, storage tanks, refining and processing facilities and other equipment and facilities.

Transmission pipelines are constructed from steel pipe and can range in size from several inches to several feet in diameter. Depending on the product being transported, transmission pipeline systems can be designed to operate from relatively low pressures to over 1000 pounds per square inch (psi) of pressure. They can range in length from hundreds of feet to hundreds of miles.

<https://primis.phmsa.dot.gov/comm/FactSheets/FSTransmissionPipelines.htm>

Distribution

Local distribution companies (LDCs) own and operate natural gas distribution pipelines. They receive natural gas from transmission pipelines and distribute it to commercial and residential end-users. Distribution pipelines are generally smaller in diameter than gas transmission pipelines and operate at reduced pressures. Many gas distribution pipelines are made of plastic pipe rather than steel. Distribution systems consist of mains that are normally installed underground, along or under streets and roadways and smaller service lines.

<https://primis.phmsa.dot.gov/comm/FactSheets/FSDistributionPipelines.htm>

Gathering

Plainly speaking, gathering lines are those pipelines that are used to transport crude oil or natural gas from the production site (wellhead) to a central collection point. They generally operate at relatively low pressures and flow, and are smaller in diameter than transmission lines.

<https://primis.phmsa.dot.gov/comm/FactSheets/FSGatheringPipelines.htm>

How Everyone Can Help!

Unsafe excavating around pipelines is dangerous. Excavating includes digging, fencing, landscaping and construction projects or any activity which requires moving dirt. State law requires you to **contact the 811** system by calling 811 or visiting www.al811.com before starting these types of activities. Anyone excavating, for any reason, must have the facilities marked prior to excavation. In Alabama, there are now stiff fines and penalties for not following the scope of the law, and with the new law changes that started 1/1/2020, reporting those violations is a much easier task.

Understanding that EVERYONE plays an important role in the prevention of a damage is important. Help these operators by being the eyes and ears in your communities, and help educate others as to the trickle-down effect that can be caused by someone not doing their part and staying safe. If you see something out of the ordinary, or earth being moved, and no markings are nearby, put a call in to that utility, so they can investigate.

Potential Outcomes of a Utility Damage

Would you want the responsibility of causing an avoidable damage to important underground infrastructure such as hospital communications or power, or other public service agencies such as police and fire communications?

Other possible outcomes:

- Water outages
- A hazardous and potentially flammable liquid or gas release
- Inability to contact 911 services
- The local response agency putting themselves in harm's way to an avoidable incident
- Injury or loss of life



How to Recognize Our Pipelines' Locations

– Look for These Signs:



Most pipelines are underground. Pipeline signs, like the ones pictured above, mark the approximate location of the pipeline in the right-of-way. These signs are located where the pipeline intersects public road crossings, river crossings and railways. These signs tell you the product in the pipeline, the name of the pipeline operator and the 24-hour emergency telephone number.

However, these signs do not indicate the exact location of the pipeline, and cannot be used in lieu of Alabama 811, nor do the signs indicate the depth of the pipeline. The pipeline may not follow a straight line between the signs. Also, someone may have moved or damaged the pipeline sign without our knowledge.

The National Pipeline Mapping System (NPMS)

The location of pipeline operator transmission pipelines can be found at the National Pipeline Mapping System (NPMS) website, www.npms.phmsa.dot.gov

NEVER use the NPMS website in place of calling 811 prior to starting an excavation project. In addition, never rely on pipeline markers as an indicator of exact location of natural gas and hazardous liquid pipelines. NPMS does not display all underground pipelines or other utilities.

Look. Listen. Smell.

Know the Signs of a Pipeline Release



LOOK: Water bubbling, dirt or water being blown into the air, dead vegetation, discolored soil, a pool of liquid on the ground, a low-lying, dense white cloud or fog, frozen ground near a pipeline, fire, or explosion.



LISTEN: Noise that can range from small hissing to loud roaring or the impact of an explosion.



SMELL: Notice any strange or unusual odor (the products can have a petroleum odor or smell like rotten eggs). Some gasses are odorless, and odorant cannot always be added. It is important to use your ears and eyes as well as your nose to recognize a potential problem.

What to do if You Notice Suspicious Activity Near the Pipeline or Suspect Pipeline Damage

If you see suspicious activity near our pipeline or suspect pipeline damage, please call the pipeline operators emergency numbers as soon as it is safe to do so.

It is important you call the pipeline operator immediately if, while digging, you expose or make contact with our pipeline. Even seemingly minor contact, such as a scrape, dent, gouge or crease can be serious, because it could result in a future leak if not inspected and/or repaired. Also, do not cover an exposed pipeline – call us immediately. We will inspect the pipeline and make repairs if they are warranted.

Potential Hazards of a Natural Gas Pipeline Release

The products we transport are flammable commodities. Therefore, a release has the potential to escalate into a fire or explosion, which could affect people or properties in the vicinity of the pipeline. A gas release could cause negative impacts to personal health and the environment. It could also cause a loss of services, expensive repairs and fines related to damaging a pipeline. A product release from a high-pressure natural gas pipeline could even create noise levels that are harmful to human hearing.

Potential Hazards of a Crude Oil or Hazardous Liquids Release

Liquid products and their vapors can also be highly flammable. Health effects vary depending on the concentration and length of exposure. Breathing vapors can cause nervous system and respiratory irritation. Contact with the skin can cause irritation.

PRODUCT	LEAK TYPE	VAPORS	HEALTH HAZARDS	FIRE HAZARDS
Natural Gas	Gas	Lighter than air	Extremely high concentrations may cause irritation or asphyxiation. Possible presence of H ₂ S, a toxic gas.	Extremely flammable and easily ignited by heat, sparks or flames.
Natural Gas Condensate	Liquid/Vapor	Lighter than air	Can be fatal if swallowed or breathed and may cause respiratory irritation.	Extremely flammable and easily ignited by heat, sparks, or flames and may accumulate in low areas and travel considerable distance to ignition source and flash back.
Highly Volatile Liquids (HVLs) = Natural Gas Liquids, Liquid Petroleum Gases, Propane, Ethane, Butane, etc.	Gas	Heavier than air	Respiratory tract irritant; may cause central nervous system effects, drowsiness, asphyxiation. Both an irritant and a chemical asphyxiant with effects on both oxygen utilization and the central nervous system.	Extremely flammable liquid or vapor, vapors are heavier than air and may accumulate in low areas and travel considerable distance to ignition source.
Hydrogen Sulfide (H ₂ S)	Gas	Heavier than air	High concentrations can cause shock, convulsions, inability to breathe, extremely rapid unconsciousness. H ₂ S causes a foul odor in small concentrations, but paralyzes the sense of smell in higher concentrations.	Extremely flammable, gas/air mixtures can be explosive, and may travel considerable distance to ignition source and flash back.
ERG 128: Crude Oil & Refine Products: Gasoline, Diesel, Jet Fuel, Heating Oil, etc	Liquid/Vapor	Heavier than air	Irritation of the eyes and skin may occur with exposure. Vapors may cause central nervous system effects. Possible presence of H ₂ S, a toxic gas.	Extremely flammable liquid or vapor, vapors are heavier than air and may accumulate in low areas and travel considerable distance to ignition source.

What to Do if a Pipeline Release Occurs

- Step 1:** Leave immediately on foot! Do not smoke. Do not use electric switches, telephones (including cell phones) or anything that could cause a spark. Abandon any equipment being used in or near the area. Move in a crosswind direction away from the leak or vapor cloud and maintain a safe distance. Do not drive into a vapor cloud.
- Step 2:** Go directly to a safe location, and then call 911 and pipeline operator. Do not use e-mail, text or the Internet to contact the company about a leak, and never assume someone else has reported the leak.
- Step 3:** Warn others to stay away from the leak, block off the area as much as possible, and assist in evacuating the area if there are critical areas such as schools, daycares, or other populated public areas.

High-Consequence Areas

Pipeline operators provide enhanced protection for High-Consequence Areas (HCAs) in highly populated areas, an outside area or open structure, or a facility occupied by persons who are confined, are of impaired mobility, or would be difficult to evacuate. Examples of HCAs include beaches, playgrounds, recreational facilities, campgrounds, outdoor theaters, stadiums, recreational areas near a body of water, religious facilities, office buildings, community centers, general stores, 4-H facilities, roller-skating rinks, hospitals, prisons, schools, day-care facilities, retirement facilities or assisted-living facilities.



Pipeline Integrity Programs

Managing and maintaining the integrity of our pipeline system is important to the safety of people and the environment.

In accordance with federal regulations, some segments along transmission pipelines have been designated as high consequence areas (HCAs), and supplemental hazard assessment and prevention programs have been developed. These programs provide comprehensive management of threats to integrity in HCAs. This is done by ensuring that integrity risks associated with the pipeline are identified, assessed, and managed to a level as low as reasonably practicable. The purpose of this program is to provide safe, reliable, and cost-effective transportation of natural gas and natural gas liquids for our customers without adverse effects on the public, our customers, our employees or the environment. Incident-free operation is our goal.

Storage Facilities

Underground natural gas and natural gas liquids storage facilities are connected to pipeline systems and safely store natural gas and natural gas liquids until it is needed. The ability to store natural gas and natural gas liquids helps ensure we have an adequate supply available during times of high demand, such as cold winter days.

Respect the Marks!

Notify Alabama 811 and allow the work site to be properly marked before beginning ANY excavation activities. Respect the location marks. Use digging and excavation best practices for your safety. If weather or other circumstances erase the marks, you must notify Alabama 811 to have them refreshed.

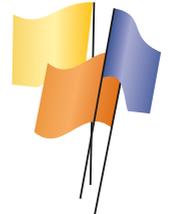
All member utilities with buried facilities will be located and marked with **paint, flags, or both**.

Alabama 811 currently has approximately 450 members, but is in a transition period where by 1/1/2022, all underground utilities will be required to participate in the statewide 811 system. Until that time, understand that there are some utilities that are not members of the 811 service, and it is still the obligation of the excavator to contact those operators directly. Those non-member utilities are still mandated by law to mark their facilities within the required amount of time.

A list of utilities notified is provided on all locate requests.

The American Public Works Association (APWA) Uniform Color Code will be used for marking excavation sites and underground facilities.

	Proposed Excavation		Communication
	Temporary Survey		Potable Water
	Electric		Reclaimed Water & Irrigation
	Gas, Oil, Steam & Petroleum		Sewer & Drain Lines



Tolerance Zone

Once the area is marked, it is the responsibility of the excavator to dig with care if they have to work within 18" of the marks. The tolerance zone is defined as the width of the underground facility plus 18 inches on either side of the outside edge of the underground facility on a horizontal plane.

Non-invasive methods of excavation to determine the exact location of the utility must be used when working within the tolerance zone.

How to Respond if a Pipeline is Damaged or Disturbed

Even if you cause what seems to be only minor damage to a pipeline, notify the pipeline company immediately. A gouge, scrape, dent or crease on a pipe or coating may cause a future break or leak. It is imperative that the pipeline company inspect and repair damage to the line.

Do not attempt to make the repairs to the line yourself. If a line is ruptured or leaking, call 911 immediately, and notify the pipeline operator.

Things to Remember:

- **ANY** kind of displacement of the earth is considered excavation.
- **ALL** forms of digging are considered excavation. The use of heavy equipment is not the only form of excavation.
- **DO NOT** attempt to re-bury a line after it has been exposed from the ground, contact the pipeline company.

Current Alabama 811 Requirements and Information

The use of Alabama 811 is a very simple process that takes just a few minutes to process a routine locate request.

Some of the key highlights of entering a locate request and using 811 are...

- Locate requests can be entered by calling 811, or by visiting www.al811.com and either using the web portal for contractors and excavators, or homeowners can click on the homeowner link.
- Allow two full working days, not including the day of the notification, for the utilities to respond to your request. This does not include weekends and holidays, so plan accordingly.
- Provide accurate and detailed information.
- Provide a good call back number in case of questions or issues.
- It's the excavator's responsibility to maintain the markings.
- Be aware of ticket update and expiration times.
- The excavator's use of white paint can be a very helpful tool.
- A locator request is valid for 20 working days. If your work will continue past the provided expiration date, the locate request will need to be updated by the update date provided.
- Alabama 811 maintains 24-hour operations for receiving locate requests. If entered after 5PM, your day of notification will be considered as the next business day.
- Positive response, which in simplified terms is a utility responding back in to the 811-web portal with a status update of whether a facility has been marked. On January 1, 2021, all utilities in the state are now required to provide a positive response. Positive response helps the excavators know if a ticket has been fully cleared, and potentially eliminates an extra trip back out to the jobsite. The positive response system can be verified by visiting www.al811.com and clicking the Locate Request Search Button to react the web portal "Find Tickets" link.
- Most locate requests require the two full working days, not including the day of notification, but if a utility has been damaged, or there are other potential threats that need to be addressed sooner, an emergency locate request can be requested. Historically, there have been contractors that have abused this request. Just remember, abuse of an emergency locate request can result in fines and/or penalties.
- Well over 50% of all locate requests now come in through the AL811 web portal. There are many benefits to using the portal versus calling if you enter any decent amount of locate requests on a regular basis. The portal allows you to search for tickets, view tickets, view positive response, map your own requests, etcetera. For more information on the portal, go to www.al811.com and click on the Web Portal Locate Entry button.

Emergency Response Information

As an emergency responder, know that pipeline operators are your partners in maintain safety and responding to a pipeline incident in the unlikely event one should occur. The first priority is to protect life.

Liaison with Emergency Officials

Pipeline operators maintain close relationships with local emergency response officials. These partnerships help prevent incidents and keep pipeline operators constantly prepared to respond immediately and effectively in the unlikely event of an emergency.

Establish these relationships. If you have facilities in your areas, train with these operators, and make sure you have their most up to date contact information.

Each pipeline operator has provided an operator profile with their specific emergency and non-emergency contact information at the link below.

<https://apactpipelineawareness.com/operator-profiles/>

If you need further information or assistance in contacting a particular operator, or finding out additional information, the "contact us" link on the ARACT website can be used as well.

Emergency Response Preparedness Tools

There are many tools available for emergency responders to be prepared and understand pipeline and utility incident risks. In addition, having coordinated and prepared emergency-response plans with pipeline operators leads to a more effective response.

Each pipeline operator maintains an emergency response plan for their facilities and keeps these on file. It is recommended as an emergency response to maintain a copy of these plans from the operator for any facilities that might be within your response areas. The best way to obtain a copy of these plans is to contact the pipeline operator directly. The ARACT website maintains contact information for it's participants at <https://apactpipelineawareness.com/operator-profiles/> or if you are unsure of the operators in your area, send us a message at www.apactpipelineawareness.com/contact/ and we can help provide a list of operators in your area.

The Pipeline and Hazardous Materials Safety Administration's (PHMSA) Emergency Response Guidebook (ERGA)

Access information about the ERG at: <https://www.phmsa.dot.gov/hazmat/erg/emergency-response-guidebook-erg>.





Helpful Tips for Responding to an Incident

- Eliminate any potential ignition sources including motors, firearms, phones, radios, cigarettes, and even static discharge from your clothing could be a source.
- Notify the emergency responders in the area if you are an excavator.
- 911, and then notify the pipeline operator immediately.
- If at all possible, when responding to a leak or release, remain on standby a safe distance away while the operators work to repair the leak. Do not leave the scene until the all clear has been given.
- If an ignition of product does occur, extinguishing a primary fire can result in an explosive re-ignition. Unless it is necessary to save human life, flammable gas fire should not be extinguished unless the fuel source has been isolated and you are instructed to do so by the pipeline operator. Only extinguish any secondary fires that may be the result of a primary.
- Additionally, unless under the instruction of gas or pipeline personnel, once again, do not operate pipeline equipment including valves.

When Approaching an Incident

- Assess the situation.
- Park a safe distance away, and approach a situation upwind.
- Do not park over manhole covers or storm drains.
- Do not drive or walk into a vapor cloud or puddle of liquid.
- Use appropriate air monitoring equipment to establish the extent of the release.
- Additionally, when responding to a potential leak or release, respond in full PPE if not within a designated safe area, this could save your life.
- Secure the scene, whether you are an excavator or emergency responder, making sure to evacuate nearby areas and controlling traffic as needed. As an excavator, if you were to be the cause of a leak or release, the law actually calls you to assist in initially securing the scene and evacuating areas if needed.

Pipeline Emergency Response Training Availability



It is once again highly recommended that you have established relationships with the operators in your areas, have a copy of their emergency response plan as previously mentioned, and train with these operators when given the opportunity. There are also other recommended avenues for your group to be prepared if the unlikely event of a pipeline incident.

- **The Alabama Pipeline Emergency Response Initiative Free Continuing Education Training for ER's**

The APERI program is a newly developed program that focuses on providing more in-depth and detailed emergency response training information for any and all emergency response agencies in the state. The APERI program provides a four-hour continuing education course for fire, EMS and APOST available at no cost through the Alabama Fire College. For more information or to request the training contact Brent Penny at bpenny@alabamafirecollege.org.

- **Pipeline Emergencies**

Additionally, www.pipelineemergencies.com, is produced by PHMSA and the National Association of State Fire Marshals and provides an overview of pipeline operations to help educate emergency responders.



www.apactpipelineawareness.com and Other Useful Resources and Links

There are many tools available for communities and public officials to help mitigate and understand pipeline risks.

The APACT site is a year-round website that will assist in providing:

- Your roles and responsibilities when working around pipelines
- A “contact” link if you have any questions, concerns or need assistance
- Operator profiles with emergency and non-emergency contact information for all participants
- Other useful websites and links
- A copy of the current year’s presentation you can view once the webinars have been completed.



Other Useful Links are as Follows:

National Pipeline Mapping System (NPMS)

- The location of pipeline operator transmission pipelines can be found at the National Pipeline Mapping System (NPMS) website, www.npms.phmsa.dot.gov



Pipeline and Informed Planning Alliance (PIPA)

The Pipeline and Informed Planning Alliance (PIPA) is a department of the PHMSA and has the goal of reducing risks and improving the safety of affected communities and pipeline operation through a set of recommended practices related to land use.



- These recommended practices can be accessed at: <http://primis.phmsa.dot.gov/comm/pipa/LandUsePlanning.htm>.

PHMSA (Pipeline and Hazardous Materials Safety Administration)



Pipeline and Hazardous Materials Safety Administration

- Main Website: www.phmsa.dot.gov
- For Data and Resources: www.phmsa.dot.gov/resources

Alabama 811 (for locate requests, membership, new law changes, etc..)

www.al811.com



Pipeline Emergencies

Pipeline emergency response training.

www.pipelineemergencies.com

Pipeline 101

A very good introductory resource for understanding pipelines.

www.pipeline101.com

Common Ground Alliance

A national damage prevention organization focuses on saving lives and preventing damage to underground infrastructures.

www.commongroundalliance.com



Alabama Public Service Commission-Gas Pipeline Safety Division

The Gas Pipeline Safety Section conducts and carries out the inspection and monitoring activities of all gas and hazardous liquid pipeline systems operating in Alabama, including offshore drilling facilities in state waters.

<http://www.psc.alabama.gov/Energy/index.htm>

Virtual Meetings Dates and Times

Several dates and times have been made available to best accommodate your personal schedule! Others from your organization do not have attend the same time and session. Choose what best fits you!

Enter the meeting link, and choose the best time from the drop-down menu.

Participants can join from a mobile phone, tablet, or web browser.

Wednesday August 4th, 2021

11:00 AM – 12:00 PM
2:00 PM – 3:00 PM
6:00 PM – 7:00 PM

Wednesday August 11th, 2021

11:00 AM – 12:00 PM
2:00 PM – 3:00 PM
6:00 PM – 7:00 PM

Thursday August 5th, 2021

11:00 AM – 12:00 PM
2:00 PM – 3:00 PM
6:00 PM – 7:00 PM

Thursday August 12th, 2021

11:00 AM – 12:00 PM
2:00 PM – 3:00 PM
6:00 PM – 7:00 PM

Meeting Link:

<https://attendee.gotowebinar.com/rt/4622920144247222800>

Incentives for Attending Virtual Meetings

At each Session-\$600 in gift cards!

(All individuals attending will be eligible)

Two \$100 American Express Gift Cards

Four \$50 American Express Gift Cards

Eight \$25 American Express Gift Cards

\$750 Donation to one emergency response agency in attendance at each session drawn at random. (Eligible once, even if others from your organization attend subsequent sessions)

Four additional \$750 ER donations for ER's that provide back their capability information via www.apactpipelineawareness.com, or the attached mailed form, to be given away following the completion of all meetings. Winning the meeting ER prize will not exclude you from eligibility for the capability prize.