TEXAS

EXCAVATOR®
PIPELINE SAFETY PROGRAM

PIPELINE SAFETY TRAINING

PROGRAM GUIDE

Overview
Pipeline Safety
Excavation Best Practices Checklist
Signs Of A Pipeline Release
What To Do If A Leak Occurs
Pipeline Emergency
Common Ground Alliance Best Practices
Pipelines In Our Community
Damage Prevention Programs
Pipeline Damage Reporting Law

2024

RAILROAD COMMISSION OF TEXAS
TEXAS DAMAGE PREVENTION RULES

All damages to underground gas or hazardous liquid pipeline facilities in the State of Texas are required by law to be reported electronically by filing a Texas Damage Reporting Form (TDRF) through the Railroad Commission of Texas (RRC) webpage. For details of the law and the reporting form please visit http://www.rrc.state.tx.us.

Excavators must notify the pipeline company through the One-Call Center immediately but not later than two hours following the damage incident.

The new rule can be found at:
https://www.rrc.state.tx.us/general-counsel/rules/

16 TAC Chapter 18, Underground Pipeline Damage Prevention
Effective; September 1, 2007

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Pipeline Purpose and Reliability
- Critical national infrastructure
- Over 2.7 million miles of pipeline provide 65% of our nation's energy
- 20 million barrels of liquid product used daily
- 21 trillion cubic feet of natural gas used annually

Safety Initiatives
- Pipeline location
  - Existing right-of-way (ROW)
- ROW encroachment prevention
  - No permanent structures, trees or deeply rooted plants
- Hazard awareness and prevention methods
- Pipeline maintenance activities
  - Cleaning and inspection of pipeline system

Leak Recognition and Response
- Sight, sound, smell – indicators vary depending on product
- Diesel engines – fluctuating RPMs
- Black, dark brown or clear liquids/dirt blowing into air/peculiar odors/dead insects around gas line/dead vegetation
- Rainbow sheen on the water/mud or water bubbling up/frozen area on ground/frozen area around gas meter
- Any sign, gut feeling or hunch should be respected and taken seriously
- Take appropriate safety actions ASAP

High Consequence Area *(HCA)* Regulation
- Defined by pipeline regulations 192 and 195
- Requires specialized communication and planning between responders and pipeline/gas personnel
- May necessitate detailed information from local response agencies to identify HCAs in area

One-Call
- One-Call centers are not responsible for marking lines
- Each state has different One-Call laws. Familiarize yourself with the state you are working in
- Not all states require facility owners to be members of a One-Call
- You may have to contact some facility owners on your own if they are not One-Call members
- In some states, homeowners must call before they dig just like professional excavators

811®

Know what's **below.**
Call before you dig.

Pipeline Emergency Response Training

Contractor and Excavator Personnel

EXCAVATOR
PIPELINE SAFETY PROGRAM

Instructor:

Continuing Education Unit (CEU) Opportunities

Texas Department of State Health Services

Program Approval Number: 600892

Law Enforcement & Fire Services approved at the local level.

Pipeline Operator Challenges

- Timely notification of the incident
- Denied entry at scene of incident
- Quick access to remote valves/ICP
- Getting equipment into the area
- Communications with incident command
- Clear lines of communication (both ways)
- Face to face meetings with local officials
- Pre-planning with emergency services

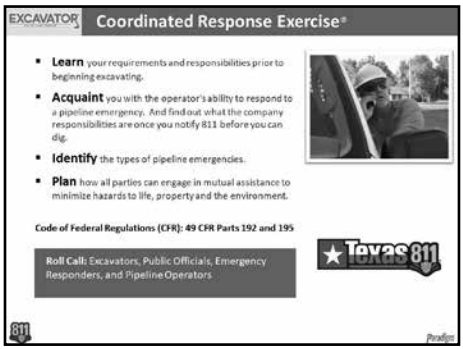
Do contractors and excavators face some of these same challenges?

Local Operator Information*

- **Operator and/or company name**
- **Pipeline systems and products**
- **Location of pipelines**
- **Pipeline size/operating pressure(s)**
- **Operator Response(s) to a pipeline emergency**

*Information in the materials may not represent all pipeline companies in your area.

On your awareness survey, please provide your **cell phone number** – this will make registering for and attending future meetings easier!



Program content and slides subject to change

What Will be Covered

- 811 – One Call Process
- Texas Excavation Laws
- Locator Positive Response
- Documentation/Photos
- Excavation Best Practices
- Damage Investigation/Reporting Requirements
- Predictive Analytics: High Risk Excavation

Reference Documents

- **Texas Utilities Code Title 5 Chapter 251**
  - Underground Facility Damage Prevention & Safety
  - Effective 1999
  - Establishes the One call system and addresses all Utilities and Pipelines
- **Texas Administrative Code Title 16 Chapter 18**
  - Underground Pipeline Damage Prevention
  - Effective 2007
  - Specific to Gas Distribution and Gas & Hazardous Liquids Pipelines
- **Common Ground Alliance**
  - Best Practices
  - Established 1999
- **OSHA Title 29 CFR**
  - 1926.651(b) Specific Excavation Requirements

Texas811

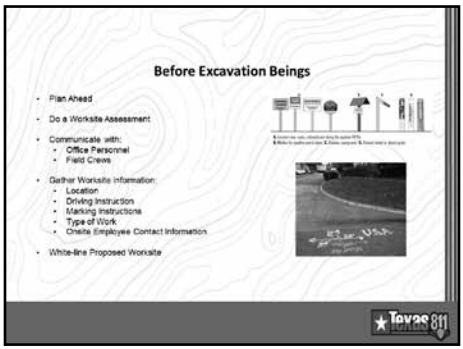
Our Purpose:
To protect billions of dollars in underground infrastructure and keep the public safe.

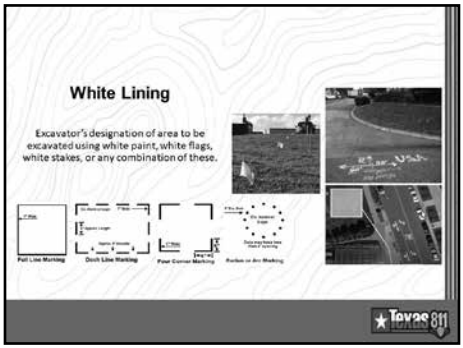
- EVERY 'One-call' locate ticket submitted in Texas originates with Texas811.
- Texas811 averages 19-21k locate tickets submitted per day. Over 4,000,000 tickets per year.
- All Class A Facilities are required by laws to be registered with one-call (Class B is voluntary)
- Texas811 is the link between your plans to dig and our member utility companies.
- There is no cost for making the call to Texas811. (48 Hour waiting period required)
- Texas811 also provides excavation education to excavators, emergency responders and the general public.

Excavation: Defined By The Law

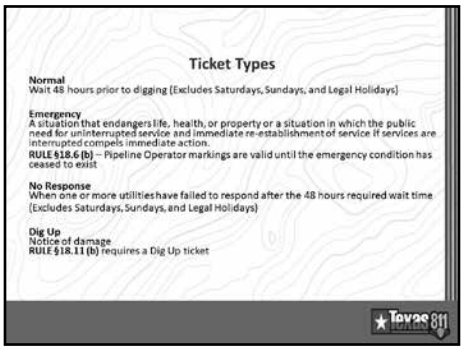
Excavate: Movement of earth by any means

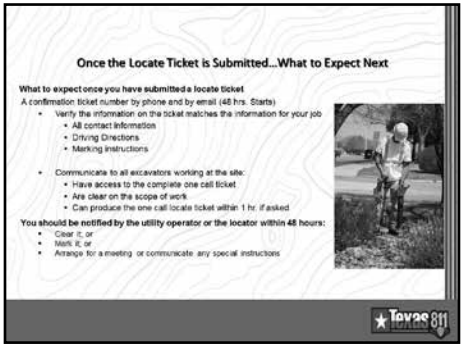
Excavator: A person that engages in or is preparing to engage in the movement of earth

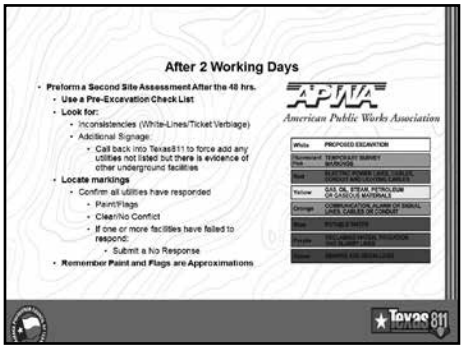

Before Excavation Beings
Plan Ahead
Do a Worksite Assessment
Communicate with:
Office Personnel
Field Crews
Gather Worksite Information:
Location
Driving Instruction
Marking Instructions
Type of Work
Onsite Employee Contact Information
White-line Proposed Worksite
Texas811


White Lining
Excavator's designation of area to be excavated using white paint, white flags, white stakes, or any combination of these.
Texas811

Texas811 One Call Process
Notification Center
CALL 811 OR 800-344-8377
CLICK THE PORTAL
WWW.TEXAS811.ORG
Texas811


Ticket Types
Normal
Wait 48 hours prior to digging (Excludes Saturdays, Sundays, and Legal Holidays)
Emergency
A situation that endangers life, health, or property or a situation in which the public need for uninterrupted service and immediate re-establishment of service if services are interrupted compels immediate action.
RULE §18.6 (b) – Pipeline Operator markings are valid until the emergency condition has ceased to exist
No Response
When one or more utilities have failed to respond after the 48 hours required wait time (Excludes Saturdays, Sundays, and Legal Holidays)
Dig Up
Notice of damage
RULE §18.11 (b) requires a Dig Up ticket
Texas811


Once the Locate Ticket is Submitted...What to Expect Next
What to expect once you have submitted a locate ticket
A confirmation ticket number by phone and by email (48 hrs. Starts)
Verify the information on the ticket matches the information for your job
All contact information
Driving Directions
Marking instructions
Communicate to all excavators working at the site:
Have access to the complete one call ticket
Are clear on the scope of work
Can produce the one call locate ticket within 1 hr. if asked
You should be notified by the utility operator or the locator within 48 hours:
Clear it, or
Mark it, or
Arrange for a meeting or communicate any special instructions
Texas 811

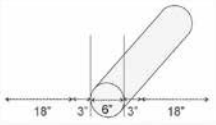

After 2 Working Days
Preform a Second Site Assessment After the 48 hrs.
Use a Pre-Excavation Check List
Look for:
Inconsistencies (White-Lines/Ticket Verbiage)
Additional Signage:
Call back into Texas811 to force add any utilities not listed but there is evidence of other underground facilities
Locate markings
Confirm all utilities have responded
Paint/Flags
Clear/No Conflict
If one or more facilities have failed to respond:
Submit a No Response
Remember Paint and Flags are Approximations
APWA
American Public Works Association
White PROPOSED EXCAVATION
Yellow GAS, OIL, STEAM, PETROLEUM OR GASEOUS MATERIALS
Orange COMMUNICATION, ALARM OR SIGNAL LINES, CABLES OR CONDUIT
Texas 811

Most properties have unmarked private utility lines, but they present a real danger for anyone digging. It's important to have all lines located and marked. These are just a few examples of underground utilities that might be hidden on your property.
Electricity for exterior lighting
Propane lines
Septic pipes
Sprinkler systems
Gas for heated pools
Power for a detached garage
Storm drains
What Constitutes A Customer Owned Line
Texas 811

Documentation and Photos
Photos
Use Hit Kits for Pre-Dig Photos
Take from different directions
N,NE,SE, S, SW, NW
12 o'clock, 3 o'clock, 6 o'clock and 9 o'clock
50'/20'/10'/5'
Include stationary items
Include the flags and marks
Show the locate marks in reference to the white-lined proposed excavation site
Time/Date Stamp
If possible, include GPS coordinates on photos
Rhino HIT Kit
Texas 811

Tolerance Zone

Half the nominal diameter of the underground pipeline plus a minimum of 18 inches on either side of the outside edge of the underground pipeline on a horizontal plane.
Utility Pothole or Daylight to expose underground facilities.



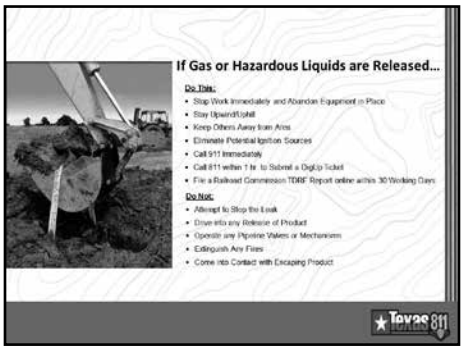
Safe Excavation Practices

- Hand Digging
- Vacuum Excavation
- Spotter
- Backfilling

In Case of a Damage

- Contact the facility owner directly (if known)
- Call 811 to report the "Dig Up" within 1 hour
- Do not attempt to repair any pipeline or cable
- Do not backfill the area around the damaged line

Program content and slides subject to change


If Gas or Hazardous Liquids are Released...
Do This:
Stop Work Immediately and Abandon Equipment in Place
Stay Upwind/Uphill
Keep Others Away from Area
Eliminate Potential Ignition Sources
Call 911 Immediately
Call 811 within 1 hr to Submit a DigUp Ticket
File a Railroad Commission TDRF Report online within 30 Working Days
Do Not:
Attempt to Stop the Leak
Drive into any Release of Product
Operate any Pipeline Valves or Mechanisms
Extinguish Any Fires
Come Into Contact with Escaping Product
Texas811

Damage Investigation
Texas811

Damage Prevention Through Predictive Analytics
Texas811 provides a list of the top three risk factors that are driving risk at the job site to help you, and the excavator, better understand and react to the risk.
Some of the risk factors you can expect to see on the ticket:
Equipment Used
Excavator History
Nature of Work
Size of the work area
Geographic Location
Length of the work area
Amount of member companies in the work area
Proposed date/time of the excavation
Explosives, White Lined, or Directional Boring is present
Ticket Type
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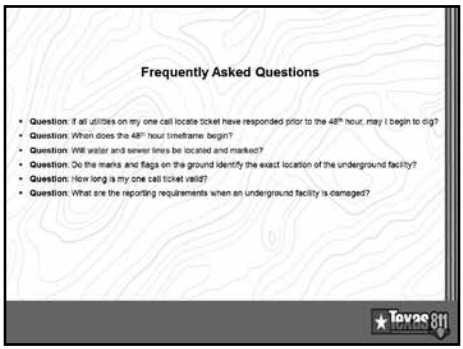
Frequently Asked Questions
Question: If all utilities on my one call locate ticket have responded prior to the 48th hour, may I begin to dig?
Question: When does the 48th hour timeframe begin?
Question: Will water and sewer lines be located and marked?
Question: Do the marks and flags on the ground identify the exact location of the underground facility?
Question: How long is my one call ticket valid?
Question: What are the reporting requirements when an underground facility is damaged?
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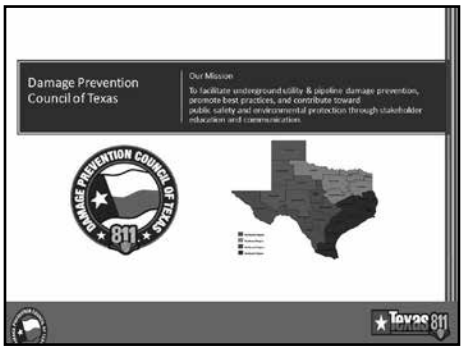
Damage Prevention Council of Texas
Our Mission
To facilitate underground utility & pipeline damage prevention, promote best practices, and contribute toward public safety and environmental protection through stakeholder education and communication.
DAMAGE PREVENTION COUNCIL OF TEXAS
811
Texas 811

Texas 811
Damage Prevention Manager
DPM@texas811.org
Texas 811

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Three Seconds Later...
811
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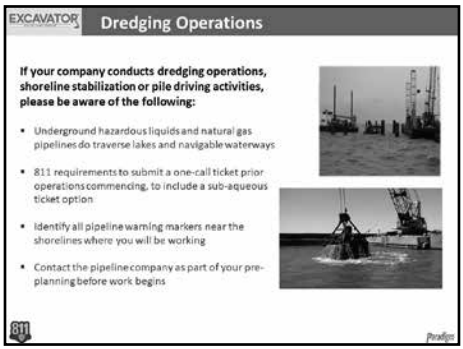
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Dredging Operations
If your company conducts dredging operations, shoreline stabilization or pile driving activities, please be aware of the following:
Underground hazardous liquids and natural gas pipelines do traverse lakes and navigable waterways
811 requirements to submit a one-call ticket prior operations commencing, to include a sub-aqueous ticket option
Identify all pipeline warning markers near the shorelines where you will be working
Contact the pipeline company as part of your pre-planning before work begins
811
Paradigm

Logging Operator Responsibilities

- Notify pipeline company before work begins
- No skidding of logs on right of way
- Crossing of pipeline must be approved
- Drop cut trees away from pipeline
- Do not remove existing cover
- Restore right of way

Integrity Management

Pipeline companies are required to have Integrity Management programs to insure safe and efficient operations:

- Internal and external cleaning and inspection, of the pipeline and affected areas
  - Rights-of-Way and valves
- Supervisory Control and Data Acquisition (SCADA)
- Identification of High Consequence Areas (HCA)
- Aerial Rights-of-Way Patrols
- Public Awareness Outreach to stakeholders
- Participation as a member of 811
- Operator Qualification (OQ) Training
- Local Distribution Company (LDC)
  - Meter Testing
  - Leak Surveys
    - May also be utilized on transmission pipelines

Product Characteristics

Hazardous Liquids
ER Guide 128 (Pages 192-193)
- Crude oil, jet fuel, gasoline and other refined products
- **Liquid in and liquid out of the pipeline**

Highly Volatile Liquids
ER Guide 115 (Pages 166-167)
- Propane, Butane, Ethane and natural gas liquids
- **Liquid in and vapor out of the pipeline**

Natural Gas
ER Guide 115 (Pages 166-167)
- Gas in and gas out of the pipeline
- **Odorant Mercaptan added where required**

Anhydrous Ammonia (NH_3)

ER Guide 125 (Pages 186-187)

Potential Hazards
- Toxic; may be fatal if inhaled, ingested or absorbed through skin
- Cloud may not be visible
- Vapors are initially heavier than air and spread along ground
- Wear full protective clothing/SCBA

Health Hazards
- Vapors may cause dizziness or suffocation
- Vapors are extremely irritating and corrosive
- Contact with gas or liquefied gas may cause burns, severe injury and/or frostbite
- Fire will produce irritating, corrosive and/or toxic gases
- (LEL) 15% to (UEL) 28% (NIOSH Pocket Guide to Chemicals)

Public Safety
- Immediate precautionary measure, isolated spill or leak area at least 330 ft all directions
- Keep unauthorized personnel away
- Stay upwind and/or upstream
- Vapors are lighter than air

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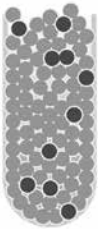
Hydrogen Sulfide (H_2S)

Highly toxic, colorless gas
ER Guide 117 (Pages 170-171)

Workers in oil and natural gas drilling and refining may be exposed because hydrogen sulfide may be present in oil and gas deposits and is a by-product of the desulfurization process of these fuels.
*OSHA Oil and Gas Well Drilling and Servicing eTool



2-5ppm
Prolonged exposure may cause nausea and tearing of the eyes

100-150ppm
Loss of smell (olfactory fatigue or paralysis)

500-700ppm
Staggering, collapse in 5 minutes. Death after 30 to 60 minutes

700-1,000ppm
Rapid unconsciousness, "knockdown" or immediate collapse within 1 to 2 breaths, breathing stops, death within minutes

1,000-2,000ppm
Nearly instant death

*https://www.osha.gov/SLTC/etools/oilandgas/general_safety/h2s_monitoring.html

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Petroleum Products Batching

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Above Ground Storage Tanks

Considerations when responding to tank farms/ terminals

Work with your local operator to:
- Develop an effective response plan
- Identify products and hazards
- Determine evacuation radius

Response recommendations:
- Cool tank(s) or nearby containers by flooding with water
- Use unmanned hose holders/monitor nozzles
- Do not direct water at safety devices or icing may occur
- Let product burn, even after air supply line/system is closed
- Beware of the potential for **Boiling Liquid Expanding Vapor Explosion (BLEVE)**

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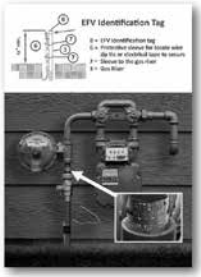
Local Distribution Systems

Caution
- Be aware, not all natural gas leaks are from excavation; unintended leaks from stoves, water, heaters, furnaces, etc. can occur
- When called out on natural gas leak events, use combustible gas indicators
- Mercaptan can be stripped as it travels through soil
- Frost heaves, breaking pipes
- Gas meter breaks due to snow buildup from melting snow falling from roofs

Excess flow valve meter tags

Identification tags [192.381(c)]
- The presence of an excess flow valve on the service lines must be marked with an identification tag. The identification tag will typically be located at the top of the service riser below the meter stop valve



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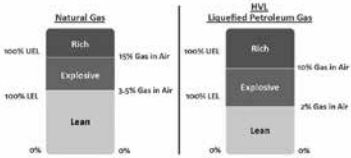
EXCAVATOR Excess Flow Valve (EFV)

Local Distribution Lines

- **Automatic reduction of gas flow** should a service line break
- **May not** completely stop the flow of natural gas
- **May not** hear a distinct hissing sound
- Migration and ignition sources may still exist
- Always work a coordinated response with your local operator
- **Not all service lines have an EFV installed**

EXCAVATOR Explosive Limits

Explosive Limits vs. Percent of Gas in Air



Lower/Upper Explosive Limit depends on characteristics of gas (SDS)

EXCAVATOR Farm Taps

- Mainly in rural areas, some natural gas pipeline companies may have facilities commonly referred to as "farm tap"
- These natural gas settings are made up of valves, pipes, regulators, relief valves and a meter. It may be located near the home or within the general vicinity
- To report the smell of gas near a farm tap, call 911 and the local gas distribution company from a safe distance
- The lines after a farm tap or residential meter are PRIVATE LINES. Be mindful of these.

EXCAVATOR Pipeline Awareness Training Center

Share with others in your crew, company, or agency unable to attend today's program

- Access to your local pipeline sponsor information
- Download the same documents presented in this program
- Certificate of completion provided upon completion of course

trainingcenter.pdigm.com
Use Code: 2024EX

Commissioner: Very informative and increased my awareness of the resources available to our county leadership in case of an emergency.

Geologist: Concise, informative, appreciate the audio and visual components, and the course documents provided.

Laborer: Great course, as a reminder of what's out there and how to deal with it.

PHEP Coordinator: Excellent course material, explanation and instruction.

Safety Manager: This s a good course to add to our Excavation Safety Program Training and New Hire Training Package.

Technician: Very informative and ESSENTIAL to anyone doing or planning to do any kind of excavation work!

EXCAVATOR RESPONSIBILITIES:

- ❑ Call Before You Dig - It's the Law!
- ❑ Wait the required time for the markings! (state specific time – check your local One Call Law)
- ❑ Tolerance Zones – May vary by state and/or company!
- ❑ Respect the marks!
- ❑ Dig with care!

RISK CONSIDERATIONS

- ❑ Type/volume/pressure/location/geography of product
- ❑ Environmental factors – wind, fog, temperature, humidity
- ❑ Sight, sound, smell – indicators vary depending on product
- ❑ Black, dark brown or clear liquids/dirt blowing into air/peculiar odors/dead insects around gas line/ dead vegetation
- ❑ Rainbow sheen on the water/mud or water bubbling up/frozen area on ground/frozen area around gas meter
- ❑ Other utility emergencies

PIPELINE MARKERS

The U.S. Department of Transportation (DOT) requires the use of signs to indicate the location of underground pipelines. Markers like these are located on road, railroad, and navigable waterway crossings. Markers are also posted along the pipeline right-of-way. Markers may not be located directly over the pipeline it marks.

The markers display:

- ❑ The product transported
- ❑ The name of the pipeline operator
- ❑ The operator's emergency number

- ❑ White Lining (Pre-marking)
- ❑ One Call Facility Request
- ❑ One Call Access
- ❑ Locate Reference Number

_____

- ❑ Separate Locate Request
- ❑ Pre-excavation Meeting
- ❑ Facility Relocations
- ❑ One Call Reference Number at Site
- ❑ Contact Names and Numbers
- ❑ Positive Response
- ❑ Facility Owner/Operator Failure to Respond
- ❑ Locate Verification
- ❑ Work Site Review with Company Personnel
- ❑ Documentation of Marks
- ❑ Facility Avoidance
- ❑ Marking Preservation
- ❑ Excavation Observer
- ❑ Excavation Tolerance Zone
- ❑ Excavation within the Tolerance Zone
- ❑ Vacuum Excavation
- ❑ Mismarked Facilities
- ❑ Exposed Facility Protection
- ❑ Locate Request Updates
- ❑ Facility Damage Notification
- ❑ Notification of Emergency Personnel
- ❑ Emergency Coordination with Adjacent Facilities
- ❑ Emergency Excavation
- ❑ Backfilling
- ❑ As-built Documentation
- ❑ Trenchless Excavation
- ❑ No Charge for Providing Underground Facility Locations
- ❑ Federal and State Regulations

811 Know what's **below.** **Call** before you dig.

Signs Of A Pipeline Release

SIGHT*
- Liquid on the ground
- Rainbow sheen on water
- Dead vegetation in an otherwise green area
- Dirt blowing into the air
- White vapor cloud
- Frozen area on ground

**Signs vary based upon product*

SMELL
- Odors such as gas or oil
- Natural gas is colorless and odorless
  - Unless Mercaptan has been added *(rotten egg odor)*

OTHER - NEAR PIPELINE OPERATIONS
- Burning eyes, nose or throat
- Nausea

SOUND
- A hissing or roaring sound

What To Do If A Leak Occurs

- Evacuate immediately upwind
- Eliminate ignition sources
- Advise others to stay away
- **CALL 911** and the pipeline company – number on warning marker
  - Call collect if necessary
- Make calls from safe distance – not "hot zone"
- Give details to pipeline operator:
  - Your name
  - Your phone number
  - Leak location
  - Product activity
  - Extent of damage
- DO NOT drive into leak or vapor cloud
- DO NOT make contact with liquid or vapor
- DO NOT operate pipeline valves *(unless directed by pipeline operator)*:
  - Valve may be automatically shut by control center
  - Valve may have integrated shut-down device
  - Valve may be operated by qualified pipeline personnel only, unless specified otherwise
- Ignition sources may vary – a partial list includes:
  - Static electricity
  - Metal-to-metal contact
  - Pilot lights
  - Matches/smoking
  - Sparks from telephone
  - Electric switches
  - Electric motors
  - Overhead wires
  - Internal combustion engines
  - Garage door openers
  - Firearms
  - Photo equipment
  - Remote car alarms/door locks
  - High torque starters – diesel engines
  - Communication devices

Pipeline Emergency

Call Gas Control Or Pipeline Control Center
Use ***Pipeline Emergency Response Planning Information Manual*** for contact information
Phone number on warning markers
Use state One-Call System, if applicable

Control Center Needs To Know
Your name & title in your organization
Call back phone number – primary, alternate
Establish a meeting place
Be very specific on the location ***(use GPS)***
Provide City, County and State

Injuries, Deaths, Or Property Damage
Have any known injuries occurred?
Have any known deaths occurred?
Has any severe property damage occurred?

Traffic & Crowd Control
Secure leak site for reasonable distance
Work with company to determine safety zone
No traffic allowed through any hot zone
Move sightseers and media away
Eliminate ignition sources

Fire
Is the leak area on fire?
Has anything else caught on fire besides the leak?

Evacuations
Primary responsibility of emergency agency
Consult with pipeline/gas company

Fire Management
Natural Gas – DO NOT put out until supply stopped
Liquid Petroleum – water is NOT recommended; foam IS recommended
Use dry chemical, vaporizing liquids, carbon dioxide

Ignition Sources
Static electricity *(nylon windbreaker)*
Metal-to-metal contact
Pilot lights, matches & smoking, sparks from phone
Electric switches & motors
Overhead wires
Internal combustion engines
Garage door openers, car alarms & door locks
Firearms
Photo equipment
High torque starters – diesel engines
Communication devices – not intrinsically safe

Common Ground Alliance Best Practices

In 1999, the Department of Transportation sponsored the Common Ground Study. The purpose of the Common Ground Study was to identify and validate existing best practices performed in connection with preventing damage to underground facilities. The collected best practices are intended to be shared among stakeholders involved with and dependent upon the safe and reliable operation, maintenance, construction, and protection of underground facilities. The best practices contain validated experiences gained that can be further examined and evaluated for possible consideration and incorporation into state and private stakeholder underground facility damage prevention programs.

The current Best Practices Field Manual is divided into nine chapters that provide a collection of current damage prevention best practices. The nine chapters include:

1. Planning & Design Best Practices
2. One Call Center Best Practices
3. Location & Marking Best Practices
4. Excavation Best Practices
5. Mapping Best Practices
6. Compliance Best Practices
7. Public Education Best Practices
8. Reporting & Evaluation Best Practices
9. Miscellaneous Practices

To view the latest version of the Best Practices please visit www.commongroundalliance.com

CGA Common Ground Alliance℠

Pipelines In Our Community

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 519,000 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 2.2 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).

811 Know what's below. Call before you dig.

Training Center

Supplemental training available for agencies and personnel that are unable to attend:

- Train as your schedule allows
- Download resources including pipeline operator specific information
  - Sponsoring pipeline operator contact information
  - Product(s) transported
- Receive Certificate of Completion

Visit https://trainingcenter.pdigm.com/ to register for training

TC TRAINING CENTER

Damage Prevention Programs

Pursuant to 49 CFR Parts 192.614 (c)(2)(i) and 195.442 (c)(2)(i) pipeline operators must communicate their Damage Prevention Program's "existence and purpose" to the public in the vicinity of the pipeline and persons who normally engage in excavation activities in the area in which the pipeline is located.

State and federally regulated pipeline companies maintain Damage Prevention Programs. The purpose of which is to prevent damage to pipelines and facilities from excavation activities, such as digging, trenching, blasting, boring, tunneling, backfilling, or by any other digging activity.

Pipeline Markers

The U.S. Department of Transportation (DOT) requires the use of signs to indicate the location of underground pipelines. Markers like these are located on road, railroad, and navigable waterway crossings. Markers are also posted along the pipeline right-of-way.

The markers display:
- The material transported
- The name of the pipeline operator
- The operator's emergency number

MARKER INFORMATION
- Indicates area of pipeline operations
- May have multiple markers in single right-of-way
- May have multiple pipelines in single right-of-way
- DOES NOT show exact location
- DOES NOT indicate depth *(never assume pipeline depth)*
- DOES NOT indicate pipeline pressure

Call Before You Dig

Statistics indicate that damage from excavation related activities is a leading cause of pipeline accidents. If you are a homeowner, farmer, excavator, or developer, we need your help in preventing pipeline emergencies.

1. Call your state's One-Call center before excavation begins - regulatory mandate as state law requires.
2. Wait the required amount of time.
3. A trained technician will mark the location of the pipeline and other utilities (private lines are not marked).
4. Respect the marks.
5. Dig with care.

National One-Call Dialing Number:

811 Know what's below. Call before you dig.

For More Details Visit: www.call811.com

American Public Works Association (APWA) Uniform Color Code

	WHITE - Proposed Excavation
	PINK - Temporary Survey Markings
	RED - Electric Power Lines, Cables, Conduit and Lighting Cables
	YELLOW - Gas, Oil, Steam, Petroleum or Gaseous Materials
	ORANGE - Communication, Alarm or Signal Lines, Cables or Conduit
	BLUE - Potable Water
	PURPLE - Reclaimed Water, Irrigation and Slurry Lines
	GREEN - Sewers and Drain Lines

OSHA General Duty Clause

Section 5(a)(1) of the Occupational Safety and Health Act (OSHA) of 1970, employers are required to provide their employees with a place of employment that "is free from recognizable hazards that are causing or likely to cause death or serious harm to employees."

https://www.osha.gov/laws-regs/oshact/section5-duties

PRODUCT	LEAK TYPE	VAPORS
HIGHLY VOLATILE LIQUIDS [SUCH AS: BUTANE, PROPANE, ETHANE, PROPYLENE, AND NATURAL GAS LIQUIDS (NGL)]	Gas	Initially heavier than air, spread along ground and may travel to source of ignition and flash back. Product is colorless, tasteless and odorless.
HEALTH HAZARDS	Will be easily ignited by heat, sparks or flames and will form explosive mixtures with air. Vapors may cause dizziness or asphyxiation without warning and may be toxic if inhaled at high concentrations. Contact with gas or liquefied gas may cause burns, severe injury and/or frostbite. Fire may produce irritating and/or toxic gases.	

PRODUCT	LEAK TYPE	VAPORS
NATURAL GAS	Gas	Lighter than air and will generally rise and dissipate. May gather in a confined space and travel to a source of ignition.
HEALTH HAZARDS	Will be easily ignited by heat, sparks or flames and will form explosive mixtures with air. Vapors may cause dizziness or asphyxiation without warning and may be toxic if inhaled at high concentrations. Contact with gas or liquefied gas may cause burns, severe injury and/or frostbite.	

PRODUCT	LEAK TYPE	VAPORS
HAZARDOUS LIQUIDS [SUCH AS: CRUDE OIL, DIESEL FUEL, JET FUEL, GASOLINE, AND OTHER REFINED PRODUCTS]	Liquid	Initially heavier than air and spread along ground and collect in low or confined areas. Vapors may travel to source of ignition and flash back. Explosion hazards indoors, outdoors or in sewers.
HEALTH HAZARDS	Inhalation or contact with material may irritate or burn skin and eyes. Fire may produce irritating, corrosive and/or toxic gases. Vapors may cause dizziness or suffocation. Runoff from fire control or dilution water may cause pollution.	

Pipeline Damage Reporting Law As Of 2007

H.R. 2958 Emergency Alert Requirements

Any person, including a government employee or contractor, who while engaged in the demolition, excavation, tunneling, or construction in the vicinity of a pipeline facility;

A. Becomes aware of damage to the pipeline facility that may endanger life or cause serious bodily harm or damage to property; or

B. Damages the pipeline facility in a manner that may endanger life or cause serious bodily harm or damage to property, shall promptly report the damage to the operator of the facility and to other appropriate authorities.

Websites:

Call Before You Clear
www.callbeforeyouclear.com

Common Ground Alliance
www.commongroundalliance.com

Federal Office of Pipeline Safety
www.phmsa.dot.gov

National One-Call Dialing Number: 811
www.call811.com

National Pipeline Mapping System
www.npms.phmsa.dot.gov

National Response Center
https://www.epa.gov/emergency-response/national-response-center or 800-424-8802

Occupational Safety & Health Administration (OSHA)
www.osha.gov

Paradigm Liaison Services, LLC
www.pdigm.com

United States Environmental Protection Agency (EPA)
www.epa.gov/cameo

Wireless Information System for Emergency Responders (WISER)
https://wiser.nlm.nih.gov/

TRAINING CENTER

Register for access to
Training Center
Code: 2024EX

Operator Information

Operator Name(s) / Contact Information	Type(s) of Pipeline Systems Operating	Location within County	Pipe Size and Operating Pressure Range(s)	Average Emergency Response Time(s)

Paradigm is public awareness. We provide public awareness and damage prevention compliance services to assist with the regulatory requirements of 49 CFR 192 and 195, as well as API RP 1162. Since 2001, the oil and gas industry has worked with Paradigm to fulfill public education and community awareness requirements.

Our history of implementing public awareness programs and compliance services pre-dates API RP 1162. Most of the pipeline industry's large, mid-sized and small operators, as well as many local distribution companies utilize Paradigm's compliance services.

In serving our clients, Paradigm performs full-scope compliance programs from audience identification through effectiveness measurement. In addition, we offer consulting services for plan evaluation and continuous improvement. At the completion of each compliance program, we provide structured documentation which precisely records all elements of the program's implementation to assist with audits.

Paradigm leads the way in industry service. Pipeline operators and local distribution companies trust in Paradigm to implement their public awareness and damage prevention programs. Each year we:

- Distribute 25 million pipeline safety communications
- Compile and analyze roughly 250,000 stakeholder response surveys
- Facilitate over 1,200 liaison programs
- Implement approximately 1,000 public awareness compliance programs
- Provide audit support and assistance with over 50 public awareness audits

Contact Paradigm for more information regarding custom public awareness solutions.

Contact us:

Paradigm Liaison Services, LLC
PO Box 9123
Wichita, KS 67277
(877) 477-1162
Fax: (888) 417-0818
www.pdigm.com

Notes

Notes

Notes

Texas811

Know what's below.
Call before you dig.

YOUR DAMAGE PREVENTION RESOURCE CENTER

Safety is a shared responsibility. As an emergency responder, you play an important role in raising awareness in your community to “Know What’s Below, Cal 811 Before You Dig” and pipeline damage prevention. Over 40% of all pipeline failures in Texas are due to someone striking the pipeline with everything from shovels to bulldozers, a completely preventable accident if only the person would have called 811. Texas law requires that anyone who plans to dig, whether planting a tree or building a highway, to call Texas811 at least 2 working days* prior to the start of excavation activities. Texas811** then notifies member utility & pipeline operators who may have underground facilities in conflict with the excavation of your intent to dig. Once the operators to determine the approximate location of their underground pipelines and cables and identify with flags or paint on the ground, the excavator can dig, taking care not to damage the underground facility.

Texas811 damage prevention agents are available 24 hours a day, seven days a week to receive notice of your intent to dig and notify member utility and pipeline operators as necessary. For additional information about the 811 notification system, including free safety materials that can be distributed at community events, please visit www.Texas811.org. If your organization would like free excavation safety and emergency response training, Texas811 field safety representatives can accommodate as necessary. Visit https://www.texas811.org/damage-prevention-managers to schedule a session.

** does not include weekends or holidays*
*** Texas811 is a call center only and does not locate any underground facilities*

TEXAS

Texas811: 800-344-8377 or 811
Website: www.texas811.org
Hours: 24 hours
Advance Notice: 48 hours (not more than 14 days, excluding weekends and holidays)
Marks Valid: 14 working days
Law Link: http://primis.phmsa.dot.gov/comm/DamagePreventionSummary.htm

** Plus half the diameter of the pipeline from the outside edge of either side of the pipeline*

TICKETS			STATE LAWS & PROVISIONS									NOTIFICATION EXEMPTIONS					NOTIFICATIONS ACCEPTED					
FAX	Online	Mobile	Statewide Coverage	Civil Penalties	Emergency Clause	Mandatory Membership	Excavator Permits Issued	Mandatory Premarks	Positive Response	Hand Dig Clause	Damage Reporting	DOT	Homeowner	Railroad	Agriculture	Depth	Damage	Design	Emergency	Overhead	Large Projects	Tolerance Zone
N	Y	Y	Y	Y	Y	Y	N	N	Y	Y	Y	Y	N	Y	Y	16"	Y	Y	Y	N	N	18" *

Chart Reference: https://pipelineawareness.org/media/1507/2019-excavation-safety-guide-pipeline-edition.pdf

Paradigm®

1.877.477.1162 • tx.pipeline-awareness.com